Strategy Engineering as an Emergent Phenomenon for Successful Organisations

هندسة الاستراتيجية كظاهرة ناشئة للمنظمات الناجحة

by

BADIH AHMAD MATAR

A thesis submitted in fulfilment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT

At

The British University in Dubai

March 2021

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ABSTRACT

This thesis aims to establish a new understanding of strategy and a new school of thought. The strategy engineering model consists of strategy resources and organisation development pillars wherein strategy engineering is a means to achieve effective strategic implementation and strategy success, thus satisfying and utilizing certain tools and techniques. Strategy Engineering is commonly used in practice although it is not sufficiently represented in the literature. In the context of this research, strategy engineering is defined as a way of conceiving strategy alignment, projects' rigour and organisational desires that all contribute to the long-term sustainability of organisations.

The empirical research for this thesis is qualitative and concentrates on leadership at executive and senior levels of management. It was conducted during 2018-2021 in the KSA, the UAE and Lebanon, in private،public and NGO's. The research methods and data collection included ten interviews, five focus groups and ten observation sessions, designed to maximize variation as well as to increase validity and reliability.

الملخص التنفيذي

تهدف هذه الأطروحة إلى إنشاء فهم جديد للاستراتيجية ومدرسة فكرية جديدة. يتكون نموذج هندسة الإستراتيجية من ركيزتين, الموارد الإستراتيجية والتطوير التنظيمي ، حيث تعتبر الهندسة الإستراتيجية وسيلة لتحقيق التنفيذ الإستراتيجي الفعال: بالنتيجة نجاح الإستراتيجية، عن طريق استخدام أدوات وتقنيات معينة. تستخدم الهندسة الإستراتيجية بشكل شائع في سوق العمل على الرغم من عدم تمثيلها بشكل كافٍ في الأدبيات. في سياق هذا البحث، تُعرَّف الهندسة الإستراتيجية بأنها طريقة لمواءمة الإستراتيجية مع المشاريع المنبثقة من الرغبات والمتطلبات التنظيمية التي تساهم جميعها في استدامة المنظمات على المدى الطويل.

يعتبر هذا البحث بحثاً تجريبياً هو نوعي ويركز على القيادة في المستويات الادارية التنفيذية والعليا. تم إجراؤه خلال عامي 2018-2021 في المملكة العربية السعودية والإمارات العربية المتحدة ولبنان، في كل من المؤسسات الخاصة والعامة والمؤسسات غير الحكومية. تضمنت طرق البحث وجمع البيانات عشر مقابلات وخمس مجموعات تركيز وعشر جلسات مراقبة، مصممين لتعظيم التباين بالإضافة إلى زيادة المصداقية.

DEDICATION

To my father, I say: "This PhD is for you dad, you wanted me to acquire this degree when I was 25 years old, I could not do it at that time when you were still alive. Now, as you left our world to another world, I am sure that this achievement would make you proud of me. If you were alive nowadays, I am sure that you would say: "Yes… I planned for it and I achieved it". I would say dad, even if you passed away, your plans are still valid, up and running without any change. Rest in peace dad, the best planner and the best inspirer and the best dad ever".

To my mother, I say: "You still have the best follow-up I ever seen, and you are the best motivator. When I used to lag behind the study deadlines, I used to get frightened of you. You used to push me forward to study in the same pace and manner you used to do so when I was a five-year-old kid. Your tremendous motivation and encouragement and your extraordinary follow-up were my key success factors. I did this degree to prove to you that your son can achieve, can inspire, can excel. I did this degree to assure you that your naughty boy is up to your expectations. Thank you, Mother Hiyam".

To my wife Fatima, I say: "It was a decision taken by both of us that I shall resume my PhD studies and this decision would have major family and social implications. I know that maybe for the last four years I was not that ideal husband, nor that ideal father, but for a good reason, YES… I would say that now we have to exchange seats, you will assume the same journey, the PhD journey soon, and I promise you to support you to the moon and back. We will celebrate and we will build a better future for our kids. We will remain and we will prevail".

To my kids, I say: "I urge you not to stop studying before achieving your PhD degrees. I did this degree for the betterment of you and the family, and you have to do it for the betterment of your kids and family as well. I did this degree because I want you to feel proud of me, and I promise you not to put you down inshala". While studying your PhD, I am sure that you will face a lot of obstacles, please remember that I faced as much obstacles as you might imagine. However, obstacles can be removed, avoided, overcome, and the PhD should remain the ultimate goal. Nowadays, PhD is no longer a choice, therefore, do not tolerate it. Just focus, know your way, then definitely, you will achieve it.. You deserve it, please earn it!!! I know the capabilities and the capacity of you Ahmad, Haya, Hamza, Ghaith and Rand, you can do it. It is a petty to leave this life without earning your PhD."

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List of Abbreviations

Abbreviation	Terminology	Page
ACAP	Adoptive Capacity	145
ADNOC	Abu Dhabi National Oil Company	271
ASAP	As soon as possible	266
AM	Asset Management	175
BUiD	British University in Dubai	39
BSC	Balanced Scorecard	78
CEO	Chief Executive Officer	127
CII	Confederation of Indian Industries	173
CM	Competence Management	57
CPA	Chartered Professional Accountant	259
CPM	Critical Path Method	169
CPI	Change Propagation Index	170
CSR	Corporate Social Responsibility	93
CMMI	Capability Maturity Model Integration	173
EAM	Emerging Asset Management	174
F.A.T.C.A	Foreign Account Tax Compliance Act	264
FICCI	Federation of Indian Chamber of Commerce	173
G.A.T.C.A	Global Anti-Tax Evasion Frameworks	264
GCC	Gulf Corporation Council	132
GPS	Global Positioning System	274
HBR	Harvard Business Review	88
HR	Human Resources	106
HRM	Human Resources Management	113
HPWP	High Performance Work Practice	142
IFR	Internet Financial Reporting	127
IJOSE	The International Journal for Strategic Engineering	177
IJSEAM	International Journal of Strategic Engineering Asset Management	173
IT	Information Technology	134
JD	Job Description	121
KPI	Key Performance Indicator	35
KPT	Key Performance Target	141

KSA	Kingdom of Saudi Arabia	37
LMS	Learning Management System	57
MBO	Management by Objective	107
MENA	Middle East and Northern Africa	47
MD	Managing Director	262
MSc	Masters of Science	177
MoD	Ministry of Defence – India	171
MNC	Multi-national Companies	107
M&A	Merger & Acquisition	35
NATO	North Atlantic Treaty Organisation	181
NGO	Non-government Organisations	38
NTP	National Transformation Program	272
OD	Organisation/Organisation Development	30
PERT	Program Evaluation & Review Technique	169
PESTLE	Political, Economic, Social, Technology, Legal and Environmental	81
PhD	Philosophy Doctor	11
PM	Project Management	30
PMI	Project Management Institute	137
PMP	Project Management Professional	281
PMO	Project Management Office	37
R&D	Research & Development	55
ROA	Return on Assets	132
SKU	Stock Keeping Unit	93
SME	Small and Medium Enterprises	107
STEM	Science, Technology, Engineering and Mathematics	183
SWAT	Special Weapons and Tactics	267
SWOT	Strength, Weakness, Opportunities & Threats	81
TOM	Target Operating Model	246
UAE	United Arab Emirates	6
US	United States	27
USA	United States of America	55
UK	United Kingdom	73
VRO	Vision Realization Office	272
WBS	Work Breakdown Structure	169

CHAPTER ONE: INTRODUCTION

1.1 Initial Statement of the Research Problem

This thesis considers one emergent phenomenon in strategic management, conceptualized as both common and nascent strategy practices and argues that it is possibly even a new academic paradigm. The professional context of Strategy Engineering is not the same issue as profession registrations and certifications in the engineering professions, since not all strategy practitioners are actually qualified to strategize. The "Strategy Profession" is not protected by a licensing body as are many other established professions with their professional institutes and associations.

Bolisani and Bratianu (2017) stated that strategy is a semantic that reflects the integration of knowledge and management. George, Monster and Walker (2019) stated that strategic planning has been criticized for being overly rational and for inhibiting strategic thinking. Strategic planning should be part of the standard managerial approaches in contemporary organisations and contradict many of the critiques of strategic planning. The formality of the strategic planning processes (i.e., the extent to which strategic planning includes internal and external analyses and the formulation of goals, strategies, and plans) is important to enhancing organisational performance. Strategic planning is particularly potent in enhancing organisational effectiveness (i.e., whether organisations successfully achieve their goals), but it should not necessarily be undertaken in the hope of achieving efficiency gains.

Typical of what have become known as the business professions (Reed 1996), anyone can take on a strategy job because they are not mandated to hold specific qualifications or practice licenses.

Furthermore, academic schools with focused disciplines/majors which prepare strategists and planners to cater to the market needs and business dynamics arguably are lacking, despite the plethora of business schools and their diverse undergraduate and postgraduate programmes (Reed & Anthony 1992).

In an era of globalization, many countries across the world are facing increasingly frequent periods of economic crisis. Consequently, there is growing interest in how new methods and models of strategic management and organisational governance can mitigate the impacts of such crises. The rapid pace of technological and social changes has encouraged consultants and academics to develop new theories and practices of strategic management, however, many of the global challenges remain. Currently, a variety of perspectives and approaches are available, however, a novel and standardized model of strategic management within the classical school has not been developed since the prevalence of alternative emergent and practice-based theories (Mintzberg & Waters 1985; Jarzabkowski 2004).

With the intention of identifying a clearer model of strategic management, the purpose of this research is to evaluate the effectiveness of strategy as applied in both real and analogical contexts; in the sense of *engineering*. Engineering is being referred to here as disciplined activities of concept and process formulation, feasibility testing and execution. According to Petroski (1992), engineering is the application of mathematical methods, or scientific theories, or economic formulae in order to develop and innovate a machine, model, system or organisation, where the engineer is, by analogy, an engine operator. Borrego (2007) goes further arguing that engineering is the creative application of scientific theories to design structures, machines, processes or

apparatuses; especially at the same time as innovating giving due attention to maintaining prerequisites and priorities.

The phrase "strategy engineering" is commonly used in business practice, but is underutilized in the academic and practitioner literatures. The term could be introduced and used more often in published works provided that it is properly justified conceptually, theoretically and ultimately in day-to-day strategy practice. Therefore, it is timely that the term strategy engineering is investigated in greater depth. Strategy engineering is argued in this thesis to be an enhancement to strategic planning frameworks based on priorities, prerequisites and interdependencies that enable the highest quality strategic plan and subsequent implementation. Strategy engineering is an intellectual area of work that requires high calibre, analytical discipline and its practice orientation is paramount (engineers are predominantly concerned with getting things done). Strategy engineering it is assumed would require a group of processes (or process categories) to be performed in order to achieve the optimal outcomes. Strategy engineering offers strategy practitioners value-adding opportunities, such as enhancing causality, impact and predictive validity. To deliver these benefits, design and execution depend on adequate specification of a robust set of planning and implementation stages that are based on diagnostics and prioritizations set within time-bounded activities.

Strategic planning is a practice that is widely used in business. It is employed to tackle risks, issues and challenges, using a combination of formal and informal approaches that direct, guide, support, identify and implement intended changes in components of the organisation. Whenever the designed and implemented strategy rapidly delivers positive results the impression conveyed to

outsiders will be one of a distinct movement in the competitive market (or policy context in the public sector) involving fairly low friction and characterised by a smooth, accurate progression.

Military engineering, the art and practice of designing and building military works and of building and maintaining lines of military transport and communications. Military engineering is the oldest of the engineering skills and was the precursor of the profession of civil engineering. However, Horikawa (2009) asserts, probably incorrectly, that civil engineering is the oldest of the engineering domains; as a distinct field of professional endeavour, it is often traced back to the early 1700s in France with the establishment of the bridges and highway Corps in 1716. The term was also used later in Great Britain, for example by John Smeaton who was the creator of the Eddystone Beacon Close in Plymouth, England; he called himself a *civil* engineer to differentiate his occupation from *military* engineers. Civil engineering is the most relevant engineering discipline to strategy engineering. It includes construction codes that include criteria and check lists for building instructions. In civil engineering, you cannot build the second floor while you are still in the basement! This is due to logical prerequisites and hence an unavoidable sequence of stages and activities.

According to Langins and Buchwald (2004), Ecole Polytechnique in France was the most prestigious engineering school that was created in year 2 of the Liberty, was intended to train engineers. There was strong affiliation between Ecole Polytechnique and Mezieres Royal School of Military Engineering. The scope of military signalling increased enormously and reached such a size and complexity that, when World War I ended, military telecommunication engineers became a separate corps in all armies. New techniques were developed for fixing enemy gun

positions. Langins and Buchwald (2004) provide some illuminating accounts of French military

engineers' construction work in the 20th Century:

> In the 1930s French military engineers designed and constructed the Maginot Line, a supposedly impregnable defensive system protecting France's common frontier with Germany and Luxembourg. The military engineers of World War II faced and solved problems on a scale and of a character not previously experienced. Because of the importance of air power, hundreds of airfields and airstrips had to be built, often in great haste and while under fire. Amphibious operations, involving the landing of troops on a hostile shore, involved a host of engineering problems, from the underwater demolition of obstacles to the rapid construction of open-beach dock facilities, such as the prefabricated Mulberry Harbour used to maintain the Normandy landings in 1944. Special equipment, including armoured engineering vehicles that had to be capable of wading ashore from landing craft, was developed for the Allies' amphibious operations. Inland, new and stronger types of temporary bridges were developed to support the passage of tanks and other heavy armoured vehicles. Minelaying and floating submarine are subspecialty of military engineering that acquired increased importance in the 20th century. Special techniques and equipment were developed for minelaying, mine location, and the breaching and clearing of minefields. One of the most extraordinary feats of military engineering during the war was the building in 1944 by Allied forces of a supply road from Ledo, India, to the Burma Road at a point where the road was still in Chinese hands. The largest task carried out by military engineers in World War II, however, was the Manhattan Project, which produced the atomic bombs dropped on Hiroshima and Nagasaki. Civilian scientists as well as engineers were recruited in large numbers for this mammoth project, whose success made it a model for later large-scale government efforts involving many scientists and engineers from different disciplines (p. 154).

According to Denton (1876), the profession of engineering is one which above all others has been

self-made, without the trammels of regulations. The sanitary engineers of the future will need as

much consideration in a perfect sanitary organisation as the legal or the medical department. It will

be for the engineering profession itself to see to the training of its students, the due supply of its

ranks, and the graduates for the fitness of its members. Sanitary engineers will be able to present

themselves for examinations. Therefore, in the context of this research, strategy engineering is defined as a way of conceiving strategic alignment, project rigour and organisational ambitions thereby ensuring long-term sustainable organisations. In general, in contrast with organisations, a project is a short-term set of activities designed to achieve specific outcomes. A programme functions at a higher level and typically is composed of a set of projects; its duration is longer term than a project, yet often is shorter in duration in business than is a strategy. A strategy is a long-term set of objectives supported by projects (or a portfolio of projects) to achieve sustainable outcomes. Taking up the theme of strategy implementation, there are a number of under-utilized ideas and practices within the disciplines of engineering management, which it will be argued in this thesis hold significant potential for improved planning, implementation, organisational performance and strategic outcomes. This concept is called: "strategy engineering."

1.2 Research Gap

In conducting the literature review, the researcher identified two main gaps related to strategy.

a) The very use of the terminology 'strategy engineering', therefore, the research titles strategy engineering as a phenomenon. Strategy practitioners tend to deal with strategic planning as a process but often treat the issues too simplistically and superficially, consequently, they frequently ignore critical matters of priority, sequence, dependency and strategy implementation. Therefore, practitioners usually stop short somewhere, either

during setting the plan, or after setting the plan, or during implementing the plan or while monitoring, assessing and evaluating the plan.

b) Strategy realization success is definitely dependant on several enablers that are not clearly/sufficiently identified in the literature. What enables strategy success is identifying strategy prerequisites and strategy dependencies. Following an in-depth review of the literature in the field of strategic planning, the researcher identified a gap relating to the application of the terminology itself, particularly in the topic of strategy engineering. Burgelman (2018) argues that the topical domain of strategy scholarship has been significantly extended during the last decades. In addition, the strategy field has also seen increasing diversity in terms of methodology. Traditionally strategic planning has been viewed as a process, while the stages of that process – setting the plan, implementing the plan, and monitoring the progress of the plan – remain understudied. The enablers of strategy success also remained understudied. It will be argued in this thesis that social scientists have failed to consider the importance of such stages as prerequisites to strategy implementation/execution and have not thought sufficiently rigorously about policies in relation to their dynamic interdependencies. For example, Kruse and Lenschow (2016) described policy coherence as a recurring theme in policy analysis and among policy-makers because it is widely considered crucial for policy effectiveness and is a central criterion for legitimate governance. Policies are considered as enablers or tools for any strategy implementation because policies translate the strategy into regulations, processes and repetitive or even routine actions. Therefore, without policy, there is no proper strategy implementation. The best strategies might fail if the strategy enablers are not in place. So,

to assert this issue more rhetorically, the author claims that a strategy is a case sensitive matter and should not only be planned, but should be accurately and indeed meticulously planned.

Accordingly, this thesis introduces a new horizon to the strategy world, by considering strategy metaphorically and analogously as an engineering project "writ large" that has prerequisites and interdependencies that cannot be ignored and, without which, a strategy cannot emerge or deliver optimal results. In summary, without prerequisites and interdependencies being satisfied, the likelihood that the strategy will fail is high.

1.3 Research Aim

According to Bailey (2016), the research problem is a particularly significant step in research as it narrows the research aim. As research problem had been discussed in section 1.1, the aim of this thesis had become easier to derive.

The research aims to define and elaborate the concept of strategy engineering as an emergent phenomenon relevant to academics, practitioners and consultants.

This research seeks to introduce a new horizon to the strategy world, by considering the strategy planning (formulation) process as analogous to an engineering project which has prerequisites and interdependencies which is not recognised. A major assumption is that strategy is realized when prerequisites and interdependencies are identified and addressed. As was mentioned at the beginning of this chapter, the research purpose of the thesis is to identify strategy resources influence on OD in strategic management based on principles and concepts of strategy

engineering and to identify OD support elements to strategic management in specific and strategy engineering. This research will define strategy engineering and to shed the light on the significance of strategy engineering vis-à-vis planning and realizing the strategy. The essence of successful strategic management in the proposed new theoretical paradigm is that strategy execution relies on strategy engineering as a means to achieve effective organisation development (OD). The ambition of this research then is to establish a new way of understanding strategy even to establish a new school of thought. A fundamental assumption made in this formal statement of the aim of the thesis is that strategy engineering is adjacent to engineering science; strategy resources impact OD, and OD (including governance) impacts on strategy.

14 Research Questions

Two main research questions were derived from the aim of the study (see 1.2 above) and subsequently were modified in the light of the review of the literature. The first research question addresses strategy and the strategic management of strategy resources, and the second, refers to OD.

RQ1 How do strategy resources influence OD in strategic management based on principles and concepts of strategy engineering?

RQ2 How do the main elements of OD support strategic management and strategy engineering?

Research sub-questions

   a) *Strategy resources-related*:

RQ1.1 How do gap based diagnostics and priority-based planning contributes to effective strategic management of strategy resources?

b) Organisational development-related:

RQ2.1 How do the five elements (strategic plan, organisation structure, governance, project management (PM), performance management) contribute to effective strategic management of OD?

1.5 Research Objectives

It is well known that a number of organisations employing strategies fail to deliver them (e.g., Mintzberg & Waters 1985; Williamson 1999; Whittington, Angwin, Regner, Johnson & Scholes 2019). Many explanations are given as to why this is so and a diversity of schools of thought advocate how the situation could be improved (e.g., Hoskisson, Johnson and Moesel 1994; Jarzabkowski 2004; Dinter 2013, p. 1210).

The objectives of this thesis support the overall aim (see 1.2) which is to establish an improved understanding of this emergent phenomenon. The research argues that if a strategy is well engineered, then the strategic indicators are more likely to move forwards, otherwise the benefits of the strategy will not be fully realized. There are three main objectives for this thesis:

Objective 1: To define and elaborate the concept of strategy engineering as an emergent phenomenon relevant to academics, practitioners and consultants, in particular, achieving

increased knowledge and understanding of strategy resources and organisation development.

Objective 2: To explore and elaborate a new concept of strategy engineering, based on opportunities, gaps, deficiencies and limitations in the academic literature.

Objective 3: To interpret, assess and evaluate the available theoretical and empirical concepts of strategy engineering, making recommendations for future research studies.

1.6 Scope

In order to construct theoretically robust concepts of strategy engineering, the following scope is explored in the thesis, notably, strategy resources and OD combined with a strong focus in the latter on governance.

Padash, Bidhendi, Hoveidi, Ardestani (2015) argues that strategic management involves the formulation and implementation of the major goals and initiatives taken by a company's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organisation competes. Conventional Strategic Management usually concentrated on economy and control of the final product but seldom considers its ecological effects. Babafemi argued that in recent years, corporate organisations are increasingly paying attention to strategic planning in an attempt to establish the relationship between strategic planning and firm's performance. The process of strategic planning should be given its deserved attention. Although formal planning only will not bring about better performance, effective implementation will suffice. Radomska (2015) stated that the idea of

sustainable development has been present in the field of management for many years, yet the challenges and rules of contemporary business mean that it remains topical. According to Isaboke (2015), strategy implementation has become an essential part of business strategies in today's competition. Strategy implementation is the translation of chosen strategy into organisation action so as to achieve strategic goals and objectives.

1.6.1 Strategy Resources

It is argued in this thesis that strategy resources can be considered as subdividing into two principal components. The engineering disciplines emphasize understanding problems in terms of their inputs, processes and outputs. Engineering thinking requires clear analytical prioritisation of the independencies and interdependencies often leading to systematic diagnostics for how to deliver a strategy in order to ensure benefit realization. The two components of strategy resources are:

- Gap-Based Diagnostics (Full Potential)

- Portfolio Strategy (Prioritization)

1.6.2 Organisation Development

OD is considered in this thesis as consisting of five major components. The rationale for these components is that the development of the organisation depends on continuing articulation of a strategic plan in coordination with an appropriate organisation structure. The strategy and structure should be appropriate to facilitate the management of projects and performance management of strategy resources, primarily people. During the last two decades, governance has

become increasingly more salient in academic models and debates on strategy and strategic management. Effective governance of OD depends on authority demarcation and strategic policies and practices that support project and performance management to develop, progress and achieve the strategic plan. Below are the five main components that will be considered in the topic of OD:

- Strategic Plan

- Organisation Structure (Centralization/Decentralization, M&A)

- Project Management (Initiatives Management and Benefit Realization)

- Performance Management (Management of KPIs)

- Governance

1.7 Research Methodology

Informed by the review of the literature, the research gap and research questions were identified. Based on the nature of the problem and give the fact that this research is mainly exploratory in nature rather than testing existing theory, it addresses more questions about "why" and "what" and "how" than "how many" or "with what associated outcomes and under which specific conditions. Therefore, a qualitative research methodology is adopted for this thesis since this approach has higher horizons in terms of exploration and new theory development. Furthermore, due to the sensitivity of the topic, it is possible that participants would be less likely to be open and transparent in responding to closed questions using the quantitative approach.

In the Middle East, people may not agree to participate in surveys and often are not found to be particularly flexible in providing data about their organisations' strategies and success. Similar to other regions, in the Middle East, only publicly listed organisations are obliged to present and publish their financial performance, and this research includes this sector, but also sectors that do not have to produce publicly accountable performance data.

This research is qualitative and concentrates on leadership at executive and senior levels of management. Alongside conducting ten interviews, the researcher conducted five focus groups and ten observation sessions to ensure validity and reliability.

The research considers that strategy tallies with engineering science. Therefore, although the research methods are qualitative in nature, the researcher followed an objectivist and post-positivist ontology and philosophy. Consistent with many qualitative studies, in order to achieve substantive, credible and convincing findings, the main research approach was inductive. It starts by seizing observations, then discovering patterns. From this situation, new propositions and research questions are constructed, leading to development of a new theory. This research therefore has to have a strong element of subjectivity and hence can be categorised as subjective in its orientation to the empirical domain. In order to achieve the qualitative research objectives, the researcher followed an interpretivist epistemology.

Interviewing, field observations and documented analysis are the main data collection methods used in qualitative research studies (Kvale & Brinkmann, 2009; Seidman, 2006). It is acknowledged that interview methods have their limitations. Chenail (2011) suggested that systematic rigour and dealing with bias are the two main challenges facing qualitative researchers,

particularly when considering interviews as a method of data collection. Chenail argued further that qualitative researchers might even be blind to their biases; may be unable to anticipate the problems with the study's design and arrangements, and may experience unexpected difficulties in employing the questions effectively during interview. Webb (2015) contests this perspective claiming that the interview is an irreplaceable part of any qualitative research project; however, researchers have to remain attentive to this method's possible pitfalls and challenges. Researchers have to engage the participants and ensure that they are active rather than passive or unwilling contributors. Webb recognised the subjectivity of any research project arguing that choosing the right research interviews for data collection helps to gain a rich understanding of the meanings that participants generated based on their personal experiences and how they created these understandings.

The research employed interviews, focus groups and observations to explore the field and understand the phenomenon of strategy engineering from multiple perspectives. Methodological, triangulation was applied by following a multi-method research approach.

The research design includes a sample of six organisations selected from all three major sectors of employment. There are three government organisations in the Kingdom of Saudi Arabia (KSA), a PMO (portfolio management office), a performance management government entity (centre of government) and an energy & utility ministry. In the United Arab Emirates, the large size family business is a conglomerate operating in multiple industries and three government entity specializes in education, food and social wellbeing. In Lebanon, the sample selected was

two NGOs operating in multiple fields relating to social well-being and a medium size family business in export/import trade.

One interview was held with one individual in each of the ten organisations, creating a total of ten interviews. In addition, four unofficial interviews were conducted with consultants from four different consulting firms based in offices in the UAE and KSA. All of the interviews were semi-structured, and a set of questions and issues was sent to the interviewees one week in advance so that they could prepare beforehand. The questions are open-ended and the researcher asked various probing questions and gave prompts to keep interviewees focused on the topic of research concern as well as to learn more deeply about their particular individual experience and ideas on engineering, strategic management, organisational resources, development and governance.

The interviews were audio-taped; after obtaining the participants' permission. Later, transcripts were shared with all of the interviewees for confirmation and clarification (member checking). The data collected from the three distinct qualitative research methods (interviews, focus groups and observation) were all recorded and transcribed, and then, the researcher compared the transcripts with each other. A deliberate effort was made to ensure that the interview participants were given plenty of opportunity to express their views and ideas in considerable detail, as well as articulate both conforming and contradictory opinions.

The following were addressed to increase the validity and reliability of the data collection, analysis, and interpretation. Collected data were analysed both during and after data collection. In the case of contradictions that could not both be considered valid from multiple perspectives or according to different value systems, a validation process was followed by following up on the

issue or problem by asking the same question to a higher-ranking member of staff and by cross-checking conflicting meanings and statements of fact with relevant stakeholders. In cases where the contradiction persisted or was unresolved, these contrary findings were retained within the dataset and considered valid for coding, at the very least within the contexts of their utterance and participants' recall and level of knowledge

Two open-ended questions were posed to the interviewee. To increase reliability, all statements made by interviewees were considered equally important. Open-ended questions were asked of everyone thus providing multiple opportunities for interview and focus group participants to express their own ideas and articulate their particular experience of strategy, governance and OD.

The researcher's interpretation was checked by repeatedly reviewing and reinterpreting the transcripts. Furthermore, an independent researcher reviewed three random samples of transcripts and compared them against the outcomes of the categorization and coding of the research phenomena.

To ensure that ethical research was duly practiced, the researcher had to ensure that his research ethics took into consideration all actions needed to protect the research participants and their employing organisations. This study was approved by the university research committee as duly following BUiD's ethics policy and procedures.

1.8 Research Approach

In the context of this research, the following three terms first need to be defined.

(i) What is *'strategy*? According to Horwath (2006), the term was first used in military practices to point to a long-term plan under conditions of high uncertainty and by following certain tactics and alternatives.

(ii) What is *governance*? According to Gelter (2009), governance is the formal way, method, law and practice followed in order to make sure the system is working properly. Effective governance operates with: no conflict of interest, segregation of authorities, transparent processes and procedures, and with rights upheld.

(iii) What is a *strategy engineering*? According to Cardinal and Marle (2006), a project is a temporary venture undertaken to achieve objectives and to deliver results. In other terms, a project is a change path in companies, society and markets. It has a start, an initial situation, and end, as well as results that change the company's condition, in terms of product offering, internal performance, communication tools, and other features. A *programme* according to McElroy (1996) is a set of inter-related projects, intended to achieve a certain strategic outcome; that is, the programme coordinates projects. Projects are terminated when they are completed, while programmes' lives continue for a longer period of time. Therefore, strategy engineering is a programme or set of projects that have interdependencies seeking the same objectives.

The research focuses primarily on strategic management and organisational governance in public and private organisations and NGOs. The theoretical framework includes topics related to industry, products and services diversification, strategy typology, organisation structure, projects and programmes, organisational productivity, deliverology (implementation), benefit realization and governance in relation to competencies and OD.

To answer the two main research questions on strategy engineering, the researcher devised a research approach that endeavours to develop a new theory out of some diverse ideas emanating from strategic management, OD, corporate governance and the engineering disciplines. For RQ1 (*How do strategy resources influence OD in strategic management based on principles and concepts of strategy engineering?*) and RQ2 (*How do the main elements of OD support strategic management and strategy engineering*?), the following major intellectual tasks were tackled. First, the researcher read and sought to understand relevant literature on strategy, strategic planning & strategic management, for example, work by Michael Porter, Robert Hoskisson, Oliver Williamson, Richard Rumelt, Gregg Rothermel, and Henry Petroski; and for OD, for instance, Robert Kaplan, David Norton, Ronald Gilson and Anthony Buono, besides many others. The researcher had also to learn more about several of the engineering disciplines as well as search into the background to some of the management methods inspired and informed by engineering disciplines (e.g., civil engineering, architectural engineering, electrical engineering, business process reengineering and financial engineering).

The research approach was to explore how existing concepts within the engineering disciplines can be more creatively, analytically and systematically applied to contemporary problems in strategic management. First, the gap identified in the literature in the subject of business management is that engineering concepts and analogies are prevalent in production and operations management, but there is a lack of equivalent uptake in engineering-informed policy and practice in organisations at the corporate and business levels of strategy. The researcher identified a main gap related to the terminology 'strategy engineering', that is why the research mentioned strategy

engineering as a phenomenon. For example, strategic planning is a long process that is not sufficiently defined in the literature in so far as articulating and systematically specifying what are the dependencies and prerequisites of strategic planning activities. Prioritization is part of strategic planning activities but it is not appropriately analysed and discussed in the academic literature on strategic management. Strategy resources and their relationships with OD is also a black box in the literature, except at high levels of concept formulation such as is typical in the theories of the resource-based view of the firm and dynamic capabilities.

Second the researcher chose to gather data by conducting interviews, focus groups and observation for a selected, relevant sample of managers. The research methods and data collection included ten interviews, five focus groups and ten observation sessions, designed to explore different strategic practices and individual views and opinions. Fortunately, in all of the individual interviews, the researcher was permitted to record the session which meant that the various accounts of the participants could be transcribed at length. The focus groups were conducted first of all and were not recorded. Their primary purpose was to help with developing and formulating the interview questions. Thus, the interviews concentrated on understanding the participants' knowledge, understanding and viewpoints about strategy engineering topics. They addressed both RQ1 on strategy resources, OD and strategy engineering and RQ2 on how the main elements of OD support strategic management and strategy engineering. The research orientation throughout was to remain open to new knowledge that emerged during the interviews and develop these ideas through supporting participants in fully sharing their perspectives and lifeworld in the context of strategy (Sandberg and Pinnington, 2009). After the focus groups and

interviews, observation sessions were conducted in order to confirm and further elaborate on the accounts of strategic management and strategy engineering made by the interviewees.

The research approach for the observation study accompanied the set of interviews in 10 of the sample of 6 organisations and was informed by ideas from Emerson, Fretz and Shaw (2011) who emphasize that ethnographic field research involves the study of groups and people as they go about their everyday lives. These authors explain that 'Ethnography is used as a way to understand and describe social worlds, drawing upon the theoretical traditions of symbolic interaction and ethnomethodology' (p. 1) and as a result, 'the task of the ethnographer is not to determine "the truth" but to reveal the multiple truths apparent in others' lives.' (p. 4). In terms of research methodology, they characterise this mainstream research approach as requiring active participation. 'Two interconnected activities comprise the core of ethnographic research: first-hand participation in some initially unfamiliar social world and the production of written accounts of that world that draw upon such participation' (Emerson, Fretz & Shaw, 2011 p. 1). Consistent with interpretive-interactionist approaches, the researcher treated his notes and memories as inseparable from the observational processes; wrote field notes paying particular attention to indigenous meanings and concerns of the people observed; but did not seek to write field notes that constituted a 'resource for writing broader, more coherent accounts of others' lives and concerns', and also deliberately did not attend in highly elaborate detail to 'the social and interactional processes that make up people's everyday lives and activities' (Emerson, Fretz and Shaw, 2011, p. 15). The particular *observation* strategy used included specialist watching and tuning into activities inside these organisational settings over a limited timeframe with the aim of making a record of what was seen and heard.

Third the researcher had to code the constructs and analyse the gathered data in order to find occurrences that enabled exploration of spoken accounts and behaviours compatible with ideas of strategy engineering and in ways that might make a contribution to theory and practice.

According to Flick (2014), ethnography is an approach for studying groups and processes in their natural settings, which necessitates a flexible use of methods and a lot of patience in and with the field. Data can be less systematic than in other methods but can be more holistic in the descriptions they make possible. Therefore, generalization here is often more internal in the context than going beyond the sites and fields under study. In ethnography, comparison may refer to different levels, similar to qualitative sampling strategies. In covering different events, situations and organisational contexts the data were collected, analysed and interpreted from the perspective of the research questions.

In order to achieve concrete findings, the research is inductive. It starts by capturing observations, then finding patterns. If commonalities were obtained from each data source and type, a pattern was mapped which, it was hoped, could lead to a new theoretical contribution. A code connotes the researcher's understanding of the carefully examined content. Coding is an endeavour to make a connection between sections of the empirical content, hypothetical argument, and research questions. Therefore, codes are identified and developed to a more theoretical level than the words that appeared in the transcripts.

According to Gioia, Corley, and Hamilton (2012), the first step is by perform initial data coding, maintaining the integrity of 1st-order terms (informant-centric). Then developing a comprehensive compendium of 1st-order terms and organise 1st-order codes into 2nd-order

(theory-centric) themes. Then distil 2nd-order themes into overarching theoretical dimensions (if appropriate). Then assembling terms, themes, and dimensions into a ''data structure''. That would allow formulating dynamic relationships among the 2nd-order concepts in data the structure. Lastly, conduct additional consultations with the literature review to refine articulation of emergent concepts and relationships. From this data and codes, hypotheses are constructed, eventually leading to development of a new theory. The research is empirical according to concepts available in the existing academic literature.

All of the above is a synopsis of the research approach for finding out about and developing and refining the concept of strategy engineering. It has led to the conclusion in this thesis that strategy engineering is a concept which inspires new approaches by combining various resources and systems to assure the alignment of all key organisations' elements and factors, stakeholders, people, and organisational culture. Strategy engineering empowers the operational implementation of business strategy and delivers a common language to articulate a fit between strategy in terms of values and actionable objectives. It further provides a tangible set of structural and metaphorical options around which to generate positive and fruitful debates and implementation. The strategy engineering concept offers a common language for communicating aims and understanding internal obstacles and external forces, and it provides organisations with an opportunity to justly optimize the size, shape, structure and delivery of organisations.

1.9 Contribution to Knowledge

One of the arguments of this thesis is that strategy engineering is a new school of thought thereby positioning strategy engineering as a framework that addresses concepts of prioritization and

prerequisites linking them to strategic themes such as corporate growth, customer centricity or corporate transformation. As well as, strategy enablers that impacts strategy success are not identified clearly. Additionally, there is no unified understanding or professional standard for strategy, strategy principles, methods of development and methods of success evaluation. Therefore, the term 'strategy engineering' needs to be investigated in greater depth, since it could set a common methodology and set of standards for researchers and practitioners.

1.9.1 Practical Contribution

This research presents a new model which takes into consideration the dependencies of strategic resources and OD on governance. The model will help policy makers and strategists by highlighting a new perspective which was not captured before.

1.9.2 Theoretical Contribution

To-date, the academic literature has not addressed the linkage between strategy engineering, strategy resources and organisation development. It is therefore suggested that future could investigate the relationship between these disciplines. Furthermore, the strategy engineering model could lead to new theory based on the exploration of new ideas and findings in the dynamic contexts of the field of strategic management and the rapidly developing discipline of strategy resources and organisational development. Furthermore, defining the components of strategy engineering would enable scholars to further research and detail strategy engineering model, be it on strategy engineering process documentation, be it on strategy engineering evaluation criteria, and strategy engineering key success factors.

1.9.3 Research Significance

The next chapter of this thesis reviews the literature on strategy resources and OD. However, it is important to know that strategy engineering is not yet sufficiently represented in the literature. Strategy engineering is a new school of thought, which starts from the prioritization concept but incorporates a linkage to benefits realization and enablement. At the time of writing to the best of the researcher's knowledge, prior literature has not tackled the linkage between successful strategy engineering with OD.

This research is significant because it proposes a new model, which takes into consideration the dependencies of OD on the strategy's ability to deliver, and on having robust and effective governance. It is believed that the model will help policy makers and strategists by highlighting a new perspective, which was not captured before. In addition, the model proposes a new theory-based exploration of new findings.

1.10 Research Limitations

Due to the nature of the topic, and the cultural context within which the research took place, the researcher identified several limitations related to this research, which are categorized as scope, sample size, and data limitations. The scope limitations relate to the degree of diversity of organisations included in the sample selected for this research study. The literature review addresses organisations throughout the world; however, the empirical study is exclusively related to the MENA region. The sample size is limited to a comparatively small number of organisations and therefore cannot be generalized to a wider population of organisations operating in either the

public or private sectors. Typical of qualitative research studies, the number of research participants and interviewees is comparatively small. The next paragraph mentions some of the main limitations of this research study.

Inevitably, there are a number of data limitations of this empirical, qualitative research on strategy engineering. For example, releasing financial information is against the organisations' policy for some of the research participants. However, this research study is not primarily concerned with financial data. Moreover, in the MENA region – which includes the KSA, the UAE and Lebanon - it is not easy to conduct interviews with executives due to cultural, availability and communication norms related to divulging information to outsiders, particularly so in government entities as well as family-owned businesses. This did create some access difficulties which is another limitation. In addition, there are some significant limitations to the literature reviewed in this thesis due to an arbitrary but justifiable limitation of scope in time. As will become apparent, the review of the literature covers the period from 1960 to 2020. It therefore ignores the considerable amount of work on strategy prior to that date, for instance, in military studies, engineering sciences and indeed business management where the concept of long range and short-range planning was commonly practiced and debated during the first half of the last century. Similarly, there is limited depth to the review of strategic management in relation to business, operational and what sometimes have been called functional areas of strategy and strategic implementation. This thesis concentrates on attending to high-level corporate-strategic issues. For instance, the supply chain was not investigated in relation to strategy and implementation, although the impact of corporate strategy on the supply chain is clearly an important area for further study.

1.11 Outline of Thesis Chapters

The thesis is structured into seven chapters:

Chapter 1 – Introduction

This chapter covers the research overview, research problem, scope, research aims and objectives, research questions, the significance, research strategy, and research limitations in addition to the structure of this thesis.

Chapter 2 – Literature Review and Theoretical Development

This chapter presents the literature review focusing on the concepts of strategy relationship with governance and success. The chapter also covers the relationship between both disciplines in addition to other related concepts. As well as this chapter presents a review and discussion on the actual evidence in the literature for different ideas on the strategy engineering concept.

Chapter 3 – Research Methodology and Design

This chapter includes both the methodology and explanation of the methods used. Research philosophy, approach, strategy, design, sample and methods of data collection are presented. This is in addition to the ethical considerations and research limitations of this study.

Chapter 4 – Research Results

This chapter concentrates on reporting, analyzing and interpreting the data and information collected in various methods in order to identify the main findings and results.

Chapter 5 – Discussion

This chapter discusses the key research questions analysed throughout the thesis. Originally, it gives an argument based on findings from the literature review. The following sections reflect on this argument to present an argument in the light of the data and key findings from the empirical study in this thesis.

Chapter 6 – Conclusions

This chapter presents and discusses the points of view that emerged from the data collection, providing an overall interpretation of the research findings, relating them to critical aspects of the literature review. It provides answers to the research questions and highlights the theoretical and practical implications. It also states the main contributions of this thesis and makes recommendations for future research. Finally, research limitations are also discussed.

CHAPTER TWO: LITERATURE REVIEW - STRATEGY & ORGANISATIONAL DEVELOPMENT

2.1 Introduction to Literature Review

Prior to reviewing the literature relevant to the research questions for this thesis, it is important to introduce and discuss the overall context of strategy and strategic management. The first section of this chapter therefore necessarily reviews main streams concepts of strategy and strategic management. Then chapter two tackles two main aspects of the literature review: Strategy Resources Literature Review and Gap-based Literature Review. Literature related to the strategy engineering topic is insufficient and not well represented; however, the literature is rich and lucrative when it concerns the strategic planning resources, OD and governance. The literature review in this thesis is based on clustering by key topic. That is to give more clarity and focus to the reader about the topic and to give an impression about the depth of the review conducted. The term "Strategy Engineering" has not been used too much by scholars; therefore, the researcher faced many difficulties to find related literature which adds value to the research. However, he reviewed the literature related to the engineering definitions, history and concepts. Next, he listed examples of conventional, contemporary and emerging engineering disciplines. From this, the researcher proposed "strategy engineering" as an anticipated (emergent) strategic management discipline. The term "strategy engineering is used in several academic courses usually of an engineering orientation. It also appears in practitioner management and consultancy settings and websites. The author of this thesis is not the originator of the term as such. Below are some available links related to strategy engineering:

- https://www.strategyengineers.com strategyengineer.com (2020): Strategy Engineers is a strategy and management consultancy with a focus on the automotive sector and closely related industries. With our management and entrepreneurial expertise, combined with technology know-how, Strategy Engineers can offer consulting services that are tailored to meet client's specific needs. Strategy Engineers believe that client's organisation and business challenges are unique. For this reason, Strategy Engineers create tailored solutions that have a tangible impact.

- https://www.sesteam.com: strategic engineering solutions provides innovative and practical solutions to cutting-edge research and development efforts in the Department of Defense and Intelligence Community.

- https://www.derby.ac.uk/postgraduate/mechanical-manufacturing-engineering-courses/strategic-engineering-management-msc/: Invites students to a master class to gain the modern tools and techniques needed to manage 21st century engineering and manufacturing organisations. The MSc Strategic Engineering Management promises to equip students to make a significant contribution to a company's performance and productivity.

As a result of the literature review, and based on the gap analysis and research questions, the researcher proposes a conceptual framework that takes into consideration two main factors: (i) Strategy engineering resources and (ii) OD. This conceptual framework was diagnosed, tested and validated according to a clearly documented research methodology as stipulated in Chapter Two. Subsequently, this literature review chapter is divided into two sections; these are the Strategy Resources Literature review and the OD Literature review. According to Drucker (2004),

there are no poor countries, but there are countries that do not use their resources wisely; the richer the country in resources, the poorer the country in economics. With that been said, the researcher argues that the resources are critical success factor of any organisation.

2.2 Strategy Resources

According to Balashova & Gromova (2016), the resource-based view is the newest model of the resource management. The source of the resource- based view is considered to be the thesis expressed by Danish economist B. Wernerfelt (1984). From his point of view, the analysis of a firm from the resource position is more useful than from the products position. According to the main idea of the resource-based view, the source of economic rents are resources that can be called unique for this company. Furthermore, Kazlauskaitė, Autio, Gelbūda & Šarapovas (2015) stated that identifying critical resources is crucial for planning.

Paiva, Roth & Fensterseifer (2008), argued that the current competitive environment is characterized by new sources of information, new technologies, new management practices, new competitors, and shorter product life cycles, which highlights the importance of organisational knowledge in manufacturing companies. However, Wernerfelt (1982), explored usefulness of analyzing a firm from resources perspective not from product perspective. He highlights new strategic options which emerges from strategic resources. He believes that products and resources are two sides of the same coin as most products required the services of most resources and most resources are used in several products. To get to an optimum product, minimum necessary resources should be utilized. Traditional strategic planning tackles strength and weakness of resources positions (Andrews, 1971). Good will, brand equity, know how, technology, personnel

skills, machinery, procedure and capital. Each of these have a capacity limit, where limits might change by time due to dynamics. Resources should be classified, unskilled vs skilled resources, non-conservative vs conservative resources, tangible and intangible. Most corporates do have issues in exploring their resources, leading to issues in exploring gaps, priorities and full potential. Resources could be acquired or produced. For availability reasons, sometimes resources could be substituted. Then Wernerfelt (1989), argued that after you know your critical resources and the capacity of each, you are ready for action; you know the resource at your disposal. Moreover, Peteraf (1993), mentioned that the resources bundle and capabilities underlying production are heterogeneous across firms. Firms gifted with such resources are able to produce more economically and better satisfy customer wants. The resource-based model is basically concerned with the internal assets, with asset specificity, and, less directly, with transactions costs. Firms should adopt strategies which their resources can support. Also, Conner (1991), argued that a resource-based approach to strategic planning focuses on costly to copy attributes of the firm resources. Furthermore, Johnson, Langley, Melin and Whittington (2007), examined the gap highlighted by resource-based researchers: the need to understand the activities that support the distinctive resources providing competitive advantage on organisations. However, Collis and Montgomery (2008), argued that there is compelling resources and un-compelling resources. If a resource is inimitable, then the strategy built around that resources would be sustainable. As well as, the longer the resources last is the more valuable the resource is. Managers should build their strategies based on resources that pass the above criteria. Collis and Montgomery also suggest that leaders should invest in their resources. Corporates should strive to leverage their resources.

The emerging resource-based view of a firm helps to bridge performance. The resource-based view acknowledges the significance of firm specific resources. Whereas, Scarbrough (1998), argued that the development of the 'resource-based theory of the firm' has assisted to reorient the field of strategic management towards an emphasis on the organisational processes and structures which produce 'core competencies. The key feature of resource-based theories is seen to be their focus on organisational knowledge rather than decision-making processes as the engine of competitive performance. Resource-based theories such as the core competencies framework challenge the prevailing orthodoxy in strategic management. Resource-based theories radically shift the terms of debate in the strategy field and in so doing change the pattern of dialogue with the broad domain of organisation theory. Knowledge is increasingly seen as a critical issue for organisations. Therefore, in the context of this research, strategy resources provide are simple diagnostic and priorities setting tools. Strategy resources is one pillar of strategy engineering. Another pillar is OD. Strategy resources consists of two components, gap-based analysis and priority-based planning. While the OD pillar consists of five components, strategy planning, organisation structure, governance, project management and performance management. These two pillars along with their components were researched. The objective of any research and development activity is to sense the needs of a market or community and then develop a product or service that meets that need.

Hitt and Ireland (1986) mentioned that large multi-divisional firms could improve performance by utilizing and developing corporate competencies. There is a relationship between corporate competencies and types of diversification strategies; however, there is no relationship between corporate competencies and types of corporate structures.

The competency term that was defined by Boyatzis (1982) as a fundamental characteristic that the individual possesses leading to achievement of outstanding performance. It is basically a combination of knowledge and skills that are needed for attaining high performance, (Bhardwaj, 2013). Competencies in organisations can be broadly classified as employee-level and organisational-level. There is a positive relationship between the managerial competencies and the organisations performance in organisations. A competency is a combination of tacit and explicit knowledge, behaviour and skills that gives someone the potential for effectiveness in task performance. Sparrow (1995) identified two type of competencies, management competencies and behavioural competencies. Both are concerned with organisations performance enhancement. Core competences describe the resources and capabilities of the organisation that are linked with business performance. They are identified through market analysis methods and the strategic planning process. Organisations need actively to manage their competency portfolio, analyzing emerging and future needs for competence in line with the strategy development process (Morgan 1989; Nordhaug & Grønhaug 1994; Whipp 1991). Sparrow concluded that organisation-level behavioral competencies have profound implications for strategy. Furthermore, Draganidis and Mentzas (2006), stated that competence management (CM) is an important area of knowledge management. CM system is often integrated with learning management systems (LMSs). The competency approach to human resources management is not new. The early Romans practiced a form of competency profiling in attempts to detail the attributes of a "good Roman soldier". Marrelli (1998) stated that competencies are measurable human capabilities that are required for effective work performance demands. Moreover, Martina, Hana, and Jiří (2012), argued that

management competencies identification and development are important tools of strategy resources that is aimed at achieving strategic organisational objectives.

According to Meyer and Semark (1996), national competencies can be defined as the cluster of competencies developed around strategic industries in a particular country. Historically, the Swiss watch-making industry grew a competency cluster through tradition which ensured that the knowledge, skills and craft culture were available to underpin innovation and state-of-the-art technology for that industry and its peripheral industries. With the accelerated pace of international competition, however, the needs for current and future strategic competencies must be reflected in the formal educational, training and R&D centres of excellence supported by the industry and government (Pinnington, 2011; Pinnington, Debrah, Rees, & Oseghale, 2019). Hence in Singapore, one finds centres of excellence geared towards hi-tech electronics, hi-technology, entrepreneurship and tourism - based on defined long-term economic policy. India is developing a key strategic competence in software programming.

As for organisational competencies, two kinds had been identified, core and strategic competencies. Core competence are those combinations of individual technologies and production skills that identify a company's myriad product lines. The strategic competencies or capabilities are these provided to an organisation with distinctive capability. Management systems, technologies, production processes or the systems necessary for mission achievement require competencies which are essential to simply compete in the market and which, when they are superior to others in the industry, provide a competitive advantage. By understanding the business processes and value chains, it is possible to map the strategic competencies which an organisation

requires and evaluate current competence against world class standards. Unlike core competence, strategic competencies can be imitated by competitors relatively easily and therefore they often change with changing technology, processes and business strategy.

Meanwhile, Hoffman and Preble (1991) argued that franchising is a significant growth strategy. The three perspectives required to formulate a franchise strategy are networking, global strategy and portfolio management. Due to a competitive environment, managers formulate various strategic alliances to overcome challenges. What is good about franchising is the wide variety of professions and industries that are involved. In the USA, one third of the retail business is generated from franchised business accounts, while it is one tenth in Europe; however, franchised business is growing dramatically not only in the USA and Europe, but also in Asia and Japan.

The franchising strategy affords many advantages to the franchisor like Return on capital above cost of capital, sharing costs, fast market penetration at a lower rate than establishing one's own distribution system, and economies of scale. However, for the franchisee, the franchising strategy provides a chance to penetrate a business at less cost with an established product/service/brand. Furthermore, the franchisor provides management support in the areas of business location, amenities design, working procedures, supply chain, and marketing. Organisations that have grown to a considerable size through franchising may possibly acquire some parts of their franchises to increase profits and control. Carthy (2004), argued that franchise systems exist to couple the efficiencies of scale and standardization with the advantages of local participation in ongoing operations and delivery of the organisation's product. Typically, a central organisation, recognizable by its common brand, determines the product line and sets standards for its

production and labelling, designs and manages marketing and advertising strategy, and provides

management help and training as well as arranging for the supplies needed by local outlets. Carthy

(2004) stated the following on some of the potential strengths of franchise businesses:

> In principle, franchise organisations should be more flexible and adaptable
> than monolithic and hierarchical bureaucratic organisations. They have the
> advantage of producing a reliable, identifiable product which consumers can
> count on, a centrally controlled communication programme that ensures
> they are delivering a consistent message to their clients, and a leadership
> free to make decisions about product lines or target markets. In addition,
> they also have the advantage of attracting new local investment, generating
> a set of participants who have a strong incentive to build and maintain an
> effective organisation. These local partners will be more attuned to local
> community perspectives, practices and market demands than those in a
> remote headquarters, an advantage in attracting support in a changing
> environment. Individual franchises can also test market product innovations
> and delivery services, providing valuable ground-level information
> feedback to the centre (p. 11).

According Helfat & Peteraf (2009), dynamic capabilities is understanding how firms can sustain

a competitive advantage by responding to and creating environmental change. Dynamic

capabilities began as an 'approach' to understanding strategic change (Teece et al., 1997).

Dynamic capabilities directly address concerns rooted in behavioural theory, including

organisational growth, organisational learning and managerial decision-making, routines and

processes (see, for example, Helfat et al., 2007; Teece, 2007; Zollo and Winter, 2002). Moreover,

Gumusluoglu and Acur (2016) investigated the effects of new product development (NPD)

strategy formality and dynamic capabilities (sensing, seizing, and reconfiguring) on NPD

performance for different business strategy types (prospectors, analyzers, defenders and reactors).

They found that a formal NPD strategy is an important driver of NPD performance for all

companies regardless of the strategy pursued, and their research on the dynamic capabilities and

sensing capabilities found these have significant performance effects for all four strategy types. Further, seizing capabilities have a stronger effect on NPD performance for prospectors and analyzers than for defenders while reconfiguring capabilities is a driver of performance for defenders only. Furthermore, dynamic capabilities explain NPD performance beyond strategizing, irrespective of the strategy pursued.

Teece, Pisano and Shuen (1997) discussed how organisations achieve and sustain competitive advantage. Due to the rapid technological change environment, the dynamic capabilities framework defines the sources and methods of wealth-making. The competitive advantage of organisations is dependent on unique processes, designed by the organisation's specifics, asset positions, and evolutionary pathways(s) implemented or inherited. An organisation's competitive advantage depends on the demand market stability, the simplicity of replicability (expanding internally), and the simplicity of immitigability (replication by competitors). Teece et al. (1997) added that identifying new opportunities and organising them effectively and efficiently to realize them is more important to private wealth-making than strategizing. Over-strategizing could lead organisations to underinvest in core competencies and negligence dynamic capabilities, and thus damage long-term competitiveness; hence, organisational efficiency vs. market power. Then they added that change, entry strategy, entry timing, focus and specialization all are key factors of organisational success.

Resources are gathered rather than acquired in "strategic factor markets" (Barney, 1986). Sustainability of an organisation's asset position hinges on how easily assets can be substituted or imitated. Imitability is associated to the characteristics of the asset accumulation process: time

compression diseconomies, asset mass efficiencies, inter-connectedness, asset erosion and causal

ambiguity. Barney (1986) stated well over thirty years ago:

> To help analyze the cost of implementing strategies, Barney introduces the concept of a "strategic factor market" defined as "a market where the resources necessary to implement a strategy are acquired". For example, the market for market share is cited as a relevant strategic factor market for implementing a cost leadership strategy. Barney then argues that in the absence of imperfections in strategic factor markets, buyers will not be able to extract superior economic performance from any factor, since the cost of acquiring strategic resources will approximately equal the economic value of those resources once they are used to implement product market strategies. Firms may, however, have different expectations about the future value of a strategic asset. In that case, strategic factor markets are "imperfectly competitive". According to Barney, firms may obtain above normal returns only when they have superior information, when they are lucky, or both. It is argued that all other "apparent" sources of either quasi-rents or market power ultimately boil down to either superior information or luck. The managerial implication drawn is that firms should focus their analysis mainly on their "unique" skills and resources rather than on the competitive environment (p. 1233).

However, there is not one size fit all, clear success receipt for competitive advantage of strategy

resources.

DiMaggio and Powell (1983) argued about the implications for theories of social change and firms.

They defined three isomorphic mimetic, processes-coercive, and normative. They argued that

these are what makes organisations similar. In their own terms, rationalization and

bureaucratization have relocated from the competitive market to the professional domain they

examined the impacts of resource centralization and dependency, goal ambiguity, and technical

uncertainty. Their results show that organisations are still becoming homogeneous, and

bureaucracy remains a common practice in organisations. In addition, the structural changes in

organisations are becoming less driven by competition and efficiency, and more influenced by

bureaucracy and processes changes which make organisations very similar to each other. According to Thompson et al., (1991) and Rhodes (1997a, 1997b), hierarchies raise up the idea of bureaucracy. Features of bureaucratic hierarchies embrace a high degree of centralization of policy-making and resource allocation, fundamentally proposing a transmission belt to implement central directions, with limited autonomy for the periphery. Public sector organisations are more likely to have a vertical division of labour based on a hierarchical distribution of authority and responsibility (Walsh, 1995, p. 12). For most of the post-war period, the UK public organisations have been seen as the archetypal hierarchical organisation (Harrison, 1993; Ham, 1996a and Ferlie), often described in terms of 'command and control'; command in terms of policy goals and objectives, control in terms of the mechanisms to achieve such goals.

According to Exworthy and Powell (1999), markets, hierarchies and networks have usually been seen as substitutes or competing paradigms of company forms. It has been argued that the British National Health Service (NHS) has moved from a bureaucratic and hierarchical organisation to a market organisation and, more recently, towards a network. According to Jaques (1990):

> Hierarchy may seem problematic to praise. Bureaucracy is a dirty word even among bureaucrats, and in business there is a widespread view that managerial hierarchy kills initiative, crushes creativity, and has therefore seen its day. Yet 35 years of research have convinced me that managerial hierarchy is the most efficient, the hardiest, and in fact the most natural structure ever devised for large organisations. Properly structured, hierarchy can release energy and creativity, rationalize productivity, and actually improve morale. Moreover, I think most managers know this intuitively and have only lacked a workable structure and a decent intellectual justification for what they have always known could work and work well. The hierarchical kind of organisation we call bureaucracy did not emerge accidentally. It is the only form of organisation that can enable a company to employ large numbers of people and yet preserve unambiguous

> accountability for the work they do. And that is why, despite its problems,
> it has so doggedly persisted (p. 127).

In conclusion, there is an urgent need to understand the hierarchy and bureaucratic context because the tendency to see them is very negative. Organisational hierarchy and bureaucracy have to be diagnosed as part of strategy resources. Utilizing strategy resources yields commercial competitive outcomes.

In the United States and France, managerial power is concentrated, by practice in the US and with statutory support in France, in an imperial-style American chief executive officer or French Presidente Directeur Generale. The central problem of corporate governance in the US is to lessen the conflicts of interest between dispersed small shareowners and powerful controlling managers. Differences in ownership structure have two noticeable consequences for corporate governance. On the one hand, dominant shareholders have both the incentive and the power to discipline management. On the other hand, concentrated ownership can create conditions for a new agency problem, because the interests of controlling and minority shareholders are not aligned.

Corporate governance in central Europe traditionally varies from that in the United States in two important manners: firstly, most European companies have controlling shareholders, while most American corporations are extensively held; secondly, the regulations on self-dealing have traditionally been firmer in the United States. According to Klock, Mansi, & Maxwell (2004), the increase in hostile takeover activities in the late eighties caused the management of U.S. corporations to enact several takeover defences to protect them from being takeover targets. These actions impeded shareholders' ability to sell to a hostile bidder and shifted the balance of power between shareholders and managers.

Gompers, Ishii, and Metrick (2003) constructed a governance index as a proxy for the level of shareholder rights based on twenty-four antitakeover provisions and examined the relation between the index and firm value. Their results suggest that portfolios of firms with strong shareholder rights earned abnormal long-run stock returns, had higher profits, lower capital expenditures, and made fewer acquisitions relative to those with strong management rights. Furthermore, Henrry (2004), suggested that board composition and chairperson identity of target companies and director, institutional investor and external share ownership in targets have minimal effects on the likelihood of takeover success.

The nature of the recommendations of target directors is found to be the most significant determinant of takeover success or failure, and bid premium levels and offer price revisions are also shown to be important in discriminating between successful and failed takeovers. Moreover, Kallifatides, Nachemson-Ekwall & Sjöstrand (2010), argued that the opportunity for any investor to pursue a takeover can be seen as a condition threat that encourages management to do its best to avoid being replaced therefore, governance plays a critical role to enhance and control aspects of takeover process. However, according to Cosh, Guest & Hughes (2007) research, the poor average outcomes for shareholders of these bouts of takeover activity could be argued to follow from the separation of ownership from control, the lack of alignment of management with shareholder interests, and the inability of boards of directors to monitor and control the strategies of their management teams. Takeover performance for the acquiring shareholders shows little sign of improving and positive profitability performance effects depend upon the choice of particular performance measures. In addition, the specific changes to board structures and executive pay cannot be shown to have had much impact on takeover outcomes.

Later, Khanna, Kogan & Palepu (2002), argued that globalization entails a lifting of barriers to the mobility of capital, products, and labor, leading to an intensification of competition for these factors across borders by firms and countries. Gilson (2006) claimed that the big issue in corporate governance scholarship is altering. Over the last 15 years, the academic and policy debate has concentrated on hostile takeovers. Nearby hostile takeovers have clarified a number of emerging issues, and attention has begun to change from debating a phenomenon to understanding the nature of control structure that rules public corporations universally. However, financial globalization makes it possible for firms to take advantage of the institutions of other countries, so that the institutions of a firm's home country could become less important in its decision-making (Doidge, Karolyi, & Stulz, R., 2013).

OD is both a professional field of social action and an area of scientific inquiry. The practice of OD covers a wide spectrum of activities, with seemingly endless variations upon them. Team building with top corporate management, structural change in a municipality, and job enrichment in a manufacturing firm are all examples of OD. Similarly, the study of OD addresses a broad range of topics, including the effects of change, the methods of organisational change, and the factors influencing OD success. According to Burke (1982, p. 10):

> OD is a planned process of change in an organisation's culture through the utilization of behavioural science technology, research, and theory).

Elaborating further on the different definitions and schools of thought, French (1969) explained that:

> OD refers to a long-range effort to improve an organisation's problem-solving capabilities and its ability to cope with changes in its external

environment with the help of external or internal behavioural-scientist consultants, or change agents, as they are sometimes called. OD is oriented to improving organisational effectiveness. OD practitioners can help firms understand "soft" decision factors in governance and management decision processes. Governance structures are necessary organisations so that effective communications and coordination can occur among various complex systems. Governance consists of four pillars: strategy, system, structure and process. The history of OD reveals its five roots: laboratory training, action research and survey feedback, normative approaches, productivity and quality of work life, and strategic change. The current practice of OD goes far beyond its humanistic origins by incorporating concepts from organisation strategy and design that complement the early emphasis on social processes (p. 23).

In the context of this research, governance is about making corporate controls available in order to enable strategy implementation successfulness, starting from the board, committees, authority matrix, policies and processes. Governance is more an OD component rather than a strategy resource component, however, strategy resources provide input to governance, where governance enable discipline in organisations and enhances effectiveness and performance.

Extant studies already described the strategic planning process and the strategy implementation cycle; however, there is no clear indication as to the importance of governance as key success factors of any strategy implementation. Therefore, the main objectives of this research are:

- To investigate the relationship between strategy and OD, and to identify the key success factors of successful strategy engineering.

- To prove that whatever strategy an organisation has, they will only be successful if the strategic indicators are applicable for the strategy of the program and plans for the projects. This would imply that the strategy is well engineered and is yielding what it is expected to; that "the expected benefit is realized".

Below is a figure showing strategy resources and its main components.

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Figure 1: Strategy Resources Component

Strategy Resources

Gap Based Diagnostics

Priority Based Planning
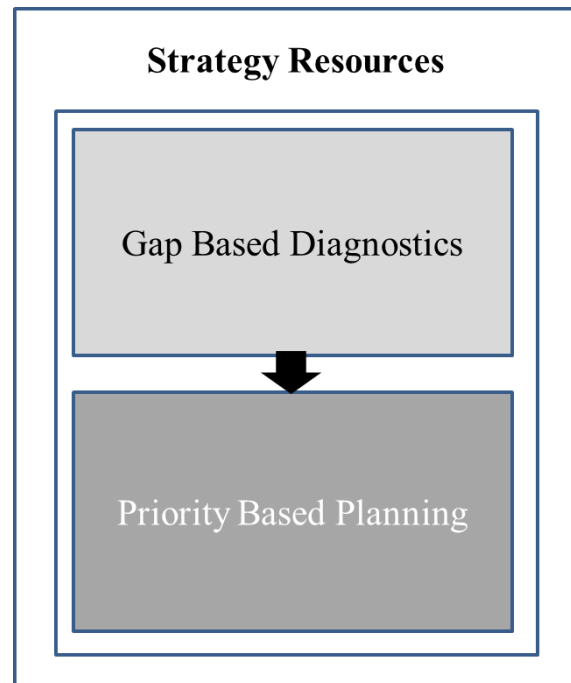
Resource-based view is not new. The resource-based view offers an explanation of competitive heterogeneity based on the principle that close competitors differ in their resources and capabilities in important and durable ways. These differences in turn affect competitive advantage and disadvantage. Nothing in this premise necessarily implies a static approach to the resource-based view, notwithstanding some controversy in this regard (Priem and Butler, 2001). Indeed, recent research on the evolution of organisational capabilities proposes the promise of dynamic resource-based theory (Helfat, 2000). The concept of dynamic capabilities (Teece, Pisano, and Shuen, 1997), for example, has attracted increasing attention (Zollo and Winter, 2002; Zott, 2002). By definition, dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities.

2.2.1 Gap-based Analysis Literature Review

This section addresses several assessment tools that enhance the depiction of gaps; like SWOT, PESTLE and benchmarking. Klochkov, Gazizulina & Golovin (2016) argued that the production of new goods of high demand involves revision of design of these goods and technologies for their production. Therefore, the implementation dynamics of new rules, procedures and norms is increasing. Analysis of this dynamics can provide data about company development and development of some particular processes. Comparing development speed of two competing companies can help organisations to forecast their state of business. Pobegaylov, Myasishchev & Gaybarian (2016) stated that the larger the organisation, the more complex and heterogeneous the process of exchanging text information control and reporting nature is.

Babatunde & Adebisi (2012) examined the effects of strategic environmental scanning on organisation performance and to establish clear position about the result of company that adopts continuous environmental scanning and the company that merely operate with it. Organisations can use environmental scanning to determine whether or not to enter new market and also to know the present situation or condition of its environment. Its purpose is to identify strategic factors-external and internal elements that will determine the future of the organisation. The simplest way to conduct environmental scanning is through PEST Analysis. PEST is the acronym used for describing the Political, Economic, Social-Cultural, and Technological factors that affect the organisation. The external environments consist of variables opportunities and threats that are outside the organisation and not typically within the short-run control of the top management. The management of any organisation has little or no influence on the external environment.

Diagnostics usually assess the current state and lay out the way towards a fit recommendation that bridges the depicted gap. The recommendation is an advised course of action that is potentially expected to improve a certain situation. If the diagnostics are not right, then the recommendation is not right. The implication of the recommendation might be severe and things would go in the wrong direction if the recommendation was wrong. Although many are acquainted with SWOT, it is deemed important to give a short outline of the tool. The reader may wish to allude to Kotler (1991), Palmer and Hartley (1996), Wilson et al. (1992), Johnson and Scholes (1993), McDonald (1992), Field (1992) and others for further elaboration.

According to Gürel and Tat (2017), SWOT analysis is an assessment tool used for strategic planning and strategic management in organisations. A SWOT analysis is a simple but broadly used tool that helps in identifying the strengths, weaknesses, opportunities and threats involved in a process, project or business activity. It can be used effectively to develop organisational strategy and competitive strategy. Inside and outside variables are organised with the goal that time is spent focusing on the most noteworthy components. This should incorporate a hazard evaluation to guarantee that high hazard or high-effect dangers and openings are obviously distinguished and are managed in the need requests. SWOT Analysis encourages group discussions about strategic issues and strategy formulation. Another assessment tool was defined by Cadle, Paul and Truner (2010); the PESTLE analysis technique is usually used in focus groups or workshops where several ideas and opinions can be hunted. Representatives from a range of departments should be present so that they can provide professional information. For example, legal representatives would be able to provide information about changes to relevant laws and regulations. It is a good idea for

departmental representatives to research any aspects that may impact the organisation prior to carrying out a Political, Economic, Social, Technological, Legal and Environmental analysis.

PESTLE investigation is an output of the outside full-scale condition in which an organisation exists. It is a valuable apparatus for comprehension of the political, economic, social, technology, legal and environmental conditions that an organisation works in. It can be used to assess market development or decay, and in that capacity the positionality, potential and directions for the organisation. However, benchmarking is an imperative aspect of analysis. Benchmarking is more than giving trajectories. It is a method for estimating an organisation's techniques and execution against "top tier" firms, both inside and outside the business. The point is to distinguish best practices that can be adopted and executed by the organisation to improve an organisation's presence.

The procedure of Benchmarking is partitioned into seven stages: (i) which capacities to benchmark; (ii) significance of each branch of knowledge; (iii) whom to benchmark against; (iv) accumulate the benchmarking data; (v) distinguish execution gaps; (vi) how to gain from the "top tier" (bench-learning); (vii) and usage of the changes (bench-action). Benchmarking, bench-learning and bench-action is certainly not a one-time venture. It is a ceaseless improvement procedure and a procedure that drives changes across the board. Hence benchmarking is a piece of the total quality management (TQM) framework, and it relates well to other TQM activities.

As per Ross (1995), the quintessence of benchmarking is the way toward recognizing the most elevated principles of perfection for items, administrations, or procedures, and after that creation of the important upgrades that enable the organisation to arrive at those guidelines, which are

termed "prescribed procedures". The defence lies somewhat in the inquiry: "Why re-imagine the wheel in the event that I can gain from somebody who has officially done it?" Jackson Grayson Jr, administrator of the Houston-based American Productivity and Quality Center, which offers preparing in benchmarking and counselling administrations, reports an extraordinary measure of enthusiasm for benchmarking.

Benchmarking is much used in military context and it is vital, public, private and military needs to benchmark their financial resources in order to have better utilization of their entire resources. Benchmarking provides complimentary capacity for the benchmarking organisation. Benchmarking is the search for the best industry practices which will lead to exceptional performance through the implementation of these best practices (Camp, 1989). It is the process of identifying, understanding, and adapting outstanding practices from organisations anywhere in the world to help an organisation improve its performance. It is an activity that looks outward to find best practice and high performance and then measures actual business operations against those goals (Kumar *et al.*, 2006).

Benchmarking can be a major investment. It is portrayed as both resource and time intensive and hence should be done meticulously (Vaziri, 1993; DeToro, 1995). According to Anand and Kodali (2008), benchmarking have the following types of benchmarking: internal benchmarking, competitive benchmarking, functional benchmarking, best-in-class/generic benchmarking, external benchmarking, strategic benchmarking, operational benchmarking, business-management benchmarking, consultant study benchmarking, reverse engineering/product benchmarking,

process benchmarking, relationship benchmarking, performance benchmarking/result benchmarking, diagnostic benchmarking, hooded benchmarking and open benchmarking.

The purpose of the benchmarking process models is to describe the steps that should be carried out while performing benchmarking. Although the core of different benchmarking approaches is similar, most of the authors have tailored their methodology or models based on their own experience and practices (Partovi, 1994). According to Bhutta and Huq (1999), benchmarking can be carried out in many steps; some companies have used up to 33 steps while others have used only four. IBM five phase/14-step process (Eyrich, 1991), Alcoa's six-step benchmarking, AT&T's 12-step benchmarking process (Bemowski, 1991) and many academicians too have proposed their own models, which were even later modified and adapted for different benchmarking situations. For example, Boxwell (1994) has suggested an eight-step benchmarking process, which has been used by Nath and Mrinalini (1995) to benchmark R&D organisations.

Sole and Bist (1995) has modified the Spendolini's five-step process by adding one more step and emphasized that benchmarking assumes continual improvement as the goal of all corporations using the process and hence ensured that their model is circular. This model was used to benchmark the technical-writing departments producing sets of manuals for a product that runs on a variety of operating systems. However, McNair and Leibfried (1992) mentioned that benchmarking was started in the late 1970s by Xerox Corporation. During this time, Xerox was losing a piece of the overall industry and feeling a great deal of weight from its rivals. While trying to attempt and "get once more into the game", Xerox chose to contrast its tasks with those of its rivals. In the wake of discovering quality principles with which to think about itself, Xerox started perhaps the best

pattern in the business world today. According to Omachonu and Ross (1994), benchmarking has been growing in popularity, particularly during the last five years.

The procedure of benchmarking is something other than a method for social event information on how well an organisation performs against others. Benchmarking can be utilized in an assortment of ventures, the administrations, and assembling. It is likewise a technique for distinguishing new thoughts and better approaches for improving procedures and, subsequently, being better ready to meet the requirements of clients. A definitive goal of benchmarking is process improvement that meets the characteristics of client desires. A Successful Strategy consists of four pillars:

- A comprehensive and defined strategy vision.
- Vision should be backed up by sound and accessible analysis. That is to enable actors to take better decision making based on facts.
- Long-term approach and milestones.
- Cascade down to every layer with clear accountability.

Furthermore, Porter (1979) defined a new school of thought. Porter's five forces of focused position examination were created as a basic system for surveying and assessing the focused quality and position of a business organisation. This hypothesis depends on the idea that there are five powers which decide the aggressive force and allure of a market. Porter's five forces recognises where power lies in the organisational context, which is helpful both in understanding the quality of an organisation's current focus and the quality of the place that the organisation hopes to move into. Researchers in the field commonly employ Porter's five forces to understand whether new items or administrations are achievable. As per Porter (2008), attention to the five

forces can enable an organisation to understand the structure of its industry and stake out a position that is increasingly beneficial and less helpless against assault.

To support long-term benefit capacity, organisations need to react deliberately to rivalry, and continue to monitor competitors or adversaries, while continuing to move ahead. As Porter clarifies in his 2008 update of his progressive 1979 HBR article, four extra competitive forces can hurt the organisation's imminent benefits. A) smart clients can power down costs by playing the organisation and its adversaries against each other, b) powerful providers may force the benefits on the off-chance that they charge more expensive rates, c) aspiring participants, equipped with new capacity and hungry for a piece of the overall industry, can ratchet up the venture required for the organisation to remain in the game, d) substitute contributions can draw clients away, e) by breaking down every one of Porter's Five Forces, a total image of what is influencing benefit in the industry can be constructed.

According to Jacobson & Dorman (1991), buyer concentration is generally much lower than seller concentration, therefore organisations should identify game-changing patterns early, so they can quickly misuse them. Also, organisations should spot approaches to work around limitations on benefit - or even reshape the powers to support you. By seeing how the five focused powers impact benefit in their industry, organisations can build up a technique for upgrading the organisations' long-term benefits. By understanding where forces lie, the hypothesis can likewise be utilized to distinguish regions of solidarity to identify strengths, to improve shortcomings and to maintain a strategic distance from possible failure.

- Supplier power: An evaluation of how simple it is for providers to drive up costs.

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- Buyer power: An evaluation of how simple it is for purchasers to drive costs down.

- Competitive rivalry: The key driver is the number and capacity of rivals in the market.

- Threat of substitution: Where close substitute items exist in a market, it improves the probability of clients changing to choices because of cost increments. This decrease both the power of providers and the engaging quality of the market.

- Threat of new entry: Buoyant markets attract new participants, which dilutes benefits. Except if employees have solid and tough market tools, for instance, licenses, economies of scale, capital necessities or government arrangements, at that point productivity will become more focused.

According to Porter (1985), forces model is a valuable tool for investigating competitors. It accentuates that the goal of focused examination should consistently be on producing knowledge about possible future directions. The model can be utilized to:

- Develop a profile of the conceivable procedure changes a competitor may make and how effective they might be

- Determine every contender's plausible reaction to the scope of attainable vital moves different contenders may make

- Determine every competitor's plausible response to the scope of industry movements and natural changes that may happen.

Porter (1987) had four corners that alludes to four indicative components that are fundamental to competitors' examination; these are future objectives, current methodology, suspicions, and

capacities. Furthermore, Porter (1990), argued that numerous organisations undertake essential SWOT examination and can benefit from their competitors' methodologies. In any case, persuasive elements are regularly neglected but are commonly the key drivers of aggressive conduct. Understanding the accompanying four components can help management anticipate how a competitor may react to a given circumstance.

Motivation - drivers. Breaking down a competitors' objectives helps with understanding whether they are happy with their present performance and market position. This predicts how they may respond to external forces and how likely it is that they will change procedure (Porter & Millar, 1985).

Motivation - the management assumptions. The observations and suppositions that a contender has about itself, the industry and different organisations will impact its key choices. Breaking down these suppositions can help distinguish the contender's predispositions and vulnerabilities (Porter & Millar, 1985).

Actions - strategy. An organisation's system determines how a competitor competes in the market. Subsequently, there can be a distinction between 'proposed methodology' (the procedure as expressed in yearly reports, meetings and open proclamations) and the 'acknowledged technique' (the system that the organisation is following, as confirmed by acquisitions, capital use and new item advancement). Where the present technique is yielding acceptable outcomes, it is sensible to expect that an organisation will continue to compete as it is already doing (Porter & Millar, 1985). Actions - capacities. The drivers, suppositions and methodology of an organisations will decide the nature, probability and timing of a competitor's activities. Be that as it may, an organisation's

capacities will decide its capacity to react to outside powers. Prior to settling on a vital choice, it is imperative to see how exercises inside the organisation incentivize clients (Porter & Millar, 1985). One approach to do this is to conduct a value chain analysis.

Value chain analysis depends on the rule that organisations exist to make an incentive for their clients. In the analysis, the organisation's exercises are isolated into discrete arrangements of exercises that include esteem (Porter 1998). The organisation can all the more viably assess its interior capacities by distinguishing and inspecting each exercise. Each worth-adding activity/action is viewed as a wellspring of upper hand (Porter, 1979). Value chain analysis is an extensive technique for examining an organisation's wellspring of upper hand. Organisation pioneers worldwide are presentation and functioning of to improve the presentation and functioning of their organisations. The test is to recognise the key activities that will have the focused effect.

Execution improvement indicators enables any organisation to carry out an extensive audit to distinguish the correct issues that edge the open door for development, characterize an organisation's market position, and set convincing and feasible objectives. There is a consistent stream of business prevailing fashions and methodologies, yet an effective manager (?) will carry out an exhaustive audit of the business to identify the most basic areas for development. According to Porter (1980a), a competitive strategy examines the way in which a firm can compete more effectively to strengthen its market position. Porter (1996a), argued that he has been interested in how location affects competitive advantage and how firms choose headquarters locations from a strategic perspective. Porter's (1990) 'Competitive Advantage of Nations' was heralded on

publication as a book which could build a bridge between the theoretical literatures in strategic management and international economics, and provide the basis for improved national policies on competitiveness. Furthermore, Porter (1990), argued that the individuals who have rebuilt must choose what to do by abstaining from rehashing the past. Moreover, Porter (1987), argued that organisations lead diagnostics so as to increase strategy success rate.

Furthermore, Goh (2002) attested that most Fortune 500 companies have employed the prioritization methodology with the intention of improving their performance. As well as, Pyzdek (2003) stated that prioritization is to arrange or deal with issues in order of significance. Pande et al. (2000) mentioned that the prioritization of improvement activities should be based on identifying the improvements that best suit the current objectives, needs and abilities of an organisation. Competitiveness today depends on productivity with which companies can use labour, capital and natural resources to produce high- quality goods and services (Porter & Kramer, 2002, p. 3). Competitive context has always been important to strategy. The availability of skilled and motivated employees; the efficiency of the local infrastructure, including roads and telecommunication; the size and sophistication of the local market and the extent of government regulation.

Furthermore, Porter (2002) suggested four elements of competitive context; context for strategy and rivalry, demand conditions, related and supporting industries and factor conditions. According to Stonehouse & Snowdon (2007), Porter's contributions, as an economist, to the investigation of "competitiveness" at the level of the firm, industry, and nation over the past 30 years have been fundamental to the development of both the theory and practice of strategy and strategizing.

According to Porter (1995), the competitive advantage of a location does not usually arise in isolated companies but in clusters of companies. Studies of competitiveness and economic development in the US have tended to focus on the nation as the unit of analysis, and on national attributes and policies as the drivers (Porter, 2003b). High and increasing levels of productivity and innovation are manifestations of competitiveness. However, competitiveness ultimately depends on firms and the way they compete (e.g, Li & Zhou, 2010). According to Jones & Harrison (2018), firms that are successful in developing a close relationship capability may enjoy a sustainable competitive advantage because such capabilities are likely to be rare and are very difficult to imitate, even in contexts in which they are the most advantageous.

A company's ability to sense and respond strategically to opportunities and threats enhances competitive advantage (Li & Liu, 2014). Galbreath and Shum (2012) questioned the applied approach taken by the majority of studies which have examined the direct relationship between CSR and firm performance. They claimed that CSR provides many potential benefits, not just a single intangible benefit such as customer satisfaction. Accordingly, it was assumed in this study that engagement in CSR affects customer satisfaction, reputation, and sustainable competitive advantage positively. However, Saeidi, Sofian, Saeidi, Saeidi & Saaeidi (2015) argued that only reputation and competitive advantage mediate the relationship between CSR and firm performance. Taken together, these findings suggest a role for CSR in indirectly promoting firm performance through enhancing reputation and competitive advantage while improving the level of customer satisfaction.

Furthermore, Herrera (2015), focuses on social innovations that create social value and competitive advantage. Three institutional elements enable CSI processes: stakeholder engagement, operational structures and processes, and organisational culture, hence can improve corporate social and financial performance. Hence, a sound macroeconomic, political, legal, and social context is necessary for achieving competitiveness, but not sufficient (Porter & Ketels, 2003). Nevertheless, Porter and McGahan (1997) argued about competitive strategy struggles; that an organisation is most concerned with the strength of competition within its industry. Basic competitive forces control the intensity level.

The stronger each of these forces is, the more corporations are limited in their ability to raise prices and earn more profits. Williamson (1999) found that the competence perspective is linked to good issues, challenges convention, and the governance perspective to be responsive. Both factors/points are circumscribed prudently and reflect the requirements/objectives of the organisation. Governance is more micro-analytic (the basic unit of analysis is the transaction) and adopts an economizing method to assess the relative health of the economic organisation. Competence is more complex and is more concerned with procedures. SMEs hold up a significant position in the economics of developing countries. Budescu, Weinberg, and Wallsten (1988) believed that numerals are perceived as delivering a level of precision and authority which prevents people from making subjective decisions. Words are perceived as more flexible and less fixed in meaning; therefore, words are better suited to describe ambiguous and loose opinions and beliefs. Subjective probability is a fundamental concept in altogether models of individual decision making within uncertainty.

Most people avoid ambiguous probabilities; it can be predicted that they will pay more to profit from a negative gamble, and, conversely, will pay less to profit from a positive gamble, when the issues concerned are expressed verbally than when they are expressed numerically or graphically. Therefore, Porter (1987), argued that organisations lead diagnostics so as to decrease expenses to move relative cost position, increase relative market share, increase profit margins or decrease stock keeping units (SKUs). This comes after an external assessment of opportunities and threats that the organisation confronts directly, alongside an assessment of the industry-focused condition and an internal assessment of qualities and shortcomings in the accompanying practical departments: Finance, Marketing, Operations, Human Resources and Technology. Later on, Porter (1990) argued that critical planning produces an unmistakable planning of activities are linked to the ability of the executives to implement actions that guarantee a positive outcome.

Diagnostics include vital choices and reallocation of assets as requirements emerge, not on a yearly timetable but rather on based on seasonal or adhoc need. Diagnostics recognise the most significant vital issues during the arranging procedure, cautiously consider inventive options, and settle on choices that have the best effect on the business. Key discourse centres on explicit items, individuals and clients, not scientific portrayals, for example, "normal client. Furthermore, Porter (1987), argued that corporate strategy is the thing that makes the corporate entire mean more than the aggregate of its specialty unit parts. The need to reconsider corporate methodology is increasingly pressing. Perceiving past enhancement failures, a few organisations have started enormous-scale rebuilding programs. Others have done nothing by any means. Whatever the reaction, the vital inquiries persevere. The individuals who have rebuilt must choose what to do by abstaining from rehashing the past; the individuals who have done nothing must wake up to

their helplessness. To endure, organisations must understand what great corporate methodology is.

This paragraph is a summary about the gap-based diagnostics recommendations. To prioritize, recommendations have to be put right. To recommend, diagnostics has to be done right. To diagnose, inclusive tools have to be used. Effective use of strategy resource would give a boost to implement OD techniques that would yield successful results. The next section will be discussing "Priority Based Planning" that is a critical part of strategy resources. Priority based planning is about setting the right focus based on needs and requirements.2.2.2 Priority-based planning Literature Review

As a result of the gap-based planning, diagnostics are improvised and gaps been depicted then recommendations been made to bridge the gap. However, the dilemma that most organisations suffer from is when they have fifty actions to take place, which action/set of action to start with. Setting the priorities become a priority. If a certain action is deprioritized, this does not mean that it is not important, but it might be that another action is more important or crucial. Prerequisites for a certain action might be required. Equally, the action might be a dependency for another action. That implies that the fifty actions could not all start in parallel. They must be prioritized.

According to Garza-Reyes (2010), increasingly competitive environments and markets have enforced industrial organisations to continuously seek improvements in their manufacture processes as an alternative to reduce operational costs. Against this background, Six Sigma principles and techniques have been extensively used by businesses to support operational and quality improvements. Goh (2002) attested that most Fortune 500 companies have employed the

prioritization methodology with the intention of improving their performance. A significant element for the successful implementation and application of this methodology, besides selection, is the prioritization of improvement projects and initiatives (Pande et al., 2000; Banuelas and Antony, 2002).

Pyzdek (2003) stated that prioritization is to arrange or deal with issues in order of significance. Organisations normally face challenges in terms of budget, time, and personnel, and as improvement projects may also disrupt normal operations and standard routines, the effective, and efficient, selection and alignment of them with organisational objectives is crucial for the success of any improvement initiative. Different scholars have developed and proposed diverse methods to help practitioners deal with the complexity of the selection and prioritization of improvement projects. These have been summarized by Banuelas et al. (2006). Pareto analysis and Pareto priority index (PPI) are most commonly used. Independently of the prioritization method chosen by an administration to indicate the order of significance of improvement projects, Pande et al. (2000) mentioned that the prioritization of improvement activities should be based on identifying the improvements that best suit the current objectives, needs and abilities of an organisation.

However, according to Antony (2004), the prioritisation of many improvement projects and initiatives is still based on subjective judgement in many organisations. Antony (2004) also commented that there are very few tools and methods to assist with prioritizing improvement efforts. A survey conducted in the UK by Banuelas et al. (2006) discovered that the most common prioritization tools employed by large organisations in this country are, in that order, cost-benefit analysis (CBA), Pareto chart, and cause-effect matrix. The objective of a Pareto analysis (Gitlow

et al., 1989; Juran and Godfrey, 1998) is to differentiate between the "vital few" issues and the "trivial many" (Slack et al., 2009). The Pareto principle indicates that the size and importance of obstacle, cause or other aspects of quality will differ and often the relationship between their relative frequencies will reflect what is known as the Pareto principle or 80/20 rule (Hill, 2000). This principle or rule suggests that 20% of the total number of causes results in 80% of the total quality problems identified.

Rothermel, Untch, Chu and Harrold (1999) stated that the prioritization technique is an execution order according to some criteria. They also identified different types of prioritization techniques, like random prioritization, optimal prioritization, and no prioritization. Prioritization is what people lack most. Covey (1998) talked about seven habits for highly effective people. Three of them were related to planning and prioritization. a) begin with the End in Mind: develop a mission statement concentrating on what and how to achieve the goal. b) put first things first: identify the main activities and give priority to the most important ones c) synergize: whole is better than the sum of parts.

The other four habits were related to pro-activeness, negotiation, social intelligence and assertiveness. Pro-activeness in so far as taking the initiative. Negotiation in terms of having a win-win situation. He also suggests being emotionally intelligent, to understand people before seeking to be understood. This is a kind of self-reflection. He also suggested to have a firm position of things; i.e.: to reward and punish fairly and swiftly. The first three habits are directly related to planning, setting priorities and managing resources to create an impact. Moreover, Carl von Clausewitz mentioned in 1820 that the strategy has to go onto the field to order the single things

directly and to choose the modification for the whole. He suggests understanding strategy as a socio-political (rhetorical) mechanism through which people can be convinced in deliberations about a specific course of action. On the other hand, Clausewitz also reflects on the pedagogy of strategy. He concludes that theory may be useful to educate the mind of the future leader, but not to a company him on the battlefield. He suggests understanding strategy as a socio-political (rhetorical) mechanism through which people can be convinced in deliberations about a specific course of action. On the other hand, Clausewitz also reflects on the pedagogy of strategy. He concludes that theory may be useful to educate the mind of the future leader, but not to a company him on the battlefield.

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Porter (1998) tackled governments' prioritization in a different way. Porter argued that governments intervene in the economy in different ways by enhancing the skills, orienting the education, reinforcing the research, deploying technology, and developing infrastructure. They also do so by expediting procurement, calibrating tax policy, or supporting innovation. Governments intervene through policy change which is less about redistributing the money, but more about coordinating decision making.

The interaction between government policy and private companies' strategies is also crucial for any analysis of the effects that a stabilization program involving elements of demand restraint

may have on the real sector-a question that is still the subject of considerable controversy (Khan and Knight, 1982). In case government expenditure plan changes or strategy changes, then that would happen through a government policy. While a private company strategy is a set of aligned tactical objectives that will address the challenges to avoid unintended consequences. However, government policy is a set of measures that support the achievement of strategic objectives.

Strategic objectives often involve trade-off between competing priorities, and potential conflicts between different objectives. These should be acknowledged, and the reason(s) for prioritizing one over the other should be provided. Trochim (2004) claimed that strategic planning has become a critical element of the management of large organisational activities in both the public and private sectors. Bartolini and Salle (2004) found that organisations are increasingly refocusing their strategy and operations in order to positively face the challenges of a progressively competitive business environment.

The prioritization system is applied by scoring each species for each of the criteria. Robertson, Villet, Fairbanks, Henderson, Higgins, Hoffmann, Le Maitr, Palmer, Riggs, Shackleton and Zimmermann (2003) argued that the prioritization system should be used in combination with predictive modelling techniques. The prioritization system is a useful decision support tool for management, where Shetty, Sudit and Nagi (2008) stated that targets have to be characterized by their priority or significance level. Furthermore, Paetsch, Eberleina and Maurer (2003) concluded that requirements engineering (RE) is a conventional software engineering method with the goal to identify, analyze, document and validate requirements for a system to be developed. Usually, requirements engineering and agile approaches are considered incompatible: RE is often greatly

reliant on documentation for knowledge-sharing while agile approaches are focusing on face-to-face collaboration amongst customers and developers to reach similar goals.

As a summary to this section, the researcher is introducing a new horizon for strategy resources. Strategy resources is a critical part of strategy engineering because it includes all the diagnostics element, resources elements and prioritization elements; all these elements would lead into a robust strategic plan that is part of OD. Organisations, be it public, private or any other nature, if cannot manage and utilize their resources, they would not be able to utilize the opportunity to be successful. Any planning process should start with a current state assessment. Gap-based view is not a new topic. Equally, resource-based planning is not a new topic. In the literature, gap-based view and resource-based planning had been thoroughly addressed. If the current state is not figured out correct, then the entire planning process would not be successful. Moreover, organisations would have many options, however, they should tap in whatever is deems priority for them. Therefore, gap-based analysis and priority-based planning are very crucial for any strategy resource, hence to strategy engineering.

According to Porter (1990), the individuals who have rebuilt must choose what to do by abstaining from rehashing the past. Moreover, Porter (1987), argued that organisations lead diagnostics so as to increase strategy success rate. Furthermore, Goh (2002) attested that most Fortune 500 companies have employed the prioritization methodology with the intention of improving their performance. As well as, Pyzdek (2003) stated that prioritization is to arrange or deal with issues in order of significance. Pande et al. (2000) mentioned that the prioritization of improvement

activities should be based on identifying the improvements that best suit the current objectives, needs and abilities of an organisation.

The figure below shows the components of the second pillar of the strategy engineering, the "Organisation Development" or (OD).

Figure 2: Organisational Development Components
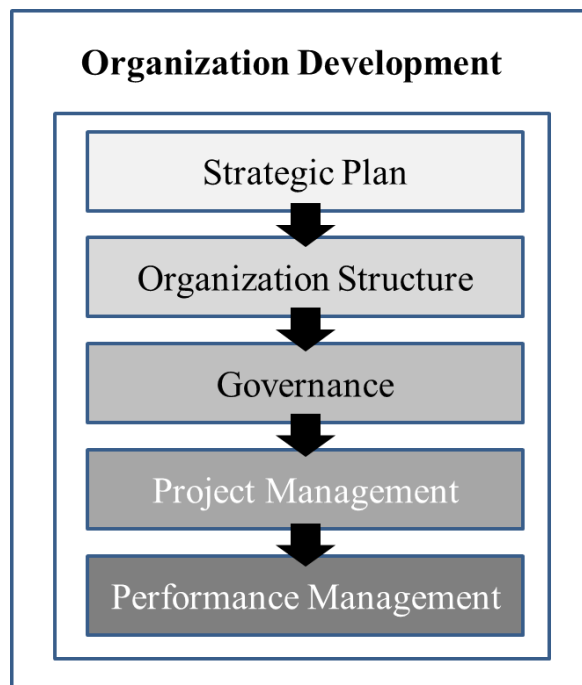
2.3 Organisation Development

OD is second pillar of the strategy engineering conceptual framework. In the context of this research, OD is been impacted by strategy resources, where strategy resources pillar is the first pillar of strategy engineering conceptual framework. Backhard (1969), defined five steps in OD process, diagnostics, strategic planning, education, training and evaluation. However, Lippitt, Watson and Westley (1958), defined another step to OD, development of need for change, generalization and stabilization of change, achieving a terminal relation. Later, Lawrence and Lorsch (1969), defined four steps to OD, diagnostics, planning actions, implementing actions and evaluation of achievement. However, Kahn (1974) claimed that the term "Organisational Development" is significantly undefined in the literature.

According to Gerasimov (2014), he argued that utilizing process and functional approaches involves the possibility of inclusion of original elements or new technological operations, which should significantly enrich the work and introduce additional room for research and development. This may be found essential when designing systems, processes, or parts thereof, and when designing some new operations which may become necessary in some process.

Later Gerasimov and Gerasimov (2015), mentioned that there are some concepts of OD, from slow improvement to a radical change of management systems and their components. They suggested that the main areas included in the OD program are as: development of new products; implementation of measures to improve the quality of products / services; improving the efficiency of management and innovation activities; ensuring the completeness and rationalization of the functional structure; ensuring the optimum number of employees; improving the informational,

hardware and software support of technological developments; staff development; improving the working conditions and the system of remuneration. Furthermore, Pool (2000), argues that OD model is established to measure the constructs of a learning organisation. He suggested that corporations implementing TQM principles in a supportive organisational culture has a positive and significant correlation with organisational learning. Pool also suggested that a positive and significant relationship between a learning organisation and the motivational level of its business executives. According to Donald (2011), OD is a management discipline that aim at improving organisational effectiveness by increasing the utilization of human resources and systems. It is also about managing parameters in a dynamic environment. OD is an emergent behavioural science field that provides a set of methodologies for systematically bringing about high-performing organisations.

OD objectives are to create an organisation that is more effective and to enhance the opportunity for the individual to develop his/her potential. OD objectives can best be accomplished by using the experiential approach to learning. This innovative experiential introduction to the field of OD offers an applied managerial approach to improving organisational effectiveness in a changing environment. Experiencing OD techniques is by means of behavioural simulations, communication skills, problem solving, decision-making ability, and leadership potential. However, according to Davenport (1993), OD is a reengineering/redesign of an organisation, which becomes possible on the basis of scientific achievements upon recognizing the need for modernization or development and orientation at other values. According to Harrington (1991), OD is applied in three situations: 1) Organisation is in a deep crisis, which is reflected in a very high level of costs, mass loss of customers, loss of quality and competitiveness of products and

loss of skilled professionals.; 2) The condition of the organisation can be considered satisfactory, but its business forecasts for the future are unfavourable, because the organisation faces undesirable trends regarding competitiveness and profitability; 3) The organisation is successful and aggressive, and, as a result, it grows fast, and, therefore, its strategy is to leave the competitors far behind and to create unique competitive advantages. The table below include most prominent OD definitions along with similarities and differences.

Table 1: Prominent Organisational Development Definitions

Definition	Author	Key Words
OD is about development of new products and services, implementation of improvement measures and enhancing operational efficiency.	Later Gerasimov and Gerasimov (2015)	Improvement, efficiency
OD is about having a strategy that reengineer an organisation thereby utilizing various systems, tools, measurements and controls in order to obtain sustainable achievements.	Donald (2011)	Organisation reengineering, sustainability, achievement
OD is process, diagnostics, strategic planning, education, training and evaluation.	Backhard (1969)	Diagnostics, strategic planning, performance

OD is the development of need for change, generalization and stabilization of change, achieving a terminal relation.	Lippitt, Watson and Westley (1958)	Change, stabilization, achievement
OD is diagnostics, planning actions, implementing actions and evaluation of achievement.	Lawrence and Lorsch (1969)	Diagnostics, Planning, implementation, performance
OD is a management discipline that aim at improving organisational effectiveness by increasing the utilization of human resources and systems. It is also about managing parameters in a dynamic environment. OD is an emergent behavioural science field that provides a set of methodologies for systematically bringing about high-performing organisations.	Donald (2011)	Effectiveness, HR, High performance organisation
OD is a reengineering/redesign of an organisation, which becomes possible on the basis of scientific achievements upon recognizing the need for	Davenport (1993)	Reengineering, redesign, modernization, development

modernization or development and orientation at other values		

Church & Bruke (2017) stated that OD it is that change is a constant phenomenon. The core of OD is all about development. He concluded that the process of OD, e.g., involving people in decision making that directly affects their work and degree of commitment, worked effectively regardless of organisational type. Church (2017) argued that OD has its origins in action research and enhancing the growth and development of organisations and their people. The right set of core OD values enables creating new types of tools and techniques.

Davidoff & Lazarus (2002) argued that OD is to make the organisation's experience more meaningful. OD recognises the need for more participatory form of engagement in organisation. OD is about organisational standardisation and stabilisation. According to Mehta (2009), OD is an ongoing, systematic process to implement effective change in organisations. OD is knowns as an applied science focused on understanding and managing organisational change. OD is the process of carefully planned and implemented to benefit the organisation, employees and stakeholders. According to Beckhard (1969), OD is an effort, planned and managed from the top to increase organisation effectiveness and health through planned interventions in organisation's processes using behavioural-science knowledge. The OD process is ignited when there is a gap or dissatisfaction within the organisation.

The best definition that suits this research context is the definition stated by Donald (2011). However, alternatively, the research suggest that OD is about having a strategy that reengineer an

organisation thereby utilizing various systems, tools, measurements and controls in order to obtain sustainable achievements.

Denison and Spreitzer (1991) stated that the sustained interest in organisational culture in recent years has confirmed what OD researchers have recognised for years; most of the time, core values and assumptions are at the root of organisational culture and structure. In order to change or understand an organisation, a researcher or change technocrat must first observe the relationship between corporate values, organisation structure and individual importance. Organisations play a very important role in activating tacit knowledge assumed by the individual. The 'theory of organisation' conceptualizes that the organisation is a system that 'processes' information and solves problems. Denison and Spreitzer (1991) argued that whilst staff develop new knowledge, organisations play a key role in articulating and expanding and glorifying that knowledge. Any organisation that dynamically interacts with a changing ecosystem should not only do so to process information efficiently but also should create knowledge and information. Analyzing the organisation from the perspectives of its design and capability to process information forced by the environment no doubt creates an important method for interpreting different aspects of organisational activities.

Innovation can be better understood as a process in which the organisation creates and defines problems and then actively develops new knowledge to solve them. According to Denison and Spreitzer, the theory explains how knowledge held by staff, organisations, and people can be simultaneously increased and enriched through the spiral, interactive glorification of tacit and explicit knowledge. With that been said, organisational performance is considered knowledge

within the organisation. Moreover, Nonaka (1994) found that the organisations' performance plays a critical role in mobilizing tacit knowledge possessed by individuals and provides the opportunity for a "spiral of knowledge" creation throughout socialization, combination, externalization, and internalization. He argues that knowledge held by individuals, organisations and societies can be concurrently increased and enriched through the spiral, interactive magnification of the tacit and explicit knowledge these bodies hold. Undoubtedly, Ali (2015), argued that after the Second World War (between the 1950s and 1960s) two related developments took place: a progression in the material world and a fast improvement in the behavioural sciences. The first development particularly prospered in the Wes. The second permitted researchers to develop new methods and tools not only to clarify the world but also to change it. Therefore, OD became a familiar term in academic circles and business, and, along with management by objectives (MBO) and participative management become public terms in the global business literature.

Particularly, OD has occupied a prominent position in the business and scholarly world in the USA and abroad. Additionally, Rumelt (1982) argued that organisation structure is a key player of OD. He suggested that corporate profitability varies subject to diversification strategies. Highest profitability was demonstrated by organisations that incorporated diversification strategies, thereby ensuring a common resource pool, while the lowest profitability was demonstrated by organisations that integrated their verticals or organisations that diversified their portfolio by adding unrelated businesses.

OD is the set of systems and tools that enable organisations to plan and implement strategy successfully. It includes five main sub-components: strategic planning, organisation structure,

governance, project management and performance management. The literature of each of these sub-components are reviewed in the following five sub-sections.

2.3.1 Strategic Planning Literature Review

This sub-section discusses different types of strategies employed by different forms of organisation such as public listed, private, family, government, MNCs, SMEs and NGOs vis-à-vis strategy types. Such strategies include diversity, growth, sustainability, R&D, franchise, financial, mergers, acquisitions, human capital and divestment strategies. Horwath (2006) claimed that the term "Strategy" was first used in military practices to point to a long-term plan with the condition of high uncertainty and by following certain tactics and alternatives. Byars (1984) and Bartol and Martin (1994) defined strategies as large inventory of action plans for interacting with the situation in order to achieve long-term objectives. Bateman and Zeithamal (1990) defined strategy as a set of actions and designed resource allocation to achieve the organisational objectives.

Apart from this, Block, Fisch, Lau, Obschonka and Presse (2016) concluded that occupation-related, socio-demographic, and entrepreneurship-related variables persuade the first choice of individuals to work in family organisations. People with high education, entrepreneurship or managerial background show a lower interest to work in family organisations. Therefore, family businesses would face difficulties in attracting senior executives and highly educated people. However, people in rural regions have more preference than those who live in cities to work for family business. That could be because urban people value independence and autonomy more that rural people do. Further, urban people have more choices than those in rural regions. Moreover, Teece, Pisano and Shuen (1997) discussed how organisations achieve and sustain competitive advantage.

Due to the rapid technological change environment, the dynamic capabilities framework defines the sources and methods of wealth-making. The competitive advantage of organisations is dependent on unique processes, designed by the organisation's specifics, asset positions, and evolutionary pathways(s) implemented or inherited. An organisation's competitive advantage depends on the demand market stability, the simplicity of replicability (expanding internally), and the simplicity of immitigability (replication by competitors). Teece et al. (1997) added that identifying new opportunities and organising them effectively and efficiently to realize them is more important to private wealth-making than strategizing. Over-strategizing could lead organisations to underinvest in core competencies and negligence dynamic capabilities, and thus damage long-term competitiveness; hence, organisational efficiency vs. market power. Then they added that change, entry strategy, entry timing, focus and specialization all are key factors of organisational success.

It should be noted that DiMaggio and Powell (1983) argued about the implications for theories of social change and firms. They defined three isomorphic theories mimetic, processes-coercive, and normative. They argued that these are what makes organisations similar. In their own terms, rationalization and bureaucratization have relocated from the competitive market to the professional domain. They examined the impacts of resource centralization and dependency, goal ambiguity, and technical uncertainty. Their results show that organisations are still becoming homogeneous, and bureaucracy remains a common practice in organisations. In addition, the structural changes in organisations are becoming less driven by competition and efficiency, and more influenced by bureaucracy and processes changes which make organisations very similar to each other.

Accordingly, Appelbaum and Robinson (2005) argued that globalization is redesigning how we have conventionally gone about considering the social world and human culture, and a field of globalization studies is now developing across the regulations. Globalization involves new production systems in terms of finance vs. consumption vs. worldwide economic integration. It also involves new transnational or global cultural trends, practices and courses.

Globalization also engages with global political procedures and processes, along with the rise of new transnational organisations and, alongside these, the spread of global governance and authority structures.

The multidirectional movement of nations around the globe is involving new norms of transnational migration, identities and communities. New social hierarchies, inequality forms, and dominant relations around the world are generally regulating the global system (Robinson, 1996). Globalization theory clearly underpins the shift from the traditional mode of production to the present-day mode. Future theoretical effort into globalization would be important in order to theorize more systematically the dynamics in the nature of social action and power relations. Such studies into the spread of globalization would obviously identify the limits of the possible. Robinson highlighted the influence of globalization on urgent world issues like crises, authoritarianism, terrorism, militarism, ecological degradation and escalating social polarization. In particular, Wang, Ma, Song and Liu (2016) addressed the political relation vs business transformation in family businesses.

Family organisations are more likely to transform their business, conduct business developments, enter new markets and industries, and conduct mergers and acquisitions than non-family

organisations are. However, political relations make it easier for family organisations to go through correlative industries than the case of non-family organisations that have no or weak political relations. Wang et al. (2016) argued that corporate ownership is a key factor controlling decision-making in business transformation where transformation style differs among family and non-family organisations. The motivation of family organisations to transform their business is superior to that of non-family organisations, particularly when political connections are involved.

Furthermore, Amihud and Lev (1999) strongly supported the proposition that corporate acquisitions and corporate risk strategy are affected by agency troubles, proxied by ownership structure. Furthermore, organisations implementing performance-based compensation produce managerial conduct that is close to organisations with owner control. The composition of the board of directors and involvement of institutional investors are considered important factors in reducing agency costs of separation between ownership and control. They argued that ownership structure and corporate control affect corporate strategy vs. risk appetite and acquisitions. Rajapakshe (2002) discussed the relationship between structure and strategy - which one comes first, and which one influence the other. Also, they argued that the nature of strategies, and the role of strategy as mediator to structure. Also, discussed the other factors that influence the structure. However, Rees and Edwards (2009) argued that mergers and acquisitions could be used as an opportunity to re-evaluate the company's HR strategy. Also, M&A's could be used by an organisation to change direction after conducting a benchmarking exercise. Furthermore, the M&A can be used as a stimulus or catalyst for a radical migration from pre-existing strategy and norms. Another opportunity that M&As offer is that the HR department in general may utilize the merger to improve its position within the organisation.

As a key stakeholder in a merger, HR could find itself outside the dominant alliance, and the function in totality could be marginalized during the merger procedure. On the top of that, Antila (2006) stated that HRM is a critical player in M&A's and HR issues are given significant importance throughout the M&A process. Also, HR managers play an important role in the international M&A process. Antila argued that HR managers play critical role in M&A when it comes to management of transformational change, organisational structures and deciding on HR policies and practices. He also stated that HR managers should be responsible for HR due diligence, leadership training, teams' establishment, HR strategic planning, and communication with key stakeholders, among others, and following David Ulrich's ideas, concluded that the HR role in international M&A is classified into four main responsibilities: Strategic Partner, Administrative Expert, Employee Champion, and Change Agent.

Rajapakshe and Acur (2016), added that selected strategies would not be successfully implemented without designing and implementing a healthy organisational structure. They listed and classified the literature by scholar. Their review supported that there is a relationship between structure and strategy, where the nature of the strategy would dictate the structure, and other factors like size, power control(governance), economics, culture and technology, that affected the determination of the structure. They did not mention authority matrix and procedure as part of power control. The authors believe that an empirical survey is needed to test their 20+ hypotheses to check whether those are proved or not. As per Rajapakshe and Acur, most scholars agreed that strategy influences structure. They think that if a strategy is to be well implemented, all prerequisites have to be in place, one of which is structure. Other prerequisites have to be identified and put in place. Besides, Markides and Williamson (1996) argued that the strategy of related diversification usually

improves performance if it allows a business to obtain special access to strategic assets that are costly to imitate, rare, valuable, and imperfectly tradable. In the long run, the accumulated competencies that allow the organisation to develop new strategic assets faster than competitors will allow the organisation to sustain normal profits.

In a diversified organisation, placing organisational structures in place that allow the organisation to share its strategic assets and transfers the competence to build new assets in a successful manner. The authors also postulated that organisations would not necessarily be able to sustain very good performance even if they design and implement an organisational structure that efficiently shares resources or assets that are related to two divisions.

According to Porter (2000), the myriad exercises that go into making, creating, selling and conveying an item or service are the fundamental units of competitive advantage. Operational effectiveness means playing out these exercises better - that is, quicker, or with less information sources and imperfections - than adversaries. Organisations can procure huge points of interest from operational effectiveness, as Japanese firms showed during the 1980s with practices such as all-out quality administration and constant improvement. Be that as it may, from a focused outlook, the issue with operational adequacy is that prescribed procedures are effectively copied. As all rivals in an industry embrace them, the 'efficiency wilderness' - the most extreme respected an organisation is the more can convey at a given cost, given the best accessible innovation, abilities, and the executives' systems - moves outward, bringing down expenses and improving incentives in the meantime. Such a challenge brings significant improvement in operational adequacy in general, but not on an individual level.

Furthermore, the more benchmarking that organisations implement the more aggressive blurring of boundaries there is - that is, the more indistinct organisations are from each other. Vital situating endeavours to accomplish a manageable upper hand by safeguarding the unique selling points of an organisation. It means performing various exercises from adversaries, or performing comparative exercises in various ways. Three key standards underlie key positions:

1. Strategy is the production of a one-of-a-kind and important position, including an alternate arrangement of exercises. Vital position is derived from three unmistakable sources:

- Serving few needs of numerous clients (Jiffy Lube just produces auto oils)
- Serving expansive needs of couple of clients (Bessemer Trust targets higher-end customers)
- Serving expansive needs of numerous clients in a restricted market (Carmike Cinemas works just in urban communities with a populace under 200,000)

2. Strategy expects you to make trade-offs in competing - to pick what not to do.

3. Strategy includes ensuring a "fit" among an organisation's exercises.

Contrasts in operational effectiveness among organisations are inescapable. Few organisations can get more out of their contributions than others since they maximise time, utilize further developed innovation, inspire representatives better, or have more prominent understanding into overseeing specific exercises or sets of exercises. Such contrasts in operational compellingness are a significant wellspring of contrasts in benefit among contenders since they legitimately

influence relative cost positions and dimensions of separation. Contrasts in operational effectiveness lay at the core of the Japanese test of Western organisations during the 1980s. The Japanese were so far ahead of their opponents in operational adequacy that they could offer lower cost and prevalent quality in the meantime. This point is worth drawing attention to, in light of the fact that so many organisational decisions can draw from this approach.

According to Chandler (1962), strategy defines long-term goals and objectives and adopt the set of processes required to achieve these goals. Andrews (1971) mentioned that strategy is a pattern of goals, intentions, and goals that are remembered in a way that defines and defines the business of the company (or what it should be), the type of company (or what it should be). Mintzberg (1985) argued that strategy is a comprehensive look at the organisation and not specifically a very accurate future vision. Following Henderson (1989), strategy is a long-term, not immediately noticeable leadership of a system for a longer time period. Hamel (1996) defined strategy as the revolution of change and below that is considered a tactic. Porter (2000) argued that the strategy is to balance the competition. The essence of the strategy is to define what is not needed. Without bartering or balancing, there is no need to choose, so there is no need for strategy. Nickolas (2016) argued that strategy is a word with many meanings and all of them are relevant and useful to those who are charged with setting strategy for their corporations, businesses, or organisations. Some definitions of strategy as offered by various writers spanning the years 1962 to 1996 are briefly reviewed below. Barber (2017) said that strategy is the competitive advantage that achieves lasting progress over competitors. With the advent of the internet and computerized distribution of music, unapproved down-stacking made an illicit yet strong substitute for record organisations' administrations. The record organisations attempted to create specialized stages for computerized

conveyance themselves; however significant markets prefer not to sell their music through a stage possessed by an opponent. Into this vacuum ventured Apple, with its iTunes music store supporting its iPod music player. Apple used strategies planned explicitly to decrease the offer of benefits spilling to different players.

Baysinger and Hoskisson (1989) claimed that (R&D) intensity in large multi-product organisations is affected systematically by diversification strategy. They also examined the implications of various types of diversification strategies on corporate/strategic business units in large multi-product organisations. The post-war USA economy emerged due to diversification strategies incorporated in large organisations. In 1949, one third of the Fortune 500 companies used to generate revenues from two or more products; however, by 1974, the percentage had increased to 67% (Rumelt, 1982).

According to Combs (1993), in 1990, over 500,000 franchise contracts in USA accounted for $7 billion sales and 6.9% total non-agricultural employment. Resources' scarcity is a major reason for franchise business. Furthermore, Klein (1995), argued that the critical economic rationale for franchising is that it permits transactors to achieve whatever benefits of large scale may be available in, for example, brand name development and organisational design, while harnessing the profit incentive and retailing effort of local owners. However, the legal definitions of franchising do not provide clear economic criteria to differentiate franchising from other forms of distribution. However, Bebchuk (2007) observed that the problem of costs is exacerbated by the asymmetric treatment of challengers and incumbents by existing legal arrangements. Therefore, the franchising strategy is a flexible strategy. In the context of this research, a need for franchising

strategy could be highlighted in imperative diagnostics of an organisation; essentially, the gap-based analysis.

Kochhar and Hitt's (1998) research results showed that equity financing for related and unrelated diversification is associated with debt financing. That means that a reciprocal relationship does exist between diversity strategy and financing strategy. Organisations undergoing diversification through acquisitions are mostly using public sources of financing while organisations that emphasize internal development by launching new businesses depend mainly on private sources of financing. They also argued that diversification is expensive to realize and usually requires considerable internal and external resources (human, IT, financial, tools). The available resources of the organisations could determine the nature and the extent of the diversity. Therefore, they believe that financial strategies are affected by strategic decisions like diversification. In the case of firms conducting major diversification, the risks from forms of entrance decision can be somewhat mitigated by selecting an appropriate financing source.

Nayyar (1992) stated that organisations are construed as diversified if they are operating in more than one business. Diversification strategy is a long-term plan that promotes the participation of the organisation in different businesses. To measure the diversity internally, several measures like size and number of various businesses in a portfolio are used. Nayyar (1992) mentioned that external measures could be number of markets, number of products, or number of technologies adopted. Besides, Baysinger and Hoskisson (1989) claimed that research and development (R&D) intensity in large multi-product organisations is affected systematically by diversification strategy.

They also examined the implications of various types of diversification strategies on corporate/strategic business units in large multi-product organisations.

The post-war USA economy emerged due to diversification strategies incorporated in large organisations. In 1949, one third of the Fortune 500 companies used to generate revenues from two or more products; however, by 1974, the percentage had increased to 67% (Rumelt, 1982). Strategy researchers had to understand why diversification affects growth and how resources are managed in diversified organisations. High-performance organisations are the result of implementing integrated systems and unrelated diversification strategies with strict financial controls. Later, Gumusluoglu and Acur (2016) investigated the effects of new product development (NPD) strategy formality and dynamic capabilities (sensing, seizing, and reconfiguring) on NPD performance for different business strategy types (prospectors, analyzers, defenders and reactors). They found that a formal NPD strategy is an important driver of NPD performance for all companies regardless of the strategy pursued, and their research on the dynamic capabilities and sensing capabilities found these have significant performance effects for all four strategy types.

Further, seizing capabilities have a stronger effect on NPD performance for prospectors and analyzers than for defenders while reconfiguring capabilities is a driver of performance for defenders only. Furthermore, dynamic capabilities explain NPD performance beyond strategizing, irrespective of the strategy pursued. Therefore, according to Ansoff (1957), the term "diversification" is usually associated with a change in the appearances of the company's product line and/or market, in contrast to market penetration, market development, and product

development, which represent other kinds of change in product-market structure. Furthermore, according to Rumelt (1982), diversification takes place when the firm expands to produce and see products and services that have no market interaction with each of the firm's other product and services. With that been said, diversification could be a strategy resource that can potentially maintain and grow an organisation position. It is a solution amongst many other strategy resources solutions.

Two distinct modes of diversification have been identified: unrelated and related. Unrelated diversifiers have been defined as firms that diversify predominantly across industries, while related diversifiers have been defined as firms that diversify predominantly within industries (Palepu, 1985). Kim (1989) suggest that the corporate profit performance impact of related and unrelated diversification varies contingent upon the extent of a firm's international market diversification. Diversifiers have higher profit stability than non-diversifiers. The stability impact of product diversification may be further differentiated by distinguishing between related and unrelated diversification. Specifically, the extent of risk reduction through unrelated diversification may exceed that which can be achieved through related diversification. This is because unrelated diversification may well reduce industry-specific systematic risk since it involves diversification across multiple industries, whereas related diversification, occurring within an industry, cannot do so.

Industry-specific systematic risk is the risk common to all firms operating within a given industry (Sauvain, 1959; pp. 371-372). As firms are currently pursuing form of diversifications, diversification strategy is becoming an important component of strategic management of firms,

and the relationship between a firm's diversification strategy and its economic performance is an issue of considerable interest to academics and managers (Palepu, 1985, pp. 239). The related diversification strategies were found to outperform the other diversification strategies on the average. The related diversification strategy was found to be the highest performing on the average. By contrast the unrelated diversification strategy was found to be one of the lowest performing diversification strategies. These two results are jointly quite interesting because Rumelt also showed that firms are becoming more diversified. This means that related-constrained firms may be evolving into unrelated firms (Bettis, 1981, p. 380).

The distinction between related and unrelated diversification is closely tied to the characteristics of resources controlled by the existing businesses of the firm. The presence of specialized assets, especially those of a tacit nature, is more likely to facilitate related than unrelated diversification.

Firms possessing high levels of intangible assets, which tend to be specialized and inflexible, attempt to transfer these resources across related businesses (Chatterjee and Wernerfelt, 1991). However, a less focused strategy, such as unrelated diversification, cannot be achieved with resources that are highly specific to the diversifying firm (Montgomery and Wernerfelt, 1988). According to Kochhar & Hitt (1998), related diversification facilitates the sharing of activities and the transfer of skills across businesses to increase firm value. This strategy can benefit from economies of scope and of integration, and from an internal capital market.

Unrelated diversification must rely on financial synergies for value increases. The economic benefits of unrelated diversification arise in the economies available from the internal capital market (Jones and Hill, 1988). Because related diversification has potential sources of value

increases at both the corporate and business levels and unrelated diversification only at the corporate level (Hitt and Ireland, 1986), entry into a related business provides more opportunities to increase firm value than entry into an unrelated business. Therefore, compared to unrelated diversification, diversification into related businesses can be viewed as the addition of relatively more firm-specific assets (Kochhar, 1996). It had been concluded that firms that have diversified into related areas can realize benefits from economies of scope, while those that have diversified into unrelated areas can realize benefits from efficient internal governance mechanisms (Picone & Dagnino, 2016).

The economic benefits of related diversification have been argued to arise from the ability of such firms to exploit economies of scope (Jones and Hill 1988; Porter 1987; Teece 1982). Nath, Nachiappan, & Ramanathan (2008), tested how diversification strategy affects firm performance. Results show overall diversification has a negative impact on logistics firm's performance. This is evident for both the efficient and the inefficient group which suggests that firm input–output transformation efficiency does not moderate the impact of diversification strategy on firm performance. This is consistent with diversification literature which emphasize that not all firms improve their performance through diversification (Chakrabarti et al., 2007; Ramanujam & Varadarajan, 1989).

Diversification (both in terms of product/service and geographical territory) require assimilation of extensive knowledge in terms of new product/service development, understanding cultures in the new markets, and transfer of resources between parent and the partner companies. Later, Wiersema & Bowen (2011), argued that diversification strategy and organisational performance

relationship seems to differ across the developed and developing countries under stable conditions. The indicators of the relationship between diversification strategies and organisational performance of developed countries differ from the indicators of developing countries due to the effects of government and business relations, market, production, labour factors, and political economic variables.

The relationship between diversification strategies and organisational performance varies dependent on the developed countries. However, Anil & Yigit (2011), suggested that the lack of consensus about the nature of the international diversification–firm performance relationship results from a failure to fully grasp this complex phenomenon. Furthermore, Bowen, Kent & Powell (2014), mentioned that research focused on understanding the implications for diversification strategy of the ongoing globalization of industries and markets. However, further studies are needed to cement support for these initial findings. Considerably more work is called for to better understand how the strategies of corporate and international diversification interrelate and impact firm performance. Nevertheless, Page (2018), explored ways to achieve diversification in a resource-rich economy. He described the relative price changes that accompany a resource boom and suggests policies and public investments to mitigate their impact. He explored some of the issues that influence the participation of local firms in the resource value chain and argues for broadening the options for diversification.

Kimberly, Miles and Snow (1978) considered that there is less focus in terms of theoretical treatment from scholars about strategy, structure and process topics. They believe that strategy is a tool to achieve product-market planning, while structure and process are the tools to implement

these strategies. They identified four organisation strategy typologies: defender, analyzer, prospector and reactor.

(i)   The defender is an organisation that tries to sustain their market by striving aggressively to prevent competitors from penetrating and entering their zone. That can happen by enhancing product and service quality and implementing competitive pricing. The defender challenge is how to ensure controls are in place to achieve the best efficiency. Therefore, the defender's key risk is "ineffectiveness".

(ii) The prospector is an organisation that is familiar with finding new products and market opportunities. It also develops the internal capacity to cater to a wide range of geographic, demographic environmental contexts and events. Therefore, prospectors are the creators of change in their respective industries. The Prospector employs a low profitability strategy while resources costs are high. Costs of technology turnover is high; it tends to be less about planning and more about projecting organisations.

(iii) The analyzer falls between the extremists - the defender and the prospector. The analyzer organisation maximizes profit with minimum risk, and strives to keep the innovation process moving with less cost, more profit, and better market share. Therefore, the analyser is a quick reactor to market dynamics and effective in decision-making.

(iv) The reactor, on the other hand, exists in a state of perpetual instability. It is an adaptive cycle where it responds to changes inadequately which leads to more uncertainty, lower performance and productivity, and a reluctance to take aggressive actions in the future.

A reactor is a residual strategy occurring when one of the other three strategies is improperly implemented.

Defenders has different approach to researches based on their different district dynamic capabilities. The importance of strategy resources for defenders is around to reconfigure resources where as for other resources, the processes are more exploratory and innovative about new business and markets. Defender strategy is the most stable organisation as it seals off a stable and predictable but narrow niche in its industry by offering high quality services and products; stressing on functional efficiency and economy of scale and organisation structure (Sabherwal & Chan, 2001, p.14).

> A strategy is not only a guide for organisational alignment with the environment, but it is also a shaping for the organisation internal functions and features, be it on policies, competencies, structure and processes. Defenders tends to compete on price, quality and service (Hambrick, 1983, p. 10). Defenders rely on continuous improvement in order to prevent competitor's penetration, that means that defenders are highly considering analysing and diagnosing. Gap based diagnostics is the first sub-component of the strategy resources. Therefore, strategy resources and defenders are compliant since they both have the same interest and notion.
>
> (Hambrick, 1983, p. 10)

Wang, Ma, Song and Liu (2016) addressed the political relation vs business transformation in family businesses. Family conglomerates (FC) are more likely to transform their business, conduct business developments, enter new markets and industries, and conduct mergers and acquisitions than non-family organisations are. However, political relations make it easier for family organisations to go through correlative industries than the case of non-family organisations that have no or weak political relations. Wang et al. (2016) argued that corporate ownership is a key

factor controlling decision-making in business transformation where transformation style differs among family and non-family organisations.

The motivation of family organisations to transform their business is superior to that of non-family organisations, particularly when political connections are involved (Chua, Chrisman, & Sharma, 1999). Beckhard and Dyer (1983) define a family business as the system that includes the business, the family, the founder, and such linking organisations as the board of directors. He categorized family business by three types: 1) family owned and family managed; 2) family owned but not family managed; and 3) family managed but not family owned. Understanding, predicting, and modifying behaviour to help family businesses achieve their goals and improve their performance are the object of family business management research.

Although FCs are controlled and owned by a family, there are other reasons that shape a business; including national culture and economic policies (Ward, 1988). FCs influence will remain solid due to accumulated wealth and stockholder power (Chung, 2000; Hwang, 2000). FCs focus on competing with major domestic rivals and seek new business opportunities in foreign markets to increase economies of scale. The usual pattern is to move gradually from exporting and importing of raw components and materials, to domestic joint ventures with a foreign partner, and to importing of subcontracted components, contract manufactured goods, and licensed or OEM products (Dent & Randerson, 1997). FCs enter into cooperative agreements related to R&D, production, marketing, and purchasing (Luostarinen & Hellman, 1994).

While growing rapidly, FCs expand into related and unrelated businesses, building a network of affiliated companies (Kock & Guillen, 2001). According to Mintzberg and Water's (1985),

working on the deliberate and emergent aspects of strategy formation makes a helpful distinction. What differentiate FCs from public sector is the intention; profit making in the interest of the family members vs. value making and well-being for the community (Bernard, 1975). Therefore, sensing and seizing strategy resources is likely to be higher in family conglomerates than publicly owned companies (Litz, 1995).

2.3.2 Organisation Structure Literature Review

Su, Chen & Wang (2019) argued that organisational structure reflects 'the formal design of roles and administrative mechanisms to control and integrate work activities and resource flows. Kanten, Kanten & Gurlek (2015) stated that Organizational structures are considered as important components of organisations due to their significance on the effectiveness of operations and performing of goals. Organisational structure can be defined as a mechanism which links and co-ordinates individuals within the framework of their roles, authority and power. Marasi, Bennett & Budden (2018) argued that an organisation's structure is the distinctive traits an organisation possesses through the division of elements and responsibilities and their associations to each other. the organisational structure is determined prior to an employee's arrival in the organisation's workforce. Therefore, the level of centralization and formalization utilized in an organisation appears to be a background source of workplace deviance in that the organisation may unknowingly and accidentally be contributing to their employees' deviant behaviour.

Organic structure improves firm performance when the tasks are non-routine and the environment is uncertain; while mechanistic structure is better for firm performance when the tasks are routine and the environment is certain (Covin and Slevin 1989; McDonough and Leifer 1983). Moreover, scholars have investigated the innovation impact of organisational structure. They found organic

structure is more proper for technological innovation than mechanistic structure, because technological innovation is often non-routine and associated with high uncertainty (Hatum and Pettigrew 2006; Pettigrew, Massini, and Numagami 2000).

Chung (2008) argued that centralisation structure occurs when the decision is mostly per- formed at a firm's headquarters, while a decentralised structure represents the situation whereby the decision is jointly made by the headquarters and a firm's local representation. Kimberly et al. (1978) were able to discover some patterns in the relationship between management theory and organisational strategy and organisation structure. They believe that the management theory consists of three key factors, a set of human attitudes and behaviours, managerial policies, and practices and individuals' performance if the policies are implemented. They also stated that the evolution of human capital started from traditional to human relations, to the human resources model. Later, they mapped the strategic typologies to the management theory in order to find the link and they came up with the adaptive cycle concept. They concluded that effective organisations have to rely on managers in order to direct and control people inside the organisation, not only to envision and implement new organisational forms and systems. The managers should have the ability to understand the organisational environment and ethos in order to be able to cater to market dynamics.

Thompson (1967) defined organisational structure as an internal outline of relationships, responsibilities, functions and lines of communication. Barney and Griffin (1992) and Bartol and Martin (1994) described organisational structure as an essential framework of positions adopted to carry out the organisation's goals. Concerning the governance vs. organisation structure,

governance is governing the relationship with the organisational stakeholders (external), while organisation structure is governing the relationship with the employees (internal). Policy makers try their best to develop policies that stimulate the market.

Policy stability is related to governance in terms of security in the country; therefore, there are many factors that determine whether an organisation's policies are stable or changing. However, Caves (1980) defined "organisational structure" as a tool used to internally allocate tasks for hierarchized resources in order to have proper decision rules, and clear procedures for the entire operations - including but not limited to appraisal and reward - required to best achieve corporate strategy.

A divisional organisation structure in a functional organisation can achieve economies of scale and specialization, and can also reduce the number of communication channels required among the organisation's layers and members. In addition, Cave attested that the perceptions of top managers about the market structure and about the firms' strengths and weaknesses together would determine their alternative approaches to corporate strategy.

The corporate strategy concept first emerged when researchers were studying the business decision-making enhancement in order to provide business people with an easy and systematic approach for implementing a long-term plan in order to assure the maximal achievement of the organisation's aim. If the organisations decided to deliver multi-products, then the supervisory levels have to expand in order to assure control, communication and quality are in place. In addition, more vertical layers have to be introduced which will result in less control, less effective communication, and slower demonstration. Cave reiterated the economists' argument that

organisations usually carefully select the right production function; however, production functions for the economist only make sense in three main parameters: the capital, the harmonies of labour and the land. However, he postulated that organisations are more worried about allocating responsibilities, accountabilities, and authorities to persons, and evaluating and rewarding their performance that reflects individuals' behaviour optimization and utilization.

Duhaime and (1982) stated that the business unit's strength depends on its relationship to other units in its organisation, and the financial position of the organisation compared to its competitors. Both are key divestment influences, where further factors such as common economic condition are not a key divestment influence. Corporate portfolio management (dismantling and building) can lead to diversification, or acquisition, or divestment. The management style would differ based on the market conditions and kinds of failures that firms face while bridging the performance gaps. They suggested that the firm's and the business unit's financial strengths strongly influence divestment decision-making. They also mentioned that divested units usually demonstrate little interdependency with their firms. However, their data analysis did not support the hypothesis that divestment decision-making is related to the economic cycle phases. Moreover, Later, Hitt and Ireland (1986) argued that large multi-divisional firms could improve performance by utilizing and developing corporate competencies.

There is a relationship between corporate competencies and types of diversification strategies; however, there is no relationship between corporate competencies and types of corporate structures. Meanwhile, Hoffman and Preble (1991) argued that franchising is a significant growth strategy. The three perspectives required to formulate a franchise strategy are networking, global

strategy and portfolio management. Due to a competitive environment, managers formulate various strategic alliances to overcome challenges. What is good about franchising is the wide variety of professions and industries that are involved. In the USA, one third of the retail business is generated from franchised business accounts, while it is one tenth in Europe; however, franchised business is growing dramatically not only in the USA and Europe, but also in Asia and Japan. However, for the franchisee, the franchising strategy provides a chance to penetrate a business at less cost with an established product/service/brand. Furthermore, the franchisor provides management support in the areas of business location, amenities design, working procedures, supply chain, and marketing. Organisations that have grown to a considerable size through franchising may possibly acquire some parts of their franchises to increase profits and control. Therefore, the franchising strategy is a flexible one.

However, according to Kochhar and Hitt's (1998) research results showed that equity financing for related and unrelated diversification is associated with debt financing. That means that a reciprocal relationship does exist between diversity strategy and financing strategy. Consistent with all traditional and indeed new theories of strategy and strategic management, its actual practice necessarily involves making explicit and implicit decisions about the approach taken towards major issues of centralization and decentralization of authority. Frequently, issues arise of management coordination and control and alongside them, the extent of employee autonomy and engagement.

As an example, the areas of finance & accounting, law, HR, IT and administration are all considered shared services divisions. So, the finance & accounting division might stop a sales

order for pricing matters or may cancel a purchase request for inventory matters, or may put a customer on hold by blocking the customer account for a credit matter. The legal division may file a case against a customer without the Business Unit head's acknowledgement or consent, which could ruin the relationship of that business unit with many customers. The performance of the HR division affects business performance in numerous different ways; these could be matters of HR policy, recruitment delays, pay grading structure or employee performance appraisal events. The IT division may block social media websites on the instructions of the business Unit marketing manager, subsequently causing confusion to multiple parties engaged in social media communications.

Arguably, the above examples are all matters of strategy, structure and governance. Regardless of how good the strategic planning is, and no matter what strengths the sales team and management team possess, the business unit will not be able to achieve the strategic goals if they are not fully responsible for their decisions. If the business unit is challenged due to centralized decisions emanating from the corporate management at the centre, then eventually, a stalled or failed implementation will lead to failure in achieving strategic goals. The employees within the business units must have sufficient autonomy and flexibility in dealing with daily business operations. There is often a high correlation between the implementation and success of companies' strategies, the role of the centre and its demarcation from the business units and profit centres. However, determining the appropriate degree of autonomy at the business level requires making a judgement about the degree of risk arising from higher levels of decentralized authority and its likely impact on the financial and market positions of the business. The business units and

profit centres have to possess sufficient leadership, management, planning and finance competencies to design and execute strategies that achieve successful outcomes.

Organisations undergoing diversification through acquisitions are mostly using public sources of financing while organisations that emphasize internal development by launching new businesses depend mainly on private sources of financing. They also argued that diversification is expensive to realize and usually requires considerable internal and external resources (human, IT, financial, tools). The available resources of the organisations could determine the nature and the extent of the diversity. Therefore, they believe that financial strategies are affected by strategic decisions like diversification. In the case of firms conducting major diversification, the risks from forms of entrance decision can be somewhat mitigated by selecting an appropriate financing source. Furthermore, Nayyar (1992) stated that organisations are construed as diversified if they are operating in more than one business. Diversification strategy is a long-term plan that promotes the participation of the organisation in different businesses.

To measure the diversity internally, several measures like size and number of various businesses in a portfolio are used. External measures could be number of markets, number of products, or number of technologies adopted.

Hitt and Hoskisson (1987) argued that in order for a strategy to realize the economic benefits, the multidivisional structure (M-form) must be consistent and fit to the strategy. M-form structure features corporate allocation of resources and business units that focus on implementation and the strategy (Chandler 1962, Williamson 1975). However, Hoskisson and Hitt (1988) suggested that less diversified U-form firms would invest in R&D more than diversified M-form firms would. In

addition, leading business firms invested more in R&D than related or unrelated business units. However, there is a negative organisation between R&D strength and market performance in related and unrelated organisations. The results suggest that the market values R&D investment more in organisations that are investing in hedging or diversification strategies. That led to a correlation between investment in R&D and investment on diversity where investment in R&D might be a useful proxy measure for innovation, while investment in diversity requires further research to assess the long-term effectiveness.

An organisations' structure should be "Purpose Driven"; that is, their purpose Vision and Mission should be clearly stated. A successful organisation cannot build a structure and fit people and then build a strategy around that. An organisation that is driven by politics probably and is just trying to find the best fit for whoever is there versus building capacity around what needs to be done. So that's not an inspiring organisation at all.

The organisation structure should fit to the strategy. Having the right organisation is definitely one of the most important points to implement a strategy properly. In addition, Qian and Xu (1993, p. 545) stated that:

> In a U-form structure, incentives of subordinates are planned for implementing the commands from the above. Undoubtedly, Hills and Johns (1992) considered that employees are subject to frequent and arbitrary control of their superiors, and thus they try to avoid any change or risks. In an M-form organisation, local governments are given semi-autonomies. Compared with the U-form hierarchy, it is less effective in implementing orders from the above in a well-coordinated way, but it is better in mobilizing initiatives from bottom level units. This is because the local governments are not subject to arbitrary control from the above for tasks within their autonomies. This feature of the M-form organisation includes strong incentives for local governments to conduct experiments.

However, according to Shapiro (2005), a control system has to be in place to mitigate the decentralization risk of decision-making in the division. For the sake of continual sustainable growth – whether in vertical integration or related diversification – processing information and delivering requirements would be a challenge toward achieving financial targets.

Hillman and Dalziel (2003) argued that centralization and decentralization influence the strategy implementation; this is part of strategy. There are functions that should be centralized while other functions should be decentralized. Sometimes the strategy will mandate organisations to centralize or decentralize.

Demarcation of roles and responsibilities is usually done based on age and experience in the sense that the person has a greater age and greater experience and needs to intervene in the case of any conflict of decisions between two people (Chandler 1962, Williamson 1975).

The researcher concluded that strategy need governance. The governance of the strategy still needs a framework on the need for a clear process in establishing responsibility and authority, and the autonomy of the person should be included in the strategy. Moreover, James, D. and Schoorman and Donaldson (1997) stated that there should be clarity over who holds the responsibility to oversee and follow up the stages of implementation and that person or persons should be aware about these three dimensions of governance - autonomy, authority, and responsibility. First, it is important to have governance in place before discussing its enforcement. As mentioned above, it is imperative that identification of those who are responsible for governance is clear, and that strategy setting, strategy amendment points and strategy approval are documented.

Furthermore, Donaldson and Davis (1991) argued that governance can be obtained by identifying clear responsibilities, accountabilities and documenting them. These are just some key activities of governance but of course the tasks go all the way from strategy to implementation. When it comes to enforcing this, there are several key principles, one of which is ensuring that there is strong adherence to that matrix by everyone concerned. Once the matrix is in place, all stakeholders that are affected should be familiar with it and understand the matrix. In this way, responsibility is transparent so no one can come back and say: "I did not know". Governance is built of different chapters; Authority demarcation is one of the main chapters in that syllabus. Hence authority demarcation is a major reinforcement. Later, Wilkins and Huisman (2012) suggested that the international branch campus is an experience on the rise, but it is impeded by limited knowledge of the strategic options underpinning the start of these ventures.

The objective of their research was to highlight the incentives and decisions of universities to engage (or not) with the formation of international branch campuses. They argued that universities should escape from decisions that are based mainly on a single dimension, such as legitimacy, and instead consider those that reflect a broad range of motivations and considerations. Importantly, Bernstein, Bunch, Canner and Lee (2016), argued that holacracy will soon replace organisational hierarchies and structures as it supports the organisation in transforming to a more Agile one. That is because holocracy confers more weight to individuals rather than to managers.

Holocracy also considers diversity to ensure decisions are not biased, and are reliable and quick. Its aim was to release individuals from the dictatorial rule of whimsical managers. The self-managing systems purpose is to achieve the same outcome, with less rigidity. You could think of

them as Bureaucracy 2.0. Teams are nested within a larger structure, which they have a hand in shaping and refining. Agile organisations would no longer need job descriptions (JDs) because these could limit creativity and productivity, but management by objectives could be a suitable substitute. This cluster is extremely important due to the nature and scope of the research. This cluster is supposed to establish an understanding about the linkages between strategy and governance. It also draws a clear understanding about governance by defining governance and other related factors like board, committees, internal audit, incumbents' roles and responsibilities, decision-making framework, authority matrix, policies, procedures, processes and controls.

Public governance addresses the formal and informal activities that determine how public decisions are made and how public actions are implemented. The main parts of good governance refer to accountability, transparency, efficiency, effectiveness, responsiveness and rule of law. There are clear relations between strong public governance, investment and development. The biggest current challenge is to adapt public governance to social change in the global economy. Therefore, the evolving role of the State needs an elastic approach in the design and execution of public governance (Bernstein, Bunch, Canner and Lee, 2016).

Strategy is vital for investors and their businesses. It benefits in building trust and providing guidelines and stability needed for planning investment in the long and medium terms. It enables a smooth and productive interaction between the State and the public, no longer based on inflexible traditional "control and command" methods, but on elasticity, regulation, communication and persuasion. Strategy is presently more participative and transparent. Outcomes' clarity and certainty are appreciated by businesses and citizens. Innovative mechanisms to monitor and

evaluate strategy management are generally used to improve performance and build credibility, which are important determinants of investment.

2.3.3 Governance Literature Review

According to Ferguson, Mansbach and Richard (1996), a polity is an identifiable entity-any group of people who have a collective identity, who are organised by some form of institutionalized social relations, and have a capacity to mobilize resources. A polity can be any other group of people organised for governance (such as a corporate board), the government of a country, or country subdivision. Furthermore, Grande and Torgier (1970) defined the organisation as an entity involving multiple people, such as an institution or an association that has a particular common purpose such as a business or government department.

The word is derived from the Greek word organon, which means tool or instrument, musical instrument, and organ. Moreover, Jensen and Meckling (1976), acknowledged the significance of the legal system when they wrote: "This view of the firm points up the important role which the legal system and the law play in social organisations, especially, the organisation of economic activity." They expounded further that constitutional

> law sets bounds on the kinds of contracts into which individuals and organisations may enter without risking criminal prosecution. The police powers of the State are available and used to enforce performance of contracts or to enforce the collection of damages for non-performance. The courts adjudicate contracts between contracting parties and establish precedents that form the body of common law. All of these government activities affect both the kinds of contracts executed and the extent to which contracting is relied upon.
>
> <div align="right">(p. 311)</div>

Having an organisation structure which supports the strategy ambition is essential as strategy performs a mandate after having an updated organisation structure that is in line with the strategy. However, La Porta et al. (1999) argued that the legal approach is a more fruitful way to understand corporate governance and its reform than the conventional distinction between bank-centred and market-centred financial systems. Corporate governance is a set of systems through which outside investors protect themselves against expropriation by the insiders. Expropriation can take a variety of forms. In some countries, the insiders simply steal the profits. In other countries, the insiders sell the output or the assets of the firm they control, but which outside investors have financed to another entity they own at below market prices. Such transfer pricing and asset stripping, although often legal, has largely the same effect as theft.

In addition, LaPorta et al. (1998) hypothesized that the legal system is a fundamentally important corporate governance backbone. In particular, they argued that the extent to which a country's laws protect investor rights and the extent to which those laws are enforced are the most basic factors of the ways in which corporate finance and corporate governance progress in that country.

Robust legal protection for shareholders appears to be a necessary requisite for diffuse equity investment. Furthermore, Hansmann and Kraakman (2000) argued that the core legal features of the corporate form were already well established in advanced jurisdictions, going back 100 years. Although there was considerable room for variation in governance practices and in the fine structure of corporate law during the twentieth century, the pressures for further convergence are now rapidly growing. The main pressure is the recent dominance of a shareholder-centered ideology of corporate law among the business, government, and legal elites in key commercial

jurisdictions. There is no longer any serious competitor to the view that corporate law should principally strive to increase long-term shareholder value. In addition, in relation to company law, LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1998) claimed research that there are large differences between countries in ownership concentration in publicly traded firms, in the breadth and depth of capital markets, in dividend policies, and in the access of firms to external finance.

A shared element in the justifications of these differences is how well investors (shareholders and creditors) are protected by law from expropriation by the executives and controlling shareholders of organisations. Additionally, Licht, Goldschmidt and Schwartz (2005) presented evidence on organisations between statutory law and culture, particularly in the context of corporate governance. Denis and McConnell (2001) stated that ownership and control of corporations are not coincident, there is potential for conflicts of interest between owners and controllers. There are also benefits to disconnecting ownership and control; otherwise, such a structure is highly unlikely to have persisted as it has.

The conflicts of interest, however, combined with the inability to costlessly write perfect contracts or monitor the controllers, ultimately decrease the value of the firm. Nevertheless, Becht and Roell (1999) stated that there is some difference in the reporting thresholds used and in the accuracy of the snapshot of a company's control structure that can be achieved at any moment (as a result of reporting errors, deliberate omissions and changes in the total number of shares outstanding. More essentially, different countries have different legal policies available as means of splitting ownership from voting rights. In addition, block-holdings in Europe are so much higher than in

the USA. Voting power regarding block-holdings in Europe is highly concentrated in Continental Europe.

Gillan and Starks (2000) suggested that measuring the realization of stakeholder's activism (relationship investing) involves examining decisions based on voting and short-term market reactions. Stakeholders' activism has become an important component of financial markets. Activists' shareholders are focusing on weakly performing businesses in their portfolio and applying pressure on the management of those businesses for improved performance, in order to improve shareholders' value. However, Aguilera and Jackson (2003) considered that organisations develop corporate strategies by structuring stakeholder interactions, activating different conflicts, and supporting different types of coalitions amongst the stakeholders.

Organisations do not determine the outcomes of such interactions; however, they influence the range of firm-level variations in different countries. Aguilera and Jackson demonstrated the diversity of such institutionally structured interactions around three dimensions: class conflicts, insider-outsider conflicts, and accountability conflicts. Governances should be very comprehensive. Comprehensive governance is a must; however, having overlapping responsibilities is a challenge. Later, Gelter (2009) argued that the interests of stakeholders other than shareholders are usually left on the side-lines, descriptively and occasionally normatively.

Some scholars, such as (Margaret Blair and Lynn Stout, 2001), suggested that the segregation of directors from shareholders in US corporate law mitigates potential theft problems. In the comparative corporate governance literature, the impact of stakeholder theory has remained limited. One type is the arm's length or outsider systems – mainly the US and the UK systems are

said to be characterized by discrete ownership, strong securities markets, and agency problems between shareholders and directors that are held in check by market dynamics, most of all the market for corporate control. The scholarship inclines to emphasize the significance of protecting investors against self-dealing by directors and large shareholders.

Furthermore, Armstrong, Guay and Weber (2010) emphasized the importance of commitment to financial reporting transparency in enabling informal multi-period contracts amongst directors, shareholders and creditors. Skaife, Collins and LaFond (2004) submitted evidence that CEOs of firms with hypothetical grade credit ratings are overcompensated to a greater degree than their peers at firms with investment grade ratings, and that the overcompensation surpasses the CEO's share of additional debt costs linked to lower credit ratings.

A firm's credit rating reflects a rating agency's judgment of an entity's overall creditworthiness and its capability to satisfy its financial obligations (Standard & Poor's, 2004). Credit agencies are worried about governance because weak governance can damage a firm's financial position and leave debt stakeholders exposed to losses (Fitch Ratings, 2004). Standard & Poor's (2002) framework focuses on four major perspectives of governance: Ownership Structure and Influence, Financial Stakeholder Rights and Relations, Financial Transparency, and Board Structure and Processes. Results suggest that poor governance may result in firms incurring dangerous debt-financing costs. Cohen, Krishnamoorthy and Wright (2004) claimed that one of the most significant functions that corporate governance could play is ensuring the high quality of the financial reporting mechanism. Corporate governance has received increasing weight in practice and in academic research.

This emphasis is due to the prevalence of highly publicized financial reporting frauds such as Enron, WorldCom, Aldelphia, and Parmalat, an unprecedented number of earnings restatements, and claims of blatant earnings manipulation by corporate management. As well as Kelton and Yang (2008) concluded that companies with weak shareholder rights, a lesser percentage of block-holder ownership, a higher percentage of independent directors, a more hard-working audit committee, and a higher percentage of audit committee members who are construed financial experts are more likely to engage in Internet financial reporting (IFR). The conclusions suggest that corporate governance tools influence a firm's Internet disclosure behaviour, presumably in reaction to the information asymmetry between management and investors and the resulting agency costs.

Additional investigative analysis indicates that the organisation between corporate governance and IFR differs according to company size. The results suggest that the new regulatory framework in corporate governance leads to better-quality disclosure transparency through IFR. Besides, Pugliese, Bezemer, Zattoni and colleagues (2009) argued that, due to the liberalization and globalization of financial markets, corporate governance indignity and increasing demands for accountability and transparency have made the roles and responsibilities of the boards of directors better defined. US boards used to be more passive; however, due to shareholders' demands nowadays, boards had become more engaged in and involved with the decision-making that was traditionally exclusively owned by the CEOs. However, they were not able to clearly answer the question of how boards of directors have a say on corporate strategy; boards and strategy still represent a very challenging research agenda.

Ben Hamida and El Ghak (2014) argued that financial system improvement involves good governance. On the other hand, they stated that there is a positive correlation between governance and financial development and between governance and inequality. However, a weak relationship was depicted between financial development and inequality. That implies that governance enhancement would lead to more equal income distribution; therefore, governance should be followed in all domains as a vital development goal. Furthermore, Holderness and Sheehan (1988) suggested that when majority shareholders trade, stock prices increase dramatically by about 12%. The large block ownership in public listed organisations is usually part of the firm's management. This means that majority shareholders do not only monitor management teams, but they manage them too. In this context, the identity of the major block shareholders is extremely important, where it could be either individual or corporate. Majority shareholders can determine investment strategy or can at least influence it.

Apparently, organisations with majority shareholders are surviving. Organisations with a corporate majority shareholder practice more frequent changes in control than organisations with an individual majority shareholder. Organisation structure should ensure there are no overlaps and when it comes to authority circles and job descriptions, the researcher claims that these are two of the critical issues and risks when it comes to achieving strategic value and strategic objectives, and energetic and dynamic organisations. Therefore, it is more likely that the traditional organisations that are less hindered by routine and right procedure do not have such problems. However, in the case of organisations that are very dynamic and have a consulting model or mode of engagement, then a number of problems emerge. For example, there may be high employee mobility or

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turnover; employees may not complete the tasks they are responsible for; or there may be issues with teams where reporting accountability concerning roles and responsibilities is unclear.

When it comes to strategy it is important that clarity on roles and responsibilities when it comes to progressing, whereby that any company or organisation is able to manage succeed, regardless of whether the appropriate steps are taken to achieve the strategy or carry out the day-to-day business. Once decisions have been made, they must be adhered to and changes implements. There should be very few exceptions. This is important as stakeholders demand transparency in how things work in the organisation.

If there is too much flexibility among employees, control may slip and disorder may ensue. Organisations need to minimize or limit the exceptions. So, you have to play by the book because you want to make sure that the stakeholders know that this is the way things should work, because once you start being flexible and lean the tendency of human being is to take advantage so and then once that happens, you lose control and things just become chaotic. Moreover, Gompers, Ishii and Metrick (2001) found an outstanding relationship between corporate governance and stock returns. An investment strategy that bought the organisations in the lowest decile of the index (strongest shareholder rights) and sold the firms in the highest decile of the index (weakest shareholder rights) would earn nonstandard returns of 8.5% per year during the sample period.

Additionally, the Governance Index is highly correlated with company value. It was observed that weaker shareholder rights are connected with lower profits, lower sales growth, higher capital expenditure, and a higher amount of corporate acquisition. Bhojraj and Sengupta (2003) argued

that small changes in debt yields could result in large shifts in capital allocation. Debt is the primary means of raising long-term capital in the United States.

The value of new bond issues rose from US$651 billion in 1996 to US$1,001 billion in 1998. This is compared with new stock issues of US$122 billion in 1996 and US$126 billion in 1998. Debt yields and ratings are fundamentally determined by the probability that the organisation will not be able to meet its debt obligations (i.e., likelihood of default) and by the level of protection afforded to the lenders in such an event. A firm's likelihood of default would even depend on the existence of credible information for accurately evaluating the default risk and agency costs. Governance tools can influence the assessment of default likelihood in both of these dimensions. According to Gates (2006), the minimum stability in political systems is there in dictatorships with high levels of political participation. The maximum instability is configuration for polities with an elected executive while the executive is highly constrained, however the electorate is very small. However, studies by Gurr (1974), Muller and Weede (1990), and Sanhueza (1999) stated that consistent democracies and autocracies are the most stable polity types. Salloum, Bouri and Samara (2013) believed that family managers act as stewards by considering the success of the business as their own personal success. Their results show that family attachment in management and ownership has a positive relationship with the financial performance of the businesses. Several studies point to family business domination in the MENA region.

Large family firms demonstrate 98% of commercial activities in the GCC. Lebanese people were called Phoenician's thousands of years ago and they were well known in trading. Therefore, family business has an essential role in the global economy. The family involvement in ownership and

management in the Lebanese family businesses must be considered as an "added value" for the organisation. Organisation structure has to be able to fit to the strategy.

Organisations should first formulate the strategy and then cascade it down into a structure which addresses the strategy requirements. In that sense, strategy should come first, followed by structure. A key cause for strategy failure is an inefficient execution. In commercial organisations, credit is a big issue. Checks are the only contracts. If the check issuer cannot pay the check, the State sues them, but in Lebanon, work is based on confidence; anyone can hurt the trader because the trader is not protected by law or in practice. That also finally has a big effect on the strategy implementation. However, Lien, Teng, and Li (2016) claimed that institutional transformation decreases organisational dependence on governance and removes the negative effects on performance applied by a controlling party. They argued that institutional transformation changes the spirit of the firm governance.

In relation to Boardroom Diversity and Composition, Westphal and Fredrickson (2001) postulated that even if a newly-hired CEO is coming with great experience (his experience is relevant to the change taking place in the organisation), the existing board of directors would be better off by deciding on strategic issues. They believe that the board of directors could influence the corporate strategy. However, the prior experience of CEOs/managers could mask the influence of the board. The demographics of top management staff foresee corporate strategy and performance that may influence the board preferences on executive selection and strategic change agenda. Inside staff have greater opportunities to contribute to strategic outcomes than outsiders do. Boards should favour CEOs who have experience with the new change strategy since the current staff has

experience in the old strategy. This argument is less valid to director selection, specifically because CEOs rather than directors are mainly accountable for strategy implementation. Board independence from management would also reduce the influence on the strategy implementation. The board has to be more involved in corporate institutional affairs and less involved in strategy implementation.

Furthermore, Firth, Fung and Rui (2007) argued that CEO compensation depends on the firm's operating profits and this shows that incentive systems are being used to motivate leaders. Corporate governance factors have an important impact on CEO compensation. A positive relation between CEO compensation and performance based on return on assets (ROA) was also found. The presence of a foreign shareholder is associated with higher CEO compensation. There is statistically significant evidence consistent with foreign shareholders pressuring firms to adopt performance-related pay schemes that are based on profitability.

Donaldson and Davis (1991) argued that the sharing of management and risk-attitude functions between executives and shareholders creates diverse benefits for executive and non-executive directors. In particular, the decision-making at executive and non-executive directors' level is extremely important when focusing on shareholders' interests since they may differ upon implementing diversification and acquisition. Having an organisation structure which supports the strategy ambition is essential as strategy performs a mandate after having an updated organisation structure that is in line with the strategy. Organisation structure has to fit the strategy. Organisations should first formulate the strategy and then cascade it down into a structure which addresses the strategy requirements. In that sense, strategy comes first, followed by the

organisation's structure. Also, Donaldson and Davis (1991) addressed the validity of the agency theory vs. stewardship theory, where agency theory argues that roles and responsibilities have to be segregated between the incumbents of the board and the CEO; however, stewardship theory argues that shareholders' interests are maximizing the board members' influence on management.

The empirical analysis shows that the ROE to shareholders had increased by combining, rather than by segregating the role of the chair and CEO positions; therefore, the results did not favour the agency theory but lent some support to stewardship theory. Furthermore, Hoskisson, Johnson and Moesel (1994) claimed that divestiture is directly related to low organisational performance and inability to achieve strategy due to weakness in corporate governance. However, market performance is also related to financial performance and divestiture strategy. Divestiture could happen during a restructuring activity. They defined divestiture as assets sell off or equity spin off.

In addition, according to Xie, Davidson and DaDalt (2001), an audit committee member needs financial sophistication. Their study showed that the composition of a board in general and of an audit committee specifically is related to the likelihood that a firm will engage in earnings management. Board and audit committee members coming from corporate or financial backgrounds are associated with firms that have smaller flexible current accruals. Board and audit committee meeting frequency is also linked with reduced levels of discretionary current accruals. It was concluded that boards, audit committees' activities, and their members' financial sophistication might be important elements in constraining the propensity of managers to engage in earnings management. According to Wilkins, Butt, Daniel and Balakrishnan (2015), it was found that authoritative distinguishing proof is a more grounded indicator of understudy

responsibility, accomplishment and fulfilment than social identification is. Although authoritative recognizable proof was a solid indicator of understudy fulfilment, understudy responsibility was better at clarifying understudy accomplishment.

The key contribution of this review is in giving backing to the speculation that authoritative recognizable proof can influence the states of mind and conduct of advanced education understudies, as it has been appeared to do with representatives and customers. Moreover, Jensen and Zajac (2004) argued that corporate elites like chiefs, executives and directors influence corporate strategy. Demographics of the corporate elites like education, age, values and experience background have high correlation with corporate strategy implementation. They believed that there is a considerable relevance between demography and position. Elite preferences and dispositions are also affected by the role played by expectations connected with the corporate governance positions.

Holding back on the decision due to unavailability of the leader might be a risk but it is a calculated risk. Therefore, there should be a second in command. To build new leaders, organisations don't have to change many employees. Organisations have to depend on one or two or five or ten or what else or hundred employee and let them stay with them till death; after death, the organisation have to hire the closest one; have to promote the second-in-command and promote another one to be the second.

According to Rhodes (1997), the term policy refers to sets of formal and informal institutional linkages between governmental and other players structured around common interests in public policymaking and implementation. Moreover, Kjaer (2004) proposes that, regardless of different

theoretical roots, the debate on governance focuses on three key areas – sustainability, efficiency and democracy. Furthermore, Hezri and Dovers (2006) analysed the role of sustainability indicators as an evaluation method for sustainability within the emerging context of governance. Focusing on policy processes surrounding the production of sustainability indicators, there is a potential to utilize indicators for policy as policies influence governance.

However, Craft and Howlett (2012) stated that policy is a focus on the nature and kind of advice provided to decision-makers. Policy advisory systems are known as integral parts of the working comportment of governments and organisations as they go about their policy making and governance activities. Moreover, the relevance of indicators to policy is captured by the criterion of resonance (Levett, 1998; O'Malley et al., 2003). The researcher concludes that equally, relevance of policy to governance is captured by the criterion of resonance and relevance of governance to strategy is captured by the criterion of resonance.

Policy advisory systems exist and are an important part of the working comportment of governments and organisations as they go about their policy and governance activities. Acknowledging the nature of these systems is important for comparative policy and public administration and management research. Therefore, in order to implement policies efficiently, there should be processes in place. Business process management (BPM) has become an established discipline, with a mature set of principles, methods and tools that combine knowledge from information technology (IT), management sciences and industrial engineering with the purpose of enhancing business processes (van der Aalst 2004, 2013; Weske 2007; Dumas et al. 2013). Business processes represent a core asset of an organisation. They have direct impact on

policy implementation and attractiveness of product and services. They determine the flow of the tasks, jobs and responsibilities required to be implemented.

Processes determine the potential of an organisation to adapt to new circumstances and grow faster (Dumas et al. 2013). According to Aalst, Rosa and Santoro (2016), since the first industrial revolution, productivity has been maximized due to technical innovations, improvements in the organisation of work, and use of information technology. During the first industrial revolution (between1784–1870) machines (like the ones driven by water and steam power) entered the workplace. The second industrial revolution (1870–1969) theme was on mass production, the categorization of labour, and the use of electrical power. The third industrial revolution (1969–2015) was boosted by the availability of computers, networks, and other IT systems. Nowadays, everybody talks about ''Industry 4.0'' (Hermann et al. 2015) as the fourth industrial revolution. The aim is to create ''smart'' manufacturing systems using a combination of integrated systems, sensors, networks, service orientation, big data, and analytics.

2.3.4 Project Management Literature Review

Project management is an integral part of the second pillar of the conceptual framework 'organisation development'. Given that strategies frequently prescribe projects to bridge performance gaps, and since a project has a start/end date, responsibility and dependencies, project management becomes a critical part of almost all strategy implementation.

Cardinal and Marle (2006) claimed that a project is a temporary venture undertaken to achieve objectives and to deliver results. In other terms, a project is a path change in companies, society and markets. It has a start, an initial situation, and an end, plus results that change the company's

conditions in terms of product offering, internal performance, communication tools, and others. Project Management consists of the complete suite, concepts, methods and tools, which guide from start to finish, in order to achieve the objectives and to deliver the results of the project. Project lifecycle can be defined in several ways, for instance with the PMI processes: initiating, planning, executing and controlling, and closing.

According to a survey executed by the Standish Group International in 2000, 80% of project successes/failures may be related to planning - for example, poor scoping, poor stakeholder analysis, poor activity decomposition and poor resource assignment. Moreover, Grundy (1998) argued that strategy implementation and project management had generally developed quite separately and independently. However, numerous chances for cross-fertilization are presently underexploited in theory and in practice.

During the past few years, there has been increasing interest in project management as a tool for strategy implementation. Strategy implementation projects established an increasingly significant and high-profile application of project management. McElroy (1996) suggested a hierarchical model of aims-strategy-programs projects. Besides, Hauc and KovacÏ (2000) stated that the effectiveness of management activity in the whole company is increased by introducing the project plan of business strategy implementation. In this way, strategic management becomes gradually project-oriented. However, McDavid & Hawthorn (2006) argued that business strategies could be swiftly formulated and they could be implemented rapidly, economically and qualitatively by running projects. However, Barber (2011) argued that too much planning is a common mistake that strategists make, while less implementation happens. The model should be planned well in

order to be able to deliver. That would require a complete shift in the mind set. The positive outcome of a plan can be largely determined during the planning phase, and once it has been implemented, additional features can be adjusted and perfected. Benefit realization is to identify and measure the outcomes of an initiative to stakeholders.

A project is often seen as a collection of simultaneous and sequential activities that together produce an identifiable outcome of value. Project management had become very popular particularly in IT, strategy, engineering and contracting transformational activities. Although currently Project Management is an occupancy, some scholars debate PM as a future embedded skill rather than a science. Baccarini (1996) talked about wicked problems and proposed a definition for project complexity "consisting of many varied interrelated parts", which he operationalizes in terms of a number of varied elements and interdependency and assesses "the degree of interrelatedness between these elements (or connectivity)". Baccarini found that the project breadth of complexity is widespread within PM literature. However, the conception of project complexity has only attracted marginal attention. Baccarini reviewed the literature on project complexity related to project management, with a focus on the construction sector, and proposed that project complexity can be defined in terms of differentiation and interdependency that could be managed by integration. The author added that construction projects are always complex; since World War II, PM has become progressively more complex.

The construction practice could be construed as the most complex in any industry. Yet, the construction industry has demonstrated great difficulty in managing the increasing complexity of major construction projects, particularly when it comes to organisational and technological

complexity. Moreover, Pich, Loch and De Meyer (2002) stated that suitable strategy depends on the type of uncertainty present and the complexity of the project. They established an exact language that allows the project manager to assess the adequacy of the available project information at the beginning, choose a suitable combination of strategies, and set a supporting project infrastructure that involves systems for planning, coordination and incentives, and monitoring. They grouped uncertainty, ambiguity, and complexity in terms of information adequacy.

Doubtlessly, Cicmil, Williams, Thomas and Hodgson (2006) argued that whilst a great deal is written about traditional project management, only a little is known about the ''actuality'' of project-based working and management. They suggested a different view on managerial knowledge and competencies. Consequently, the theoretical and methodological features of 'actuality' research may have important implications for management education, training, development and the future of PM as a professional job. However, Turner (2006) claimed that scope management is the main work of the project, and contended that it is essential to manage the quality of both the product and management process. Turner defined the best means of monitoring project performance; derived from empirical evidence: 1) plan for the target results; 2) monitor the results that are actually achieved; 3) calculate the variance, and 4) take action to reduce the differences.

Nevertheless, Bryde (2003) argued that there is a chance for the Project Management (PM) practitioners to develop valid and valuable theories; however, to do that, there is a need for further research. Since the 1990s, writers have announced new terms like "modern project management",

"management by projects", projects (project management) culture" and "beyond the Gantt chart" to differentiate contemporary and future methods of project management from traditional and past methods. Project management should be used for managing all types of business-related transformation. Similarly, Augustine, Payne, Sencindiver, Woodcock (2005) suggested that dealing with a progressively unstable organisational environment is a serious challenge for managers.

PM methods based on the traditional development methodologies are incompatible with dynamic systems. Agile management is a concept that reinforces the quick adaptation and positive reaction of an organisation. The agile manager is responsible for defining clear roles and responsibilities to ensure best team alignment. Agile managers lead their teams by defining, allocating, and keeping a vision that inspires the internal models of individual agents. Agile PM makes project managers and employees alike more adaptable to changing circumstances, rather than trying to force-fit rigid formal controls, as in traditional methods. Hence, Morris, Crawford, Hodgson, Shepherd and Thomas (2006) argued that since the mid-1970s, project management organisations worldwide have taken serious steps to conduct themselves as professional organisations. Traditional professions highlighted standards such as service to the public and competence in their field.

The exponential growth of some institutions has been quite phenomenal, like the Project Management Institute (PMI) which had over 550,000 members as of March 20018 the project management certification programs have been extremely successful, offering status and recognition to people in the PM field. This may be attractive for those who do not have university certifications in project management.

Wells (2012), however, suggested a misalignment between the intended benefit of PMMs (project management methods) at the corporate strategic level and the reported benefits by PMs at the project level. Additionally, it is shown that practitioners' expertise, accountability and attitudes all have a direct influence on the extent to which PMMs contribute to and benefit the management of projects. It was concluded that there exists a gap between the perceived contribution of PMMs at the strategic and organisational levels compared with the perceived benefits at the project and operational levels. Wells posited that PMMs are useful to some extent where they replace and compensate for the lack of tacit knowledge in a project, supporting managers with less knowledge and experience of project management.

Alternatively, Ojiako, Chipulu, Marshall, Ashleigh and Williams (2015) stated that in engineering domains, the role transformation from "technician" to "manager" responsible is mainly for expressing and managing the integration between several engineering components. In such a role, engineers are likely to fully grasp the complexity and fluidity linked with the range of interconnected social, political, technical and economic factors that matter within work packages and projects. The authors identified three fundamental project management strategies: instructionism, learning, and selectionism. As far back as 1999, Williams reported that the complexity of projects is rising. Complexity is divided into two types: 1) structural uncertainty that consists of number of elements and independence of elements; and 2) uncertainty that consists of uncertainty in goals and uncertainty in methods.

2.3.5 Performance Management Literature Review

Performance management is an integral part of the second pillar of the conceptual framework 'organisation development'. Measuring progress, yield and success in relation to set targets is integral to strategy implementation.

According to Otley (1999), performance Management is a mean to execute, accelerate and improve performance by monitoring and reporting performance on frequent basis. Without measuring, there is no management. Setting the right KPIs and KPTs would absolutely benefit the organisation. However, aligning the KPIs to the priority objective and initiatives is likely to vary subject to different schools. To improve lagging indicators, managers have to work on improving leading indicators by identifying the right initiatives and sufficient initiatives that bridge the performance gap. Over measuring and double measuring and costly measuring work to the detriment of the organisation benefit. Identifying the source of the KPI data and the method of data collection and the policy of data validation are so critical in determining the actual performance.

Moreover, Osborne & Gaebler (1993) argued that performance is perceived as the realisation of public values. Values and performance are separate concepts, while all public values can lead to performance. In addition, efficiency, effectiveness and successful practices of instance participation or innovation could also be appreciated as dimensions of performance. Furthermore, the analysis results of Pittino, Visintin, Lenger and Sternad (2016) indicated that firms are frequently criticized for not investing enough in high performance work practices (HPWP), but results show that the family firm status, conduction and influence have positive relationships with employees' retention. However, the lesser adoption of HPWPs does not necessarily mean that family firms are careless about their human capital. From another angle, family businesses present

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a lesser degree of acceptance of HPWPs compared to non-family businesses. However, family businesses value good employees' retention more than non-family businesses does. The results also suggested that family businesses with non-family CEOs show a higher desire towards HPWP. A key cause of strategy failure is inefficient execution. In commercial organisations, credit is a big issue - checks are the only contacts. If the check issuer cannot pay the check, the state sues them, but in Lebanon, work is based on confidence; anyone can negatively impact the trader because the trader is not protected by regulations. This also has a significant impact on the strategy implementation.

According to Hatry (1999), there are always challenges involved in deciding how to measure performance of a company. The first is the problem of finding valuable definitions of concepts such as competitiveness or performance (e.g., see Buckley, Pass and Prescott, 1988; Littler, 1988; Day and Wensley, 1988). The second is the difficulty of how to operationalize such concepts. Furthermore, Aguinis (2007) argued that when discussing strategy and strategy execution management, it concerns the full cycle of strategy implementation.

This is very similar to the engineering concept of strategy but a balanced scorecard is a part of the strategy. The intended strategic value cannot be achieved without governance, without roles and responsibilities, and without organisation structure. Bouckaert & Peters (2002) stated that research on corporate performance has tended to use a range of different measures of success, which can be classified into one of two groups: financial and nonfinancial. Researchers retain financial measures such as profit (Hooley and Lynch 1985; Saunders and Wong 1985; Baker, Black and Hart 1988), turnover (Frazier and Howell, 1983), return on investment (Hooley and Lynch 1985),

return on capital employed (Baker et al.,1988), and inventory turnover (Frazier and Howell, 1983). Nonfinancial measures include innovativeness (Goldsmith and Clutterbuck 1984) and market standing (Hooley and Lynch 1985; Saunders and Wong 1985).

Further research of corporate performance measures success at diverse levels of analysis (e.g., national, industry, company, and product), thus making the comparison of results difficult, as commented on by Baker and Hart (1989), Buckley et al. (1988), and Frazier and Howell (1983). Furthermore, Kaplan and Norton (2001) argued that strategy maps and Balanced Scorecards (BSCs) are tools to develop performance objectives and measures that are linked to strategy.

The relationship of the BSC to financial and cost measurement initiatives is through shareholder value metrics and activity-based costing, and quality programs. According to Kaplan and Norton (2001), Peter Drucker (1954) introduced the "management-by-objectives" (MBO) concept. However, Drucker's brilliant concept was poorly implemented in practice, leading to MBO in most organisations focusing on a range of local measures and initiatives which were not linked to high-level corporate objectives.

The BSC allows personal objective setting to be cohesive across the organisation and linked to high-level strategic objectives. Kaplan and Norton (1993) concluded that the best benefit of strategy maps is that they are able to communicate the strategy to an entire organisation. A strategy is movement of an organisation from one state to another. The strategy map highlights the causality (cause and effect relationship) between strategic objectives. If everyone concerned was clear about the hypotheses, the strategy would be deliverable. However, BSC is a simple measurement model. It's not meant to go into governance, is not meant to go into policies, and is not meant to go into

anything. Later, Dooren, Bouckaert, Halligan, (2010) stated that the balanced scorecard (BSC) is a measurement of output and focuses on key performance indicators (KPIs), but the BSC, it's just part of a model.

Having balanced scorecards focused on objectives, KPI's, targets and cascading those objectives, KPIs and targets to each layer would discipline the organisation. So, when KPIs are in use, output is measured. Project progress indicators, outcome indicators and intermediate indicators, all these could be lagging or leading KPIs and all of these KPIs are intended for a use.

Furthermore, Gruman and Saks (2011) stated that there are different ways of measuring strategic performance that are not based on the BSC. However, again, none of those is right or wrong and in management, there is no black and white. So, at the end, based on circumstances that differ from one organisation to another, to the organisation has to customize and fine-tune a model or a proposition that fits the needs of a specific case. Nevertheless, Cave (1980) argued that the productivity of the resources is mainly affected by the quality of the strategic choice made by the organisation.

Buono and Bowditch (1989), Cartwright and Cooper (1996) and Marks and Mirvis (2001) argued that the performance of organisations shaped after mergers and acquisitions steadily fails to meet the expectations, and various studies have suggested that HR and employees' relations issues are weakly handled in M&As. Martinsons, Davison and Tse (1998) claimed that the BSC had become a decision-making tool for strategy management executives. They even suggest the application of the BSC model to business functions, departments, individuals, and projects. Moreover, Anderson (2000) claimed that there was a tendency to marginalize the role of strategic planning in recent

years and to double the focus on management autonomy and organisational learning. However; most organisations had continued to plan for their future. This shows a need to review the impact of strategic planning in relation to managers' autonomous actions.

Norton and Kaplan (1993) co-developed the Balanced Scorecard framework which clearly described the strategic planning process and the strategy implementation cycle. However, the framework did not clearly indicate the importance of governance as a key success factor of strategy implementation, yet in drawn a clear link between organisational objectives, KPIs, targets and initiatives. The main purpose of BSC was to provide managers with more and better information for strategic decision-making. The BSC has been criticized from a number of different angles. The criticisms are levelled at different aspects of the concept. There are particularly six aspects which have been discussed extensively in the BSC literature: (1) the causal relationships between the perspectives and measures, (2) the underlying assumption that organisations implement strategy in a rational top-down process, (3) the use of dramatic and seductive rhetoric in the BSC literature, (4) how BSC hinders creativity, innovation and organisational learning, (5) the BSC as a management fashion, and (6) the BSC as a consulting product and 'old wine in new bottles'. The first three aspects can be seen as direct criticism of the fundamentals of the concept, while the latter three are mainly concerned with the ways in which the BSC is used by different actors in praxis (Madsen & Stenheim, 2015).

According to Hoque (2014), Norton and Kaplan did not draw a demarcation between a priority and objective. Also, Norton and Kaplan did not explain how the organisational objectives should be formulated, and neither did Norton and Kaplan elaborate on how initiatives should be identified.

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The research addresses two key challenges that organisations today are facing in relation to strategic design and strategy execution. The first is ensuring that organisational enablement tools are in place to deliver, and the second is ensuring strategy benefit realization.

According to Anderson, previous research on the performance effects of strategic planning has been inconclusive, and evidence of the strategic importance of adaptive actions taken by low-level managers remains anecdotal. The results indicate that strategic planning has a positive performance impact across industries, and exists in tandem with autonomous actions, where managers make responsive decisions that improve performance under dynamic environmental conditions. Later, Flatten, Greve and Brettel (2011) addressed the relationships between absorptive capacity - "ACAP", strategic alliances, and organisational performance. According to their research findings, strategic alliances have a solid influence on organisational performance, while ACAP influences organisational performance and the achievement of strategic alliances. No matter whether an organisation is small or large, company size did not prove to be a moderating influence, suggesting that strategic alliances are significant to foster relationships between organisational performance and ACAP. However, strategic alliances have no mediating effect on the relationship between a new company's ACAP and organisational performance.

Strategy researchers had to understand why diversification affects growth and how resources are managed in diversified organisations. High-performance organisations are the result of implementing integrated systems. Organisations that have unrelated diversification strategies have robust and strict financial controls. According to Engelbart (1992), achieving high-performance organisations will involve huge changes throughout their capability infrastructures. A high-

performance organisation is about establishing system and goal perspectives to determine how much of performance is required in order to determine how much of resources are required. This indulge improving the improvement process. However, according to Wood (1999), a high-performance work system is result of a transformed organisation to a more committed, organised and tailored organisation. Furthermore, Davane (2004), argued that HPO focuses on developing an execution-based culture through organisational restructuring, increasing levels of motivation, ownership and commitment. To do so, leadership use principles that focus on quick change in the organisation.

Waal (2009), examined the factors that determine the constant success of a high-performance organisation (HPO). In the literature the HPO is often referred to as, the high reliability organisation the adaptive enterprise, the flexible organisation, the agile corporation, the high-performance work organisation, the real-time enterprise, the high-performance work system, the intelligent enterprise, the resilient organisation, the sustainable organisation, the accountable organisation the robust organisation, and the responsive organisation. HPO is described in terms of achievements or characteristics of the organisation, such as having high levels of individual initiative strong financial results, satisfied customers and employees, aligned performance measurement and reward systems, high productivity and innovation, and strong leadership (Epstein, 2004). According to Waal (2006, 2007), a high-performance organisation is an organisation that achieves financial and non-financial results that are better than those of its peer group over a period of time of at least five-ten years. Waal identified five HPO factors: management quality, Action quality, planning quality, continual improvement and workforce quality. However, Jenkins (2011), confirmed that there are practices that have great effect on

performance when they are implemented in concert with one another and when aligned to achieve organisational goals, be it on leaderships, customer centricity, functional alignment, process enhancement, measuring, employees' development and external linkages.

Whatever strategy an organisation has, and whatever governance an organisation has, they will only be successful if the strategic outcomes and KPIs are achieved. If the strategic outcomes are achieved and KPIs are met, it could be inferred that the strategy is well engineered and is yielding the expected benefits and outcomes. According to Gilson (2000), Globalization has led to a remarkable rebirth in the study of comparative corporate governance. As well as globalization had changed massively, executives and senior managers understanding of what and how-to utilization strategy resources.

Gilson (2000) claimed that globalization has led to an extraordinary resurgence in the schoolwork of comparative corporate governance. National corporate governance systems differed dramatically along a number of apparently important dimensions. Some corporate governance systems, notably those of the United States and other Anglo-Saxon countries, are constructed based on a stock market-centred capital market. Other systems, like those of Germany and Japan, rest on a bank-centred capital market. Some systems are characterized by large groupings of related corporations, like the Japanese Keiretsu, Korean Chaebol, or European holding company structures. Still others are notable for concentrated family control of large businesses, including Canada, Italy and, notably, Germany. Management styles also differ across national systems.

According to Appelbaum and Robinson (2005), globalization is redesigning how we have conventionally gone about considering the social world and human culture, and a field of

globalization studies is now developing across the regulations. Globalization involves new production systems in terms of finance vs. consumption vs. worldwide economic integration. It also involves new transnational or global cultural trends, practices and courses. Globalization also engages with global political procedures and processes, along with the rise of new transnational organisations and, alongside these, the spread of global governance and authority structures. The multidirectional movement of nations around the globe is involving new norms of transnational migration, identities and communities. New social hierarchies, inequality forms, and dominant relations around the world are generally regulating the global system (Robinson, 1996).

2.4 Theoretical School of Thought on Strategy

Miles and Snow (1978) suggested that business level strategies generally fall into one of four categories: prospector, defender, analyzer, and reactor. They consider that there is less focus in terms of theoretical treatment from scholars about strategy, structure and process topics. They believe that strategy is a tool to achieve product-market planning, while structure and process are the tools to implement these strategies. Miles and Snow were able to find some patterns in the relationship between management theory and organisational strategy and structure. From their perspective, the management theory consists of three key factors: (i) set of human attitudes and behaviors, (ii) managerial policies and practices, and (iii) individuals' performance if the policies are implemented. Next, they argued that the evolution of human capital started from traditional to human relations, to the human resources model. Then they mapped the strategic typologies to the management theory in order to find the link and came up with the adaptive cycle concept. They concluded that effective organisations have to rely on managers in order to direct and control people within the organisation, not only to envision and implement new organisational forms and

systems. The managers should have the ability to understand the organisational environment and culture in order to be able to cater to market dynamics.

Cave (1980) argued that an organisational structure is a tool used to internally allocate tasks for hierarchized resources in order to have in place proper decision rules, and clear procedures for the entire operations including but not limited to appraisal and reward, required to best achieve corporate strategy. A divisional organisation structure in a functional organisation can achieve economies of scale and specialization, and can also reduce the number of communication channels required among the organisation's layers and members. Cave further postulated that the perceptions of top managers about the market structure and about the firms' strengths and weaknesses together would determine their alternatives about corporate strategy.

The corporate strategy concept first emerged when researchers were studying the business decision-making enhancement in order to provide business people with an easy and a systematic approach for implementing a long-term plan in order to assure the maximal achievement of the organisation's aim. If the organisations decided to deliver multi-products, then the supervisory levels have to expand in order to assure control, communication and quality are in place. In addition, more verticals and more layers have to be introduced which will result in less control, less message understanding and slower outcome. Cave also concluded that the productivity of the resources is mainly affected by the quality of the strategic choice made by the organisation. Cave also asserted that economists argue that organisations tend to carefully select the right production function; however, production functions for the economist make sense in three main parameters only: the capital, the harmonies of labour, and the land.

Later, Hitt and Ireland (1986) mentioned that large multi-divisional firms can improve performance by utilizing and developing corporate competencies. There is a relationship between corporate competencies and types of diversification strategies; however, there is no relationship between corporate competencies and types of corporate structures. Moreover, Hoskisson (1987) mentioned that in order for a strategy to realize the economic benefits, the M-form structure must be consistent and fit to the strategy. However, a control system has to be in place to mitigate the decentralization risk of decision making in the division.

For the sake of continual sustainable growth, whether in vertical integration or related diversification, processing information and delivering requirements pose a challenge to achieving financial targets. Furthermore, Hoskisson and Hitt (1988) suggested that less diversified U-form firms would invest in R&D more than diversified M-form firms. Also, leading business firms invested more in R&D than related or unrelated business units. However, there is a negative organisation between R&D strength and market performance in related and unrelated organisations. The results suggest that the market values R&D investment more in organisations that are investing in hedging or diversification strategies. That led to a correlation between investment in R&D and investment in diversity where investment in R&D might be a useful proxy measure for innovation, while investment in diversity requires further research to assess the long-term effectiveness. Later, Hoskisson (1989), argued that research and development intensity in large multi-product organisations is affected systematically by diversification strategy. He also examined the implications of various types of diversification strategies on corporate/strategic business units in large multi-product organisations. He also discussed how the post-war USA economy had emerged due to diversification strategies incorporated in large organisations. In

1949, one third of the Fortune 500 was used to generate revenue from two or more products; however, by 1974, the percentage had increased to 67% (Rumelt, 1974, 1982).

Barber (2011), in order to ensure that strategy is going to deliver, continuous tests have to be conducted; first by assessing the likelihood of delivery on time, and secondly by assessing the benefit realization. That could be achieved by measuring the complexity of the strategy (project or initiative) alongside the challenges associated with the strategy. After assessing the complexity of the strategy, Barber suggested first assessing the quality of the planning and performance management, then determining the ability and possibility to continue implementing/running the strategy. However, in order to be able to measure business operations performance properly, the strategic alignment has to be in place. Initiatives and projects have to be well aligned to the strategic objectives. Barber (2011) suggested that the needle of the strategic outcome will not move in two cases:

- Identified initiatives are not sufficient. In this case sufficiency/gap analysis could be devised.
- Identified initiatives are not aligned to the objectives/strategy. In this case, an overhaul is required to devise the right initiatives.

Hoskisson, Johnson and Moesel (1994) stated that divestiture is directly related to low organisational performance and inability to achieve strategy due to weakness in corporate governance. In order for any strategy to be able to carry itself, enablers have to be guaranteed. However, some of these enablers could be prerequisites. Hoskisson et al. (1994) believed that strategy researchers have to understand why diversification affects growth and how resources are

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managed in diversified organisations, and suggested that high performance organisations are the results of implementing integrated systems and unrelated diversification strategies with strict financial controls.

Because the focus of this research is on strategy engineering in relation to governance, the author realized that governance is one of the most important pillars of any organisation, and identified key success factors that are part of governance and which significantly influence strategy; these are (i) roles and responsibilities, (ii) authority distribution, (iii) decision-making processes, and (iv) policies and procedures. In order to increase the chance of having a successful strategy implementation, a governance model has to be designed taking into consideration the above-mentioned key success factors.

This governance model enforces standards or norms that organisations should abide by; organisations have to have sufficient controls in place, and these include gate check point, without which organisations would not be able to succeed in their strategy implementation unless they satisfy the gate check point criteria.

In conclusion, even if an organisation has the best strategy and the best strategists, if the incumbents do not know their role clearly, if decisions are delayed, or if the policies are not abided by, then the organisation will have a status-quo; good vision, but no execution power. Another key success factor that influences strategy implementation is the organisation structure; that is, the strategy should be a good fit for the organisation structure. Organisations cannot afford a totally centralized structure when the strategy is saying: "We have to grow". Organisations cannot afford a totally decentralized structure when the strategy is saying: "Cut costs to survive".

Organisations cannot have long verticals when they are supposed to be lean, and cannot have short verticals when the decision-making process is supposed to be critical.

Donaldson and Davis (1991) addressed the validity of the agency theory vs. stewardship theory, where agency theory argues that roles and responsibilities have to be segregated between the incumbents of the board and the CEO; however, stewardship theory argues that shareholders' interests are maximizing the board's incumbent influence in management. According to Williamson (1999), the competence perspective is familiar to good issues and challenges convention, while the governance perspective is to be responsive. Both are circumscribed prudently and carry organisational matters. No matter what strategy and strategist(s) an organisation has, the delivery is the ultimate aim. Any strategy has its objectives, initiatives and targets. These targets have to be met. To ensure targets are going to be met, organisations should follow a logical methodology, which starts by assessing the sufficiency of the strategic initiatives, then measuring the ability to continue implementing the initiative vs. challenges associated with the initiatives, then assessing the likelihood of achievement. The last assessment is to measure the benefit realized vs benefit planned. The table below summarizes the theoretical framework informing this research:

Table 2: Theoretical Framework

Theorist	Field of Knowledge	Theory	Description
Oliver E. Williamson	Strategy	Diversification	•Strategy of related diversification usually improves performance if it

			allows a business to obtain special access to strategic assets that are costly to imitate, rare, valuable and imperfectly tradable. •Organisations will not necessarily be able to sustain very good performance even if they design and implement an organisational structure which efficiently shares resources or assets that are related to two divisions.
Raymond Miles and Charles Snow	Strategy	Strategy Typology	•Defender strategy is followed by an organisation which tries to sustain their market by striving aggressively to prevent competitors from penetrating and entering their zone. That can happen by enhancing product and service quality and implementing competitive pricing. The defender challenge is "how to ensure controls are in place to achieve the best efficiency". Therefore, the defender key risk is "ineffectiveness". •Prospector strategy is followed by a highly innovative organisation that is seriously and continually looking for new markets and new opportunities; with high appetite to growth and risk taking. •Analyzer strategy is followed by an organisation which maximizes profit with minimizes risk. The analyzer strives to keep the innovation process moving with less cost and more profit and better market share. Therefore, the analyzer is a quick reactor to market dynamics and good in decision making. •Reactor strategy is followed by a residual strategy occurring when one of the other three strategies are improperly implemented
Robert E. Hoskisson	OD	Organisation Structure	•In order for a strategy to realize the economic benefits, the M-form structure must be consistent and fit to the strategy. However, a control system

		(U & M-form structure)	has to be in place to mitigate the decentralization risk of decision making in the division. •Less diversified U-form firms would invest in R&D more than diversified M-form firms would.
Richard Cave	OD	Organisational Productivity	•Organisations are more worried about allocating responsibilities and accountabilities and authorities to persons and evaluating, and rewarding their performance which reflects on individuals' behaviour optimization and utilization •Resources productivity is mainly affected by the quality of the strategic choice done by the organisation.
Michael Barber	OD	Deliverology (Project Management)	•Once delivery foundation is built, organisations would be able to drive forward the delivery effort. •Organisations have to translate aspirations into barriers diagnostics, strategy to overcome these barriers, targets to measure progress and plan for implementation. •Organisations have to identify the size of performance gap then to set performance trajectories. •Organisations have to assess the likelihood of strategy delivery based on pre-set criteria. •Organisations have to define intervention ignitions based on thresholds in order to make sure benefit is going to be realized.
Richard Rumelt	OD	Benefit Realization	Corporate profit ability varies subject to diversification strategies. Highest profitability was demonstrated by organisations that incorporated diversification strategies thereby having a common resource pool, while the lowest profitability was demonstrated by organisations which integrated their verticals or those who

			diversified their portfolio by adding unrelated businesses.
Oliver E. Williamson	Governance	Governance in relation to competencies	•Governance is micro-analytic (the basic unit of analysis is the transaction) and adopts an economizing method to assessing relative economic organisation. •Competence is more complex and is more concerned with procedures.

2.5 Strategy Engineering as An Emergent Phenomenon Literature Review

This section discusses the key concepts within Strategy Engineering and their relationship to mainstream existing literature in order to highlight "Strategy Engineering" as an emergent phenomenon.

The following is a discussion on the actual evidence in the literature for different ideas on the concept of 'strategy engineering'.

In a wide range of technical and management implementation disciplines - whether management, manufacturing, operations, information technology, academia and in contracting sectors - concepts of strategy engineering are evident. Strategy engineering is therefore not a completely new idea, but the current state of strategy engineering is that the components are not all fully conceptualized. So, a number of components, blocks and elements are well known and understood but not in a coherent combination. Moreover, the term had been mainly used by practitioners, also employed by some consultants and professional institutes. However, it is noticeable in the literature that engineers are most accustomed to using the term "Strategy engineering". To study the detail and wider potential implications of the phenomenon, the demographics of the research

participants should be diverse (e.g., engineers and non-engineers; engineering categories; and varying years of technical and work experience).

Furthermore, defining the term "Engineering", Petroski (1992), mentioned that engineering is the application of mathematical methods, or scientific theories, or economic formulas in order to innovate/develop a machine, model, system or organisation, where an engineer is an engine operator. Moreover, Borrego (2007), stated that engineering is the creative application of scientific theories to design structures, machines, apparatus, or processes; in light of maintaining prerequisites and priorities. Engineering as a discipline had when through various evolutions. This research had identified five engineering categories based on evolutions in relation to time; 1) Founding Engineering, 2) Conventional Engineering, 3) Contemporary Engineering, 4) Emerging Engineering, and 5) Anticipated Engineering (yet to come). See the figure below.

Figure 3: Engineering Disciplines Evolution

Engineering Disciplines Evolution				
Founding Engineering Disciplines	Conventional Engineering Disciplines	Contemporary Engineering Disciplines	Emerging Engineering Disciplines	Anticipated Engineering Discipline
• Military Engineering • Architecture Engineering	• Civil Engineering • Mechanical Engineering • Electrical Engineering • Agricultural Engineering • Telecommunication Engineering	• Computer Engineering • Communication Engineering • System Engineering • Genetic Engineering • Bio-medical Engineering • Marine Engineering	• Financial Engineering • Process Engineering • Software Engineering • Sustainability Engineering • Resilience Engineering • Reliability Engineering	**Strategy Engineering**

Based on the literature stated in chapter two, "Founding Engineering Disciplines" have first started with architectural engineering and military engineering. Then the engineering science and philosophy started to evolve into more specialized domains. Here civil engineering, mechanical

engineering, electrical engineering and agricultural engineering started to appear more frequently as areas of established technical and profession practice. Later, in the mid-twentieth century, the world started to become more complex in terms of markets, industries and technical products and services. As a result of these developments, the applied sciences started to evolve more rapidly and at greater levels of complexity; computer systems started to appear along with many electronic breakthrough achievements.

With these major technological changes, a need for complexity engineering grew alongside. Therefore, electronic engineering, computer engineering and systems engineering disciplines started to become more essential and widespread areas of mainstream practice. These new engineering disciplines could all be classified under "contemporary engineering disciplines". Strategy is a subject discipline and area of practice that depends on program implementation; however, Strategy engineering is a more a phenomenon of a long-life duration. Strategy engineering is modelled as a set of connected activities. Strategy Engineering is an anticipated (emergent) strategic management discipline.

Strategy engineering is practical in manufacturing, management, contracting and other sectors. In the context of this this research, the idea of strategy engineering that is developed focuses on optimizing productivity by utilizing strategic blocks to increase the lifecycle of organisations thereby following a logical emergent conceptual framework that is fit for all-purpose industries.

According to Porter (1985), in the 1980s, the markets dynamics changed. Pre-1980s, the demand used to drive supply; however, post the 1980s, the supply started to influence the demand in new ways, thereby creating increased technological change and uncertainty. Organisations started to

invest aggressively in research and development; this brought more creativity to the market and industries which further increased the need to sustain businesses by ensuring more robust processes, better software and more efficient financial solutions.

Emergent engineering disciplines were again introduced to meet the new market needs - notably software engineering, sustainability engineering, process engineering and financial engineering. Brydena & Bollmanb (2000) argued that post 1995, the market was flooded with a wealth of diverse experiences and practices, and the literature was similarly inundated with scholars talking about similar things albeit with little apparent, resultant difference. Strategic planning and strategic management had become a mature academic profession; and in employment more strategy vacancies appeared, communicating expectations and standards based on comparatively clear and systematically written job descriptions. In order to measure the strategy implementation, performance management likewise became a more robust practical domain within its own right. To ensure initiatives and projects are on track, project management has become a stronger and larger profession over the last five decades. In order to align the organisational aspects (organisation structure, governance and authority matrix), OD became another movement involving groups of management consultants and academic scholars employed in universities.

To enhance the processes and to improve the output vs input, process quality management became a stronger and more influential profession within public- and private-sector quality movements.

The researcher observed lack of alignment between the above-introduced areas of technical practice and related organisations, institutes and professions has led towards a new phenomenon and that anticipated strategy engineering as an (emergent) strategic management discipline.

A strategy engineering discipline is principally analogous to a conductor orchestrating a set of functions that already exist. The role and purpose of the strategy engineer is to ensure that strategic engineering resources are best utilized so that they lead to the best possible strategic outcomes. That said, strategy engineering is an emergent engineering discipline that will not change the whole world, but has significant potential to make the strategy world look better. Given that strategy engineering is well used in practice, but is somewhat underutilized in the academic literature, there is an intellectual opportunity for the term "Strategy engineering" to be introduced and used provided that it is coherently justified and explained. In this thesis, the researcher tests strategy engineering as a conceptual framework that is derived from the review of the relevant literature by assessing the logic behind it and appraising the relationships within it, and evaluating both its proposed prerequisites and outcome benefits. From the perspective of empirical research, this objective will be achieved by accessing people who have the right calibre which includes the ability, experience, know-how and willingness to share their views and ideas concerning the framework. The section below highlights the presence of strategy engineering implementations in management, information technology, manufacturing, contracting and academia.

According to Badri, Selim, Alshare, Grandon, Younis, and Abdulla (2006), the "Baldrige Performance Excellence Framework" is a developed to enable organisations to assess and improve their performance. It is a generic framework that could be incorporated to know the quality of leadership, processes, innovation and CSR, among other issues Baldrige Performance Excellence Program tapped into organisations' competitiveness, diagnostics, strategic directions, performance management and governance.

Pannirselvam and Ferguson (2001), mentioned that these topics could be part of the key building blocks for a specialized strategic planning framework. However, arguably, the Baldrige Performance Excellence Program is not a specialized strategic planning framework because it lacks many strategic elements like organisational effectiveness, market attractiveness, budgeting and forecasting, policy thresholds, and decision-making. Samson and Terziovski (1999), argued that most important issue is that the criteria are not designed to be placed in sequential order, which is so critical in terms of which one comes first. However, Browder, Czuchry, Boughers, Deutsch and Muehl (2014), stated that the Baldrige National Performance Excellence Criteria placed increased emphasis on organisational sustainability in terms of societal, environmental, financial and strategic impacts; and innovation as a discontinuous change in engineering designs and/or business models. Such concepts may become important considerations for engineering managers in today's global marketplace.

Moreover, Bigelow and Arndt (1995), stated that engineering management educators may become a major player in transforming compliance with performance specifications into an enhanced competitive business advantage by offering a total system approach to managing innovation while ensuring the long-term viability of the business itself.

From the Engineering Management perspective, care must be taken to acknowledge that sustainability in the engineering profession often focuses on the environmental component of the triple bottom line as is true for "leadership in energy and environmental design". Moreover, Ford, M. and Evans, J. (2000), stated that the business literature often speaks of "a sustainable competitive advantage" underscoring the marketing and financial aspects. The total systems

approach suggested a strategic engineering approach to conducting trade-offs to determine the impacts of alternative strategies that might place different levels of importance on the components of sustainability given in the Baldridge definition. According to Bollen, K. and Long, J. (1993), the applied research provided a conceptual framework for translating strategy into implementation results via a modified Plan - Do - Check - Act Shewhart / Deming (1920s) improvement opportunity identification and corrective action closed-loop management cycle. Engineering has always involved innovation. However, from a management perspective, the creative step in the process requires a combination of business and engineering skills in order to create value that a customer is willing to pay a premium to receive. According to Baldrige (2015), the purpose of the Baldrige framework is simply to help organisations (no matter what size, sector, or industry) answer three questions: (i) Is the organisation doing as well as it could? (ii) How do you know? (iii) What and how should the organisation improve or change? Baldrige helps leadership identify gaps in the understanding of their organisation. However, Vora (2002), argued that core values and concepts enable high performance.

Handfield and Ghosh (1995), stated that performance management is the foundation of the system. All efforts would yield results of processes, workforce, systems, and governance. According to Arif and Smiley (2004), the Baldridge framework is divided into seven main criteria in addition to the main criterion "organisational profile" which is the main component of the framework. The organisational profile is divided into two sub-sections: a) Organisational Description that identifies the key organisational characteristics (mission, vision, values, competencies, product offering, workforce profile, assets, regulatory requirements, organisation structure and stakeholders), b) Organisational Situation that identifies the organisation's strategic situation (competitiveness,

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strategic challenges and advantages, key success factors, performance improvement systems and processes, (Bollen and Long, 1993).

Furthermore, George, Cooper and Douglas (2003), argued that under the "leadership" criteria, governance comes into place. This sub-section identifies how organisations should ensure responsible governance and ensure that reviews are achieving the following key aspects of the governance system. Governance also ensures that the following are identified: the accountability for senior leaders' actions, accountability for strategic plans, transparency in operations, selection of governance board members and related disclosure policies, as appropriate, independence and effectiveness of internal and external audits, protection of stakeholder and stockholder interests, as appropriate, and succession planning for senior leaders. It also addresses how organisations evaluate the performance of senior leaders, including the chief executive, and the governance board. It also addresses the Legal and Regulatory Compliance in terms of how organisations anticipate and address public concerns with their products and operations.

According to Li and Yang (2003), governance tackles the key compliance processes, measures, and goals for meeting and surpassing regulatory and legal requirements, as appropriate. As well as it is concerned with the key processes, measures, and goals for addressing risks associated with products and operations. However, the "strategy" criteria fall in two sections - strategy *development* and strategy *implementation*. Strategy development addresses the strategic planning process, terms, scenarios, participants, changes, transformation and prioritization of initiatives, as well as agility and flexibility. Innovation is a main component under this section. It addresses how does the strategy development process stimulate and incorporate innovation. Since the strategic

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analysis is extremely important, this section addresses how organisations collect and analyse relevant data and develop information for their strategic planning process. Risks, potential changes, potential blind spots, ability to execute the strategy are addressed here.

The organisation's strategic objectives are also covered here by assessing its key strategic objectives and timetable for achieving and assessing the appropriateness of the balance among varying and potentially competing organisational and stakeholders' needs. However, as for the strategy implementation, the framework addresses the ways organisations implement their strategy, starting from action plan development, action plan implementation, resource allocation, workforce planning, performance measuring and performance projection until action plan modification. Therefore, Pannirselvam, Siferd and Ruch (1998), argued that the criteria for measuring and analyzing and improving organisational performance proceed from performance tracking, to data gathering, to data validation, to performance reporting of KPIs and objectives and action plans.

Emerging from this research literature review, the strategy engineering concept has capitalized on several elements that influence strategy success. Interdependencies and prerequisites are the main building blocks of any engineering work. Strategic resources that include gap-based diagnostics and priority-based planning are the foundation of any successful strategy project. OD that includes strategic planning, organisational structures, performance and project management are the enablers of a successful strategy project. Governance that includes transparent reporting, diversified board, law, and shareholders' influence are all main pillars for a robust strategy-focused organisation. In

the below section, you will find some examples of literature reviews in regards to key strategy engineering blocks.

2.5.1 Strategy Engineering in Management Literature Review

Strategy engineering is about business intelligence for informed decision-making and about property optimization as well as business financial management. Siddiqi, Bounova, Weck, Keller and Robinson (2011) argued that engineering changes are an inherent part of the design and development process and can play an important role in driving the overall success of the system. They proposed that by constructing a temporal, spatial and financial view of change activity within and across these dimensions, it becomes possible to gain useful insights regarding the system of study. Siddiqi, Bounova, Weck, Keller and Robinson (2011) mentioned that engineering change data from the design and development of a multiyear, multibillion dollar development project of an off-shore oil and gas production system was used in their case study. It was shown that the results from such an analysis can be used for identifying better design and management strategies (in similar systems and projects) and for targeting design improvement in identified subsystems.

The isolation and identification of change hotspots can be helpful in uncovering potential systemic design issues that may be prevalent. Similarly, strategic engineering and management decisions can be made if the major cost drivers are known. Tactical activities such as troubleshooting support and response to emergent production issues will transition to the maintenance department and engineering response team to enable strategic engineering department to maintain a strategic long-term solution. Strategic engineers should use a graded

approach for monitoring and reporting with their primary focus on those systems that are most important to safety and reliability.

According to Hölttä-Otto and Weck (2007), there is consensus that system modularity has many benefits from cost savings due to increased harmony to enabling a higher variety of products. Full modularity is, however, not always achievable. Modularity, modular product architectures, and modular product platforms have recently gained popularity in product development. Modular architectures, consisting of loosely coupled chunks (modules), have many benefits from cost savings due to harmony to independent design of modules. However, a fully modular design may not always be achievable when designing complex systems and products. It is suggested that modularity is not simply a binary characteristic, but that products can and do exhibit varying degrees of modularity. A module is commonly defined as an independent chunk that is highly coupled within, but only loosely coupled to the rest of the system. As such, knowing the elements of form of a system and the interconnections between them should be enough to assess modularity. Additionally, modular architecture is sometimes defined as having a one-to-one mapping from functional elements in the function structure to the physical components of the product. This is also supported by the independence axiom in axiomatic design.

The axiom states that functional requirements should be kept uncoupled with the design parameters. According to Hölttä-Otto and Weck (2007), designs that are heavily driven by technical constraints (weight, volume, power) tend to exhibit more integral architectures than those that do not have these constraints. Furthermore, *Strategy Engineers* (http://www.strategyengineers.com) is a management consultancy headquartered in Germany,

which differentiates itself through its unique consulting approach, a passionate attitude to its work, tailored services, and proven expertise and trusted collaboration with their clients.

Strategy Engineers stands for unique consulting capabilities at the interface between strategy and technology. These capabilities are based on the deep strategic experience of the company's management consultants. According to the job descriptions that are floating in the market, strategy engineers are demanded more now than at any time. Their main role is to facilitate and lead in the development of fixed equipment and piping equipment strategies with the Process, Maintenance and Technical departments. They are also in charge of conducting reviews and updates on equipment strategies to ensure equipment reliability. On the top of that, strategy engineers are expected to maintain effective inspection data management and filing systems, including periodic updates. Strategy engineers are required to build effective working relationships and communication channels with business teams in order to eliminate or minimize material and corrosion issues. Strategic engineers use a graded approach for monitoring and reporting with their primary focus on those systems that are most important to safety and reliability. Strategy engineers are also responsible for: identifying and revising procedures within departments where strategy engineering support responsibilities are being reassigned, ensuring adequate staffing is maintained to support non-routine duties, aligning departments on business planning and budgeting roles and responsibilities, implementing changes in roles and responsibilities prior to commencing staff or budget reductions and performing interim and final effectiveness reviews.

2.5.2 Strategy Engineering in Information Technology Literature Review

Systems Engineering (SE) and Project Management (PM) are two tightly intertwined domains as stated in the *Handbook of Systems Engineering and Management* by Sage and Rouse (2009). Standard, formal planning techniques generally share common goals. They allow the definition and tracking of such items as activities, milestones, and deliverables. If the project is large enough, this may require the ability to divide the project into phases. Activities or tasks must be organised into timeframes or schedules for their accomplishment. There must also be a mechanism to support the transition of a project between phases. There are many methods, tools, and technologies available to systems engineers for planning a project's activities. These include familiar techniques such as work breakdown structures (WBSs), as well as more recent methodologies made possible by technological advances such as network-based planning and project management. Some of the methods focus on tracking the progress of projects. These include techniques such as the critical path method (CPM) and the program evaluation and review technique (PERT). There are also techniques to support the definition of roles and selection of personnel to staff projects and to assist in the organisation of teams to complete the work. According to Pasqual and Weck (2011), system engineering is a model integrating three coupled layers, or domains, of product/service development that contribute to change propagation: namely, the *product* layer, the *change* layer, and the *social* layer.

A pervasive problem for engineering change management is the phenomenon of change propagation by which a change to one part or element of a design requires additional changes throughout the product. Engineering changes are inevitable during product development. Through the process of engineering change management, an organisation must balance the costs,

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benefits, and risks of implementing design changes in light of their implications for schedule, budget, and product quality. Among the reasons why engineering changes can be so abundant and costly is the occurrence of change propagation. As per Pasqual and Weck (2011), change propagation can be defined as the process by which a change to one part or element of an existing system or product configuration or design results in one or more additional changes to the system, when those changes would not have otherwise been required.

The Engineer-CPI (Change Propagation Index) quantifies an engineer's performance with respect to the propagation effects of their implementation of changes. The Engineer-CPI is a number between -1 and +1. Pasqual and Weck (2011) suggested that the Engineer-CPI is partially dependent on an engineer's organisational role and the context of their assignments. A more conscious assignment of roles and identification of engineers may help identify those who might benefit from additional training.

2.5.3 Strategy Engineering in Manufacturing Literature Review

Engineering is not just about designing systems and products so they work when they are first taken "out of the box" and turned on. Systems that take only a few months or years to design and implement often operate for many decades; some may operate for centuries. It is therefore important to consider the whole lifecycle, even if it is very uncertain. According to "Strategy Engineers" (a German management consultancy), strategy engineering is about stability control, sensor concepts, data analysis, system engineering and cyber security. Strategy engineering controls the total system life-cycle process which involves and which results in the definition,

development, and deployment of organisational systems that are of high quality, trustworthy, and cost-effective in meeting organisational needs.

The purpose of strategy engineering is to assist organisations that desire to develop policies for management, direction, control, and regulation activities relative to forecasting, planning, development, production, and operation of total systems to maintain overall quality, integrity, and integration as related to performance, trustworthiness, reliability, availability, and maintainability.

Furthermore, strategy engineering is about introducing practical, safe, environmental, economic and fit for purpose solutions. Strategy engineering addresses quality and sustainability issues in a comprehensive manner throughout all phases of the lifecycle, particularly in terms of reliability, availability, and maintainability. In 2008-2009, the *Tata Power Company Limited* introduced a new Strategic Engineering Division (Tata Power SED) to lead private-sector players in the original Design, Development, Production, Integration, Supply and Life-cycle Support of mission-critical Defence Systems of Strategic importance. Tata Power Strategic Engineering Division (SED) is a unit of Tata Power, a diversified enterprise related to the Tata Group. Tata Power SED has the exclusive distinction of participating in Defence Programmes through a committed R&D Centre at Mumbai (India) and a Production facility along with an R&D Facility at Bengaluru. As a leading national player in Strategic Engineering, the Division is now internationally recognised for harnessing its "Systems and Engineering" capabilities and has been evaluated at Maturity Level 5 of CMMI for Development v1.3. In acknowledgement of its innovative capabilities in Design, Development, Manufacturing and System Integration, Tata

Power SED was chosen by the Ministry of Defense (MoD) as a Major Work Centre for the Samyukta Electronic Warfare Program under the aegis of the Defence Research and Development Organisation (DRDO). Tata Power SED has also received national recognition from industry bodies such as the (FICCI), the (CII) and the Ministry of Science and Technology.

2.5.4 Strategy Engineering in Contracting Literature Review

According to an engineering consulting firm, "Strategic Engineering" in Australia (https://strategicengineering.com.au/), strategy engineering in the contracting sector is about finishing on time, within budget, and with high-quality deliverables' standard. Strategy engineering in the contracting sector also involves project management. Strategic Engineering company is a leader in Process Automation consultancy in Australia, providing the industry with intelligent solutions that make the most of technology. *Strategic Engineering Automation and Robotics* is one of Australia's most competitive system integrators in terms of performance, reliability, and system support. Strategy engineering in contracting includes coordinating all sides of the project, over the life of the project. That is to promote transparency throughout the project and to ensure best and most cost-effective solutions, first time every time.

Strategic Engineering prefabricates and performs in-house testing on all equipment prior to commissioning to ensure that the system is in perfect working order to minimize disruption to the operations. Strategy engineering provides all relevant documentation needed to assist with system commissioning. These documents include but are not limited to mechanical drawings, plant layouts and electrical wiring diagrams. A breakdown at any point in the assembly line can prove costly and be detrimental to production. Given the level of investment and critical nature of

systems, strategy engineering recommends and performs the correct maintenance procedure to suit the systems. Strategy engineering performs preventative and reactive maintenance to systems to ensure longevity of the system and minimize the risk of loss of production due to equipment failure. It also undertakes detailed assessment of all processes and operations, and provides critical feedback to ensure top management is getting the most out of their investment.

Strategy engineering indulges in designs specifically for trenchless pipeline construction; *Everbrave* (a branding agency) was constructed on the environmental benefits of the trenchless services provided by specific service providers to create a brand strategy that would resonate with corporate decision-makers.

Strategic engineering is positioned as an environmental design agency. It also assumes that great brands come from great people. This is why building a winning culture blends the best of both business and creative philosophies. Strategy engineering acts on the basis that organisations cannot just create things unless they firmly reconcile purpose first. Engineering assets have acquired very strategic and sensitive business and social roles in modern socio-economical/political/technological settings. Traditionally, asset management (AM) implies financial assets.

Emerging Asset Management (EMA) focuses solely on physical assets, (production/process/manufacturing facilities/plants, infrastructure, support systems), being dedicated to the development/application of engineering/managerial solutions to make physical assets safe, productive, efficient, cost-effective and environmentally-friendly. International Journal of Strategic Engineering Asset Management (IJSEAM) promotes multidisciplinary

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thinking/practice, integrating key issues, such as economics, engineering, management, regulations, technology, services, data, humans and organisations, among others, to create value for stakeholders realizing competitive advantage.

According to El-Akruti, Dwight and Zhang (2013), the current concept of an asset management (AM) system focuses on the lifecycle of engineered assets and little has been done in the literature on its link to organisational strategy. AM is comprised of a set of planning and control activities maintaining a control mechanism and a relationship with the strategy-making process. It is argued that the AM system structure and the mechanism play key roles in the organisational strategy. The existence of the AM system is hypothesized by a framework which stipulates the asset performance required for strategic success. The use of this framework allows for conclusions to be drawn on the requirements for building an effective connection between AM activities and strategy development.

This connection is achieved through planning and control mechanisms acting on the asset-related activities. On one hand, the effect of inadequate or missing elements of the framework has been shown to result in negative impacts on cost, productivity, quality, business outcomes and, ultimately, strategy achievement. On the other hand, the existence of elements of this framework has been shown to have positive impacts on strategy achievement. Asset engineering overlaps with the AM framework, but it also exceeds the AM framework. The asset engineering objective is not only to support the organisational strategic decision, but also to optimize cost, improve productivity, and enhance the quality. Asset engineering accelerates the strategy achievement as well as increasing the ability and possibility to achieve the strategy.

2.5.5 Strategy Engineering in Academia Literature Review

According to Zachman (1987), strategic engineering is the process of creating, designing and managing complex systems and products in a way that deliberately accounts for future uncertainty and context in order to maximize their lifecycle value. Strategy engineering makes sure that the system reliability and performance remain robust over a range of future operating conditions. It also ensures that easy to upgrade the system, or change or add new functions and different features, infusing new technologies. Strategy engineering tackles system possibility to develop new versions or variants from a manufactured product for new markets. It also makes sure the new product version is profitable and not expensive. Strategy engineering focuses on lessening the complexities of the system architecture to a degree that positively impacts the system lifecycle and flexibility to evolve. Nevertheless, it also ensures high system retirement particularly when it becomes too complex.

MIT Strategic Engineering is one of the advanced development institutes that espouses a firm commitment to the disciplines of strategy and engineering. Strategy engineering is defined by MIT Strategic Engineering (http://strategic.mit.edu/) as an integrated approach to difficult questions answered in quantitative ways. Strategy engineering develops new integrated methods based on principles of systems architecture and systems engineering, design theory, complexity science, management of technology, project management, as well as strategy and economics. Common strategy engineering concerns include: system reliable and performance over a variety of future operating circumstances, useful lifetime, ease to improve or change the system by adding new features, different options, infusing new technologies, or scaling it up in size, man-made systems vis-à-vis roads and rail lines, airline networks, electrical power grids, evolution over time

and predictability patterns to evolution, possibility to create new types or variants from a manufactured product for new markets, cost and profitability, the architecture of a system, its complexity and degree of modularity, decentralization impact, its lifecycle properties such as flexibility to advance, system obsolete determination, system complication, system time to retire and replacement with a new system, optimally introduction of a new system while remaining to operate the old one, the future of technological human civilization on Earth, discovering space in a continued way, real requirements for long-term space exploration campaigns, and ultimately building and running planetary colonies.

Lee, Bagheri and Kao (2014) systems architecture is a discipline of study and practice that converts stakeholder needs and objectives into a concept that specifies the main functions, structure and performance of the system. Systems architecture addresses topics related to stakeholder needs evaluation, requirements preparation and goal definition, functional decomposition, form-function mapping, modularity quantification and complexity management. The key approaches that support systems architecture are network and graph theory, abstract algebra as well as object-process methodology (OPM). Furthermore, Rechtin and Maier (2000) stated that systems engineering complements systems architecture approaches. Systems engineering research focuses on methods and tools for balancing challenging performance requirements with lifecycle cost, infusing new technologies, managing safety restrictions and ensuring system integrity over a large range of operating circumstances.

Systems engineering is a discipline of research and practice that focuses on transitioning early system concepts and architectures evolving from the systems architecting process to

implementable systems, products and services. Systems architecture uses abstractions and conceptual design methods to decrease vagueness, enhance creativity, and manage complexity during early system and product development. Later, Baldwin & Woodard (2009) claimed that systems architecting establishes the high-level concept for a new system while systems engineering then translates this concept to a detailed design that can be implemented and tested and ultimately operated. Scholars are interested in architectural patterns of systems including their complexity, modularity and evolution over time.

Giffin Weck, Bounova, Keller, Eckert and Clarkson (2009) studied the Management of Engineering Change and Change Propagation Analysis. They concluded that seldom is the initial choice of architecture and preliminary design complete and correct. Many cycles of redesign and engineering changes are often required. The researcher's goal is to quantitatively define and substantially improve these processes to manage complex technology projects effectively. Increasingly these questions also apply to critical infrastructure systems and the design of cities.

According to Gacek, Abd-Allah, Clark & Boehm (1995), system architecture is stakeholder analysis, requirements formulation and goal definition, functional decomposition, form-function mapping, modularity quantification and complexity management. Network and graph theory, abstract algebra as well as object-process methodology (OPM) are key methods that support systems architecture. Systems *architecting* establishes the high-level concept for a new system while systems *engineering* then translates this concept into a detailed design that can be implemented and tested and ultimately operated. Many cycles of redesign and engineering changes are often required to get it right. Systems engineering research focuses on methods and

tools for balancing competing performance requirements with lifecycle cost, infusing new technologies, managing safety margins and ensuring system integrity over a sizeable range of operating conditions. Strategy engineering includes methodologies for obtaining sets of designs that meet a vector of desired performance targets, while minimizing secondary costs and risk objectives. It also includes a functional classification of complex systems for designing evolvable systems in an uncertain.

The MSc programme in Strategic Engineering Management run by Anglia Ruskin University includes operations management, developing consultancy skills, project management techniques, quality management, sustainability, supply chain and risk management. Moreover, *The International Journal of Strategic Engineering* (IJoSE) was launched in 2018, to be published semi-annually to address the market gap in publishing strategy engineering-oriented academic articles. It is an international scholarly peer-reviewed journal that targets to provide a platform for scholars, academics, practitioners and emerging researchers to share their invaluable knowledge and expertise on a continuous development basis within the field of strategic engineering. Endurance, resilience, reliability and sustainability of applied systems are all of great significance to many businesses and industries. Complexity, however, is considered one of the main barriers. Modelling and optimization are often seen as a good starting point to tackle the complications in understanding of such systems. Moreover, many end-users and occasionally other stakeholders become instantaneously supportive of the new disruptive technological innovations prior to undertaking comprehensive assessments. This initial interest in utilization and lack of thorough evaluations of negative constructs, risks and post-implementation concerns can have a negative impact on the same stakeholders.

Strategic Engineering as a field attempts to explore, analyse and discuss various frameworks and approaches to the pre-implementation, implementation and post-implementation of engineering systems from an all-inclusive strategic perspective. Moreover, the book titled, *Strategic Engineering for Cloud Computing and Big Data Analytics*, edited by Hosseinian-Far, Ramachandran and Sarwar published in 2017 demonstrates an extensive range of strategic engineering concepts, theories and applied case studies to improve the safety, security and sustainability of complex and large-scale engineering and computer systems. It details the concepts of system design, lifecycle, impact assessment and security to show how these ideas can be applied to the modelling, analysis and design of information systems with a focused view on cloud-computing systems and big data analytics.

This book is construed as a resource for graduate students, researchers and industry-based practitioners working in engineering, information and business systems as well as strategy. Moreover, in the National University of Singapore, the Strategic Engineering Laboratory (SEL) concentrates on enabling flexibility in the design and management of complex systems within uncertainty (www.ise.nus.edu.sg). Their aim is to develop the theoretical framework, assess systematic procedures, and offer better support for design and management of such systems with the aim of refining lifecycle performance. They work for better dissemination in engineering design practice and education, particularly in infrastructure systems.

The design and management of complex system infrastructures (e.g., for healthcare, water management, and transportation energy) is a challenging mission. Such systems offer vital services for modern cities. They require cautious consideration of uncertainty and risks at

operational, tactical, and strategic levels. Contemporary approaches to engineering design and management typically focus on design to requirements, which freezes a design in its early stages. System designs are optimized for a regulated set of parameters and future conditions. This approach typically makes urban infrastructure very inflexible.

Nevertheless, according to Cardin (2014), flexibility (also called real options) in engineering design and management enables better adaptability in the face of uncertainty. It seeks to identify strategies protecting from downside conditions and risks, and positioning the system to gain on upside opportunities. Designing for flexibility is a tough process, and is uncommon in engineering/management practice and education. This research group is dedicated to developing new theories and processes to better support the design and management of infrastructure systems under uncertainty, by exploiting concepts of flexibility in engineering design as a way to advance their lifecycle performance. Novel theories and procedures are evaluated in depth through trials and applications in a real-world setting to make this emerging paradigm more accessible to industry and academic institutions.

2.6 Summary of Chapter

Three main research questions are considered related to strategy resources and OD. Strategy Engineering is commonly used in practice although it is not sufficiently represented in the literature. In the context of this research, strategy engineering is defined as a way of conceiving strategy alignment, project rigour and organisational ambitions that all contribute to the long-term sustainability of organisations.

This research contributes to the field of strategy and strategic management by introducing a new conceptual model that takes into consideration the dependencies of strategy resources and OD on strategy success. It is envisaged that this new conceptual model will assist business and engineering colleges, professional institutes and associations, policy makers and strategists by encouraging them to explore new analytical techniques and implementation practices. It is recommended that future strategy scholarship investigates more deeply into the relationships between strategy resources and OD by following principles of strategy engineering. It is anticipated that more exploration and testing of the proposed conceptual model will lead to further developments in theory and practice.

As a result of the literature review, and based on the gap analysis and research questions, the researcher proposes a conceptual framework that takes into consideration two main factors: (i) Strategy resources and (ii) OD.

This conceptual framework was diagnosed, tested and validated according to a clearly documented research methodology as stipulated in Chapter Two. Strategy Engineering Conceptual Framework starts with a sub-component called "Gap Based Diagnostics" that is a prerequisite for another sub-component called "priority Based Planning". Both components are part of the first main factor named "Strategy Resources". Strategy Resources factor includes the second factor of the Strategy Engineering Conceptual Framework that is called "Organisation Development". OD as per the context of this research consists of five interrelated sub-components that are "Strategic Plan", "Organisation Structure", "Governance", "Project Management" and "Performance Management".

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This section clarifies the proposed relationships studied in this exploratory research. To transform the world into a more strategy-focused entity.

The strategy engineering concept is not similar to the mobile cell phone story back to the year 1980. At that time, the mobile model was there but the implementation was not there. Meanwhile in regards to strategy engineering today, the strategy engineering blocks are there but the strategy engineering model is not. The theory always lies in the model and concept, not in the practice. Strategic engineering will have to focus on the health of key systems while transitioning to a more strategic organisation. Strategy engineering core functions will focus on architecting the strategy, performance monitoring and trending, system health reporting, lifecycle management and long-range planning and review of industry standards/guidelines and operating experience. In most cases, practitioners identify new paradigms before academia and scholars do; this is because their position of being hands-on definitely gives them an advantage to discover new concepts or schools of thoughts. Video disks, graphic cards, digital, CD players and programming languages were all hindering the mobile phone evolution; although the model existed way in advance.

When the interface became ready to link the hardware to the software, the product was launched. Although reducing audio space was not that easy, and stabilizing the video disk frames was a daunting task, the mobile technology was still advancing and evolving. Therefore, since in practice, strategy engineering exists in a rather disjointed manner, the researcher proposes that it could be a new paradigm. This paradigm would position strategy engineering as a future research topic, and also locate strategy engineering in a better structured manner in the literature. Strategy engineering is a conceptual framework that helps in designing and implementing strategies for an

uncertain future. It is anticipated that strategy engineering will evolve in greater depth, with more useful information and a very dynamic model moving from gap-based diagnostics, to priority-based planning, to OD, leading to robust governance.

As mentioned above, the market had started to demand strategy engineering experts Therefore, job descriptions for strategy engineers had been drafted and launched in the recruitment market. That is further evidence that strategy engineers exist and they are required. This research highlights the basic features of strategy engineering which are seen in the conceptual design introduced in Chapter 3.

This cluster defines engineering, and gives an insight about the history of engineering. It also talks about the challenges and evolutions in engineering education. The researcher included a review of literature about insertions to engineering disciplines and new uses of engineering terms like civil, software, process and financial engineering, and engineering *re*engineering.

Petroski (1992) stated that engineering is an occupation focused on the future looking back mostly to calibrate progress. Engineers draft plans for the new generation of artefacts, seeking to achieve better than what has been done before or to achieve whatever was not done before. Engineers are considering faster, larger, more powerful structures and systems and are inventing lighter, smaller and more economical machineries and devices. Downey, Lucena, Moskal, Parkhurst, Bigley, Hays and Nichols-Belo (2006) claimed that over the last two centuries, what it has meant to be an engineer, where engineers have inclined to work, and what forms of knowledge engineers have come to value has varied meaningfully from country to country. However, today, organisations advocating for engineering education are now moving beyond countries to both regions and the

world, encouraged by the increased flexibility of engineers. Seely (1999) found that various engineering colleges in the 1990s were actively revising the style and ingredient of engineering curricula to provide increased attention to design. The intent was to amend what many reformers saw as an imbalance caused by too much stress on the logical approaches of engineering science. Seely believed that reforms are responding to changes made in American engineering colleges in the years directly post World War II.

According to Aspray, Keil-Slawik and Parnas (1996), a group of historians met in August 1996 with about another group of computer scientists to discuss the history of software engineering. The term "software engineering" was deliberately selected to be challenged at the 1968 NATO Conference on Software Engineering. This idea was intended to imply that software production should be based on the kinds of theoretical foundations and practical disciplines that are established in the traditional branches of engineering. Software practitioners used to call it the "History of Programming Languages" or "The history of electronic calculating devices". The key question was: "What should be done to turn software engineering into a sound engineering discipline?" In this effort, historians were regarded to be universal problem-solvers who were called in whenever a general answer to some fundamental question was necessary.

Brophy, Klein, Portsmore, Rogers (2008) argued that engineering as an occupation faces the challenge of making the use of technology universal and transparent in society while at the same time raising students' interest and understanding of how technology works in accordance with science, math and engineering. They raised some questions in their research like what will or should engineering education be like today, or in the near future, to prepare the next generation

for effective engagement in the engineering profession in 2020? and how would we adjust disciplinary profundity with the interdisciplinary difficulties of true issues? They argued that engineering education could support the acquisition of a wide range of knowledge and skills related to comprehending and using STEM knowledge (science, technology, engineering and mathematics) to accomplish real-world problem-solving throughout design, troubleshooting, and analysis.

According to the National Academy of Engineering (2005), the Engineer of 2020 Project focuses on a push to imagine the future two decades from now; that is, to utilize this information to anticipate the roles designers will play later on, and to position building instruction in the United States for what lies ahead, as opposed to being slow to react. It takes as fact that the country's societal objectives will not be met if a strong group is overlooked. It solicits what is required in terms of rebuilding from program, reallocation of assets, refocusing of workforce, and expert time and vitality so that the instructive framework can prepare engineers to handle the difficulties that present.

Horikawa (2009) stated that civil engineering is the oldest of the engineering domains, and its main task is to execute civil works in order to make the properties of matter and the sources of energy in nature valuable to humans. The progression of civil engineering has been narrowly related to that of civilization. In the eighteenth century, the expression "structural designing" was utilized first to recognise the recently perceived calling to build the military infrastructure. It is notable that John Smeaton, who was the creator of the Eddystone Beacon in Plymouth, England, called himself a structural specialist to separate himself from the "military designer". In Egypt,

the Great Pyramid at Giza was built in about 2600 BC with 2.3 million stone blocks that weigh more than 1.5 tons each. The Great Wall in China is another legacy site constructed in about 214 BC.

The start of civil engineering as a separate discipline can be tracked back to the foundation of the Bridge and Highway Corps in France in 1716. The National School of Bridges and Highways grew in 1747. The term "civil engineer" did not come into use until about 1750, when John Smeaton started calling himself a civil engineer to differentiate himself from the military engineers of his times. Borrego (2007) called for higher quality and increased accuracy in engineering research, suggesting an absence of quality, which has become an implied criticism of past engineering education. Engineering education has increasing opportunities for tenured faculty positions. Borrego believed that Lodahl and Gordon (1972) were the first to suggest that the differences between physical sciences and social sciences were largely a matter of varying degrees of consensus, or paradigm development.

According to Finnerty (1988), financial innovations in the 1970s and 1980s quickly brought about radical changes in financial tools and processes. The financial press is playing a massive role in these changes. Besides many other factors, the increased interest rate volatility and the frequency of tax and regulatory changes have inspired the financial innovation process. The deregulation of the financial services and increased competition within investment banking have undoubtedly placed increased emphasis on being able to design new products, develop better processes, and implement more effective solutions to increasingly complex financial problems. Financial engineering is the lifeblood of this activity. Financial engineering involves the design,

development and implementation of innovative financial processes and tools, and the formulation of creative solutions to financial problems. Financial engineering consists of three main branches. The first branch is related to the development of innovative financial instruments like new types of bank accounts, or new types of insurance products, or new forms of mortgage. The second branch is related to financial processes that reduce the cost-effective financial transactions resulting from legislative or regulatory changes. The third branch is about creative solutions for corporate financial problems.

Bahill and Gissing (1998) defined systems engineering as the grand theory for making things work and look better. Systems engineering is in the field of the technical community. However, nontechnical practitioners are currently using systems thinking as a self-control mechanism for seeing the overall picture. Systems engineers are using interdisciplinary teams to identify the problem, identify the system's functions and requirements, define performance and cost figures, examine alternative designs, and then test the system.

Hammer and Champy (1993) believed that reengineering is the essential rethinking and fundamental redesign of business processes to achieve exponential improvements in critical, contemporary measures of performance, like quality, cost, speed and service. Later on, Hollnagel (2013) defined resilience engineering as a method that addresses the challenges of a system in the context of safety and stability. Resilience engineering addresses the fundamental risks that have to go beyond failure models. Resilience engineering monitors the decision-making in the organisation to address the risks that the organisation is facing on the safety boundaries.

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Aspray et al. (1996) admitted that they were too optimistic when they took the first initiative for software engineering mission. They underestimated the personal and disciplinary identity problems and they were expecting that more literature had already been published in the field. Consequently, there seminar reports did not provide the reader with a clear and brief account of what constitutes the history of software engineering. More than before, they come to a conviction that studying the history of software engineering is a necessary and rewarding activity.

Tryggvason and Apelian (2006) stated that the rapid changes taking place in the world since the 1990s, coupled with changes in engineering education, have resulted in an extensive reengineering of engineering education. The authors postulated that engineers have always learned as they tackle new challenges.

Therefore, we cannot predict what the engineering profession will look like after 100 years. However, the major debates that are currently taking place among the profession leaders and educators suggest that innovation should be a central theme. The evidence is that skill is a commodity and that routine engineering services will be offered from low-cost providers that can and will be positioned anywhere in the world. The engineering education has to add value beyond just teaching skills. Moreover, Dym, Eris, Frey and Leifer (2005) argued that the purpose of engineering education is to graduate engineers who are able to design, plan and implement complex projects. Design is extensively considered the crucial activity of engineering. The engineers are all about scoping projects rightly, generating, evaluating and realizing ideas. From another side, in relation to strategy engineering resources, whatever maturity level an organisation has reached, it is arguable that it has achieved its full potential. In order to know what its full

potential is, the gap between the 'as-is' situation and the 'to-be' future state performance should be identified.

There are various methods to depict the gap which, if bridged, would allow organisations to achieve the desired target. Here we are tackling the "Gap Based Diagnostics" as a key pillar of "Strategy Engineering Resources". With that been said, the key component of strategy engineering resources is prioritization or "Priority Based Planning". Different schools use different terms; Aim, objective, goal, priority; all are very similar, with slight difference.

This research will focus on objectives and priorities, whereas priority is a prioritized objective. After diagnosing an organisation, the gaps and the full potential should be converted to objectives and priorities. Then KPIs (key performance indicators) and KPTs (key performance targets) have to be defined and aligned to the formulated priorities. To ensure that the priorities would be achieved, initiatives shall be identified based on the priority. The initiatives would have again progress indicators and outcome indicators measure their heath.

Requirement's engineering is all about identifying, modelling, communicating and documenting system requirements. Requirement's analysis checks requirements for necessity, consistency, completeness and feasibility. With a tight schedule, with limited resources, and with high stakeholder expectations it is vital to deliver the most valued product as early as possible. Setting priorities early in any project helps to determine which features to omit under time pressure. The shareholders should do requirements prioritization. However, stakeholders have to provide input to requirements prioritization.

2.7 Conceptual Framework

The conceptual framework components were deduced from the focus groups conducted and been detailed after conducting the literature review exercise.

During the focus groups, researcher had raised several research questions (see appendix I). Answering the questions by the focus groups, that lead to other questions and to focus groups opinions. Eventually, the focus groups had massively contributed to the development of the conceptual framework building blocks.

As a result of the literature review and based on the gap identified, the researcher suggested a conceptual framework that takes into consideration two main factors: (i) strategy resources and (ii) OD. This conceptual framework is diagnosed, tested and validated according to a clearly documented research methodology as stipulated in Chapter Three. The researcher concluded that, in the context of this study; strategy engineering is defined as a way of conceiving strategy alignment, project rigour and organisational ambitions thereby considering long-term sustainable organisations.

Strategy Engineering Conceptual Framework starts with a sub-component called "Gap Based Diagnostics" that is a prerequisite for another sub-component called "priority Based Planning". Both components are part of the first main factor named "Strategy Resources". Strategy Resources factor includes the second factor of the Strategy Engineering Conceptual Framework that is called "Organisation Development". OD as per the context of this research consists of five interrelated sub-components that are "Strategic Plan", "Organisation Structure", "Governance", "Project Management" and "Performance Management". These five sub-components are

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mentioned by order; in so far as Strategic Plan sub-component comes first, then Organisation Structure, and so on. Strategy Engineering Conceptual Framework would lay the grounds for an organisation to be successful, thereby defining and putting in place all organisational components as per the prerequisites. Strategy Engineering Conceptual Framework unifies the order of practices and prepares strategy engineers that are capable of doing the strategy work. The model presented below visualizes the Strategy Engineering Conceptual Framework:

Figure 3: Strategy Engineering Conceptual Framework
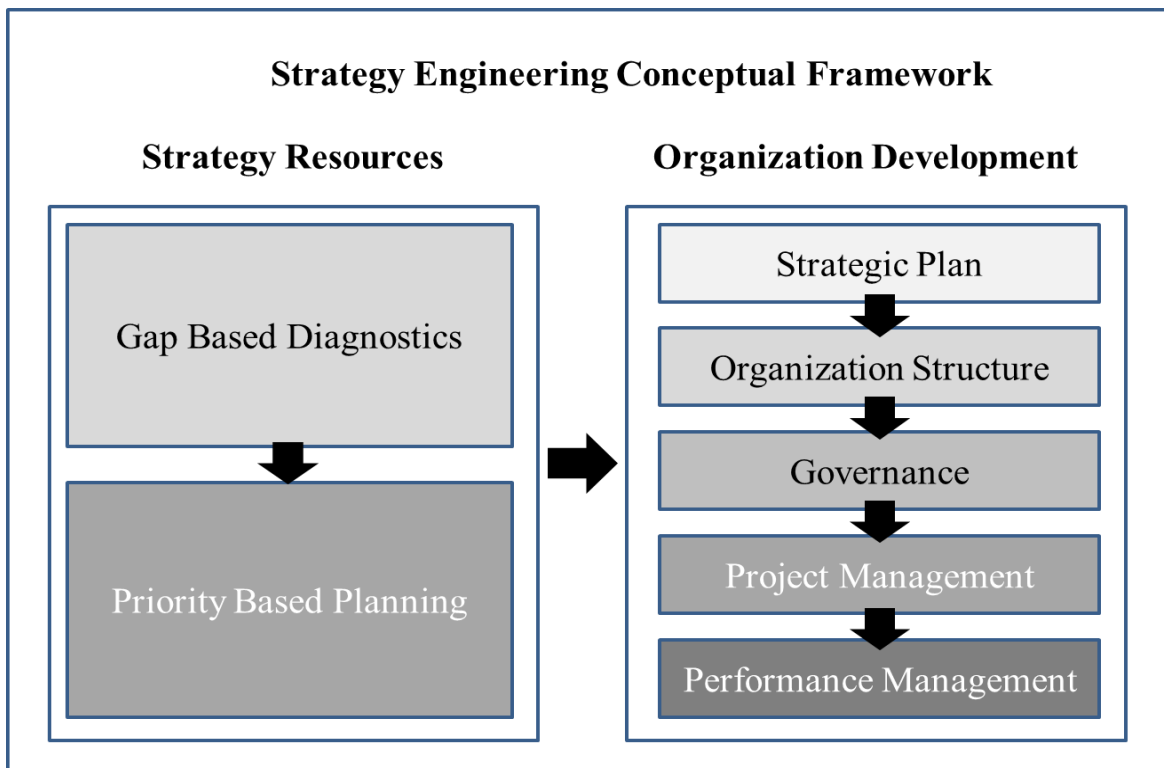
a) Gap-based diagnostics: is the ignition or trigger of the strategy engineering conceptual framework. It includes the diagnostics and assessment of the current state that allows organisations to identify the gaps based on best fit practices.

b) Priority-based planning: comes immediately after the gap-based diagnostics. In includes identifying what is feasible, viable, prerequisite and dependencies to strategy success.

c) Strategic plan: Includes the vision, mission, values, objectives, projects/initiatives, products/services and KPIs with phasing. It is built based on available resources, best fit scenarios, portfolio planning, risk calculation and mitigation, competitiveness, integration and inclusiveness.

d) Organisation structure: Should be fit and aligned to the strategy, location wise, growth wise, product/service wise. Organisation structure includes functional and positional roles. It also includes the full-time employee analysis (FTE), grading structure, job description and job evaluation. It clarifies the relationship between departments as well as it clarifies the relationship between employees.

e) Governance: Is the constitution of the organisation; the way the organisation distributes power, roles and responsibilities. The method of protecting shareholders and stakeholders. Includes authority matrix, committees' charters, policies, procedures, forms and information aligned to organisation structure.

f) Project management: Is about filling the performance gaps by identifying projects, qualifying them, building a business case, a feasibility study, defining the outcome indicators, kicking off the project, monitoring the implementation of the project from quality and time perspective and reporting progress, issues, risks and benefit.

g) Performance management: Is the measurement of success or failure. Provides an early alarm when anything goes wrong and quantifies the achievement of target set. Performance could be on process, individual, department and organisation level.

CHAPTER THREE: RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction to Research Methodology

This research is qualitative and focuses on leadership at executive and senior levels of management. Alongside conducting ten interviews, the researcher conducted three focus groups and ten observation sessions to ensure validity and reliability.

Consistent with various qualitative studies, in order to achieve substantive, credible and convincing findings, the main research approach was inductive. It starts by grabbing observations, then discovering patterns. From this situation, new propositions and research questions are constructed, leading to development of a new theory. This research therefore has to have a strong element of subjectivity; therefore, it can be categorised as subjective in its orientation to the empirical domain.

In order to achieve the qualitative research objectives, the researcher followed an interpretivist epistemology. It starts by capturing observations, then discovering patterns. If commonalities were obtained from each data source and type, a pattern was mapped which, it was hoped, could lead to a new theoretical contribution. A code connotes the researcher's understanding of the carefully examined content. Coding is an endeavour to make a connection between sections of the empirical content, hypothetical argument, and research questions. Therefore, codes are identified and developed to a more theoretical level than the words that appeared in the transcripts.

According to Gioia, Corley, and Hamilton (2012), the first step is by perform initial data coding, maintaining the integrity of 1st-order terms (informant-centric). Then developing a comprehensive

compendium of 1st-order terms and organise 1st-order codes into 2nd-order (theory-centric) themes. Then distil 2nd-order themes into overarching theoretical dimensions (if appropriate). Then assembling terms, themes, and dimensions into a ''data structure''.

Flick (2009) claimed that rapid social change and the diversification of life are progressively challenging social researchers with different social perspectives and contexts. Flick added that research is progressively required to make use of inductive strategies, and further claimed that psychological research has almost exclusively used experimental design to date. Chenail (2011) suggested that system rigour and bias management are the two main challenges for qualitative researchers considering interviews as a data-generation method. Interviewing, field observations and documented analysis are the main data collection methods used in qualitative research studies (Kvale & Brinkmann, 2009; Seidman, 2006).

Yet, the interview method has its limitations. Chenail (2011) stated that qualitative researchers might be blind to their biases; also, they may be unable to expect problems with the study's arrangement, and may have unexpected difficulties in employing the questions effectively. Webb (2015) stated that the interview is an irreplaceable part of any qualitative research project; however, researchers have to remain attentive to the possible pitfalls and challenges. The researchers have to engage the participants and ensure that they are active rather than passive contributors. Webb recognised the subjectivity of a research project. Therefore, choosing the right research interviews for data collection would help to gain a rich understanding of the meanings that participants generated from their personal experience and how they created these understandings.

Based on the literature review, the research gap and research questions have been identified. Based on the nature of the topic, and based on other factors (discussed later under this section), this research is more exploratory in nature then testing theory, and more about "why" and "what" and "how" than "how many" said this (relationships testing and correlations). Therefore, the qualitative research method is used since this methodology has a higher horizon in terms of explorations and findings. Furthermore, due to the nature of the topic, the participants would be less likely to be transparent and/or comfortable if he used the quantitative approach. People may not agree to participate, taking into consideration that Middle Eastern people (the area of focus) are not very flexible in providing data about their strategies and strategies success since it might incur financial data leakage. In the Middle East, only publicly listed organisations are obliged to present their financials, and this research does not tackle this category. In the United Kingdom, company house offers transparency to researchers; transparent available public information. However, there is no similar body in the Middle East that offers this service.

3.2 Research Approach

Researchers studying social phenomena have developed a diverse set of theories, methodologies and methods. A large number of qualitative methods concentrate on subjective perspectives and a wide array of different approaches and techniques are available that facilitate exploration and support reasoned analysis and elucidation of social life as experienced by individuals (Holbrook and O'Shaughnessy 1988, Miles and Huberman 1994, Fournier and Yao 1997). According to Given (2008), regardless of what point or field of study, subjective research has one-of-a-kind qualities and capacities to 'recognise, dissect, and comprehend designed conduct, and social

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procedures', making it a fitting decision for this exploratory research. Furthermore, Khan (2014) argued that when a research does not test a current hypothesis, although an endeavour is made to structure and conceptualize new hypothetical systems, the exploratory component of this research embraces a subjective methodology utilizing the components of the constructivist grounded hypothesis technique. The strategies for hypothetical inspecting, coding and consistent examination are employed. Information on social affairs is derived from meetings, contextual, and optional information examination.

According to Pathirage, Amaratunga and Haigh (2008), epistemology describes 'how' the researcher knows about the reality and assumptions about how knowledge should be acquired and accepted. The ontology explains 'what' knowledge is and assumptions about reality. Axiology reveals the assumptions about the value system. These epistemological undertakings, ontological assumptions and axiological purposes about the nature of the world complement the formulation of research philosophy, thereby influencing the selection of appropriate research approach and methods. Epistemology concerns what comprises tasteful or appropriate learning in a field of study, although cosmology concerns matter of being, which means the idea of the real world.

Moreover, Collis and Hussey (2014) characterized epistemology as concerned about the investigation of learning and what we acknowledge as being substantial information. In a similar setting, Bryman (2008) contended that epistemological issue concerns the subject of what is (or ought to be) viewed as worthy information in an order. All scientists need to make epistemological inferences about what they know and the manner in which the world works. The resulting point

of view is an interpretive cosmology which depends on open segment pioneers' encounters of authority and their insights into and comprehension of their abilities and utilization of theoretical aptitudes in driving change. This exploratory research is educated by a structure of reasonable abilities that are established inside four regions of administration capability. In this way, a potential research impediment is that such earlier learned and scholarly contextualization of initiative may interfere with precise detailing and investigation of the observational information. Further, the investigation is being led in a set period of time and in a setting where scholars are being urged to alter their authority style and ideal models of deduction towards change activities that advance governments' aggressive techniques.

In utilizing a subjective methodology, and adopting a hypothetical point of view to look at how open scholars are involved in, comprehend and perceive reasonable abilities in driving change, this exploration employs the subjective phenomenographic approach that is regularly used to comprehend the observations and encounters of a phenomenon (Sandberg, 2000). Furthermore, Creswell (2017) distinguished phenomenological exploration as a way to deal with theory research wherein the specialist depicts the lived encounters of individuals about a phenomenon as they report them. Valle, King and Halling (1989) portrayed phenomenology as the thorough and unprejudiced investigation of things as they show up with the goal that one may go to a basic comprehension of human cognizance and experience.

Ontology identifies with our convictions about the real world, and what we think comprises truth in our lived world. It examines suppositions about presence and meanings of the real world (Hatch and Cunliffe 2013). That is, cosmology is our endeavour at understanding what we want to know,

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and what makes up that knowing. Cosmology can be characterized as our convictions about the world, what makes the world, and how these angles interrelate. Philosophy solicits: what is the idea of the real world? What's more, what can be thought about it? (Glense 2011). That is, cosmology is the thing that we think the reality of our lived world is. What is more, in the long run, this understanding of the belief system will manage the manner in which we consider our reality as it emerges.

Epistemology considers how we know, and what is considered information (Hatch and Cunliffe 2013). Epistemology decides the connection between the specialist and research, and how we understand the manner by which we find new things and accumulate learning about them. It manages the idea of learning and the manners by which we know the world and legitimize our convictions about the world (Glesne 2011). In straightforward terms, epistemology represents the investigation of information. Epistemology derives its scholarly establishments from philosophy. Ontological convictions structure the casing of reference for our methods for social affair and studies learning. Our epistemological presumptions characterize the sort of information that will be utilized to address what our ontological suspicions characterize as genuine (Hatch and Cunliffe 2013).

Axiology alludes to what establishes the estimation of issues; for example, information, opportunity, equity, human life, knowledge, self-satisfaction and prosperity (Given 2008). Axiology, additionally alluded to as worth hypothesis, poses inquiries. What esteems should coordinate our exploration? What worth or result will our exploration bring? Axiology is important to subjective research since it establishes an understanding of how we add to learning

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that is ordinarily connected with research, clarifying what comprises the worth that this option to derive information should bring.

This research assumes that 'strategy' is a science. Therefore, the research follows an objectivist ontology philosophy. According to Hudson and Ozanne (1998), ontology is the nature of *fact*. To achieve the research outcomes, the researcher followed an interpretivist epistemology method. According to Hudson and Ozanne (1988), the researcher and the informants are mutually interactive and interdependent. The interpretivist researcher starts the research with some prior information about the research context; however, he or she assumes that the information they have is not sufficient in developing the research. Therefore, the researcher remains open to new knowledge that emerges during the study and develops this with the support of participants. Therefore, the aim of the interpretivist researcher is to understand in order to be able to interpret the meanings rather than to generalize and predict causes and effects (Hudson and Ozanne 1988; Neuman 2000). Therefore, according to Carson et al. (2001), the interpretivist researcher has to understand the drivers, rationale, meanings and reasons behind the information offered. It is the disclosure of a hypothesis from information acquired during the time spent directing social research (Glaser and Straus 1967). This means that a hypothesis grounded in information is actuated, instead of legitimately deducted, as a hypothesis dependent on the earlier arrangement of existing aphorisms and recently imagined learning frameworks.

To achieve concrete findings, the research is inductive. It starts by capturing observations, then finding patterns. Therefore, the research is empirical.

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In order to diversity of cases and criteria leading to more reliable findings, the research focuses on organisations in Lebanon, the UAE and the KSA where social and cultural factors are taken into consideration. The two main research questions diagnose a problem in organisations related to strategy and OD:

R1: How do strategy resources influence OD in strategic management based on principles and concepts of strategy engineering?

R2: How do the main elements of OD support strategic management and strategy engineering?

3.3 Research Imperatives

Saunders (2003) demonstrates three distinct systems – logical, exploratory or spellbinding – and clarifies that the limits between them are ill defined, shown by the way that the scientist is probably going to need to use more than one methodology for a similar report. Informative research is most suitable when examining a unique situation or issue that includes explaining the connection between components. When undertaking an exploratory examination, the analyst attempts to search for new experiences into phenomena, imagining and theming them in another light. The fundamental goal of any particular study, interestingly, is to convey precise portrayals of individuals, occasions and settings. This current research utilizes an exploratory research approach in the field of strategy engineering, to find out about senior managers' ideas about strategic management and their approaches in relevant contexts.

According to Tracy (2010), qualitative methodologists' range across post-positivist, critical, interpretive, and post-structural research communities. Understanding the goodness of any

research requires more than just reading about best practices. We can best appreciate high-quality methods by embodying the methods ourselves, vicariously studying the dilemmas of others, and seeking advice along the way. Furthermore, although best practices serve as goals to strive for, researchers can and will fall short, deviate, and improvise. For instance, prioritizing relational ethics and protecting a participant's privacy may require limitations on the amount of inquiry about an evocatively resonant story. Focusing on theoretical contributions may require paying less attention to contextual priorities. Revealing a story of injustice may involve risking the disclosure of an abusive participant's identity. Indeed, our human instrument (i.e., the researcher) will show our innate humanness by not being able to achieve everything all of the time. The key is for us to be truthful with ourselves and our readers. Tracy advocated eight criteria of qualitative research quality, each that may be achieved through a variety of craft skills that are flexible depending on the goals of the study, preferences and skills of the researcher. According to Tracy high quality qualitative methodological research is marked by (a) worthy topic, (b) rich rigour, (c) sincerity, (d) credibility, (e) resonance, (f) significant contribution, (g) ethics, and (h) meaningful coherence. This conceptualization is designed to provide a parsimonious group of pedagogical resources in research methods, promote respect from powerful stakeholders who often misunderstand and misevaluate qualitative work, and "develop a platform from which qualitative scholars can join together in unified voice when desired, and encourage dialogue and learning amongst qualitative methodologists from various paradigms" (Tracy, 2010, pp. 839).

Concerning the examination worldview, Saunders et al. (2015) showed that 'worldview' is a word that is normally used within the social sciences, which can help separate the political from the ideological focal points of analysts in regard to the social subjects they inspect. Bryman (2008)

characterized the examination of worldviews as what depicts a set of convictions and directs what to be considered, how research ought to be done and how the outcomes ought to be deciphered. In a similar setting, Burrell and Morgan (2017) understood that the categorization of ideal sociology models subdivides them into radical structuralist, interpretive, functionalist, and radical humanist. Subjective ideal models offer the specialist the chance to build up an idiographic understanding of members, and what interest they have in the subject of study, within their social reality, living with a specific condition or under particular circumstances (Bryman 2008). A phenomenographer, different from the phenomenologist, utilizes an observational direction and investigates the encounters of others (Marton and Booth 1997). Interpretive phenomenology research focuses its attention on the quintessence of the subject of study, while phenomenography centers on the embodiment of the encounters and the resulting variations within the subject.

3.4 Theoretical Framework for the Thesis

Three qualitative methods were applied in this research. These are interviews, focus groups and field observation. These three methods along with the relevant focal research issues are presented below:

Table 3: Theoretical Framework mapped to Codes

Theoretical Framework	Focal Research Issues	Focal Research Issue Codes	Method
Gap-based Diagnostics	Benchmarking	GAPBEN	Interviews
	Studies	GAPSTU	Focus Groups & Observation
	Identification of gaps and analyzing the root cause	GAPIDN	Interviews & Focus Groups

	Generating recommendations	GAPGEN	Interviews & Focus Groups
Priority Based Planning	Corporate need analysis	PBPCNA	Interviews & Focus Groups
	Stakeholders' needs analysis	PBPSNA	Interviews & Focus Groups
	Prioritization	PBPPRI	Interviews & Focus Groups
Strategic Planning	True North	STRTRU	Interviews & Focus Groups
	Target Setting	STRTAR	Interviews & Focus Groups
	Resource Planning	STRRES	Focus Groups & Observation
	Change	STRCHA	Interviews & Focus Groups
Organisation Structure	Design Philosophy	ORGSED	Interviews & Focus Groups
	Fit to Purpose	ORGFTP	Observation
Governance	Policy and Procedure	GOVPOL	Focus Groups & Observation
	Authority Demarcation	GOVATH	Interviews
Project Management	Alignment Pressure test	PROAPT	Focus Groups
	Sufficiency Analysis	PROSUF	Focus Groups
	Likelihood of Achievement	PROLOA	Focus Groups
	Benefit Realization	PROBEN	Focus Groups
Performance Management	Performance Planning	PERPER	Focus Groups & Observation
	Implementation	PERIMP	Focus Groups & Observation
	Monitoring and Reporting	PERMON	Focus Groups & Observation

3.5 Research Design and Methods

The examination strategy uses a multi-technique subjective methodology. Creswell (2014) clarified that subjective research is valuable for investigating issues where there is an absence of learning and comprehension about the phenomenon. The inductive methodology is embraced since the investigation centres on the formation of a new hypothesis emerging from the information and by using the exploration inquiries to guide and restrict the extent of the investigation. With regards to examining the phenomenon via a phenomenological approach to deal with participants' theoretical abilities, it is accepted that adequate information can be gathered, dissected and deciphered to distinguish alternate points of view on the four chosen

capabilities and their related exercise of aptitudes. Moreover, Joubish et al. (2011) depicted how subjective research is "utilized to pick up knowledge into frames of mind, practices, esteem frameworks, concerns, inspirations, yearnings, culture or ways of life."

It is conceived that a subjective research approach is viable in growing more learning about the theme, just as picking up an increasing understanding of the types and extent of the reasonable aptitudes included. Furthermore, Easterby-Smith et al. (2012) showed that, in the executives' interviews, phenomenology is an epistemological and observational research approach that is described by subjectively developed understanding.

It tends to be recognised from positivism which is to target information about the phenomenon under study has grown mainly through speculation and testing. The estimation of the philosophical course of an investigation is based on explaining its method of reasoning and research structure. It distinguishes which plans will work and which will not; additionally, it enables the specialist to perceive the correct structure. The subjective way of thinking, approach and system are interpretive, inductive and focused within phenomenography (Saunders et al. 2009).

The philosophical methodology is interpretive and embraces a viewpoint that has confidence in the genuineness of subjectivity rather than objectivity. Its reality view originates from the epistemological presumption that there is no goal and only a partial reality. Saunders et al. (2009) demonstrated that the truth is the result of responses in a particular setting and is reliant on the understandings of the general population. Phenomenography as an interpretive research approach focuses on people's comprehension of their existence (Marton 1986; Sandberg 2000).

Phenomenography was created by instructive analysts in Sweden and emerged as another way to deal with research during the 1970s (Marton et al. 1977; Marton and Svensson 1979). It appears that Sonnemann (1954) first utilized the expression "phenomenography" to recognise the phenomenologies of Martin Heidegger and Karl Jaspers, as connected with psychopathology (the previous being better called phenomenography, as indicated by Sonnemann.

According to Bowden (1996) research, he characterized phenomenography into five subjects; the exploratory, the rambling, the naturalistic, the hermeneutic, and the phenomenological. By and large, however, these various qualities add up to three lines of investigation: (i) The *naturalistic* phenomenography is tied in with accounts/an account of what is really said or occurs in a given circumstance without direct control or inclusion from the scientist and after that breaking down that information phenomenographically (Hasselgren and Beach 1997). (i) The *hermeneutic* phenomenography is an exploration approach whose investigation is equipped to exposition, translating writings or explanations not initially made with the end goal of phenomenographic examination as far as their entire part relations (Hasselgren and Beach 1997). (iii) Third, the *phenomenological* phenomenography depends on a method for research thinking where phenomenological criteria concern addresses coordinated toward the substances of encounters, for example, for example encounters of learning (Hasselgren and Beach, 1997). Later, Bryman (2016) noted that "hermeneutic phenomenology" (interpretivism) is a term that for the most part shows an option in contrast to the positivist universality that has dominated the social sciences for quite a long time.

It is set up upon the view that a strategy is required that takes care of the differences between people; subsequently, it requires the social specialist to comprehend and break down the emotional noteworthiness of a social movement. The significance of reality as experienced by individuals is a piece of what the phenomenologist ought to translate. Phenomenography is plainly interpretivist. Marton (2015) explained that phenomenography is about the various ramifications of comparative things. A phenomenographer accentuates the benefit of 'sectioning out' all past learning of the idea supporting contemplations during the procedure to reduce predisposition and help the scientist to concentrate on the information at hand.

In a comparable vein, Walsh (2000) clarified that in directing phenomenographic examination, the scientist is deliberately translating the information, picking and disposing of information, and in this way building the relationship, as opposed to investigating the transcripts to find the specific manners by which individuals comprehend the marvel.

According to Thorne (2000), qualitative data originate in various forms. In many qualitative research studies, the database involves interview transcripts from open ended questions, focused, but exploratory interviews. However, there is no limit to what might possibly establish a qualitative database, and increasingly often they are based on creative work though such methods as recorded observations (video and participatory), focus groups, texts and document analyses, multi-media or public domain sources, policy manuals and photographs. For readers of qualitative research, the language and methods of analysis can be confusing.

It is sometimes difficult to follow what researchers actually did during this phase and to understand how their findings evolved out of the data that were collected or constructed. Glaser

and Strauss (1967) argued that data analysis is the most complex of all of phases of a qualitative research study. For experienced researchers, many of the data collection strategies involved in a qualitative research investigation may feel familiar and comfortable. However, producing a database of concepts is not sufficient to conduct a qualitative research study. In order to generate findings that transform raw data into fresh knowledge, the qualitative researcher must engage in active and challenging analytic processes throughout all phases of the research, involving a progression from open coding through to selective coding and eventually the creation of theoretical categories. Therefore, understanding these processes is an important aspect not only of doing qualitative research, but also of reading, understanding, and interpreting it. Schwandt (1997), argued that the term "qualitative research" could refer to anything that is not quantitative research, or concentrated into numerical form. However, many quantitative researches include open ended survey questions, semi-structured interviews, or other forms of qualitative data.

What differentiates the data in a quantitative research study from those generated in a qualitatively designed research is a set of assumptions, principles, and even values about truth and reality. Holloway (1997) mentioned that quantitative researchers accept that the goal of science is to discover the truths that exist in the world and to use the scientific method as a way to build a more complete understanding of reality. Although some qualitative researchers operate from a similar philosophical position, most recognise that the relevant reality as far as human experience is concerned is that which takes place in subjective experience, in social context, and in historical time. Therefore, according to Morse (1994), qualitative researchers are often more concerned about discovery of knowledge about how people think and feel about the situations in which they

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find themselves than they are in making judgements about whether those thoughts and feelings are valid.

As a summary, the techniques selected for this research are significant for reflecting on methodology-building components, and this is accomplished through gathering and breaking down essential and optional wellsprings of information. As the research is tackling a totally new school or thought, the researcher would need to examine the acceptance of the Strategy Engineering phenomena during the interviews. With that said, the researcher selected the qualitative method as a method to conduct his research.

3.5.1 Focus group

Freitas et al. (1998) suggested that focus groups are a type of the qualitative research methods retained by researchers to answer a research questions such as: How do you believe an experience, idea, or occasion? These writers defined the term as a type of in-depth interview performed in a group, whose meetings present characteristics well-defined with respect to the suggestion, scope, composition, and interview processes (Freitas et al. 1998).

According to Burton (2000), focus groups are a rich source of qualitative data for the social science researcher and are easy to use. Access to willing participants is essential and the researcher must have the skills to interview and moderate participants. Furthermore, Edwards and Holland's (2013) definition of a focus group includes a small group of people engaging in collective conversation of a topic pre-chosen by the researcher. The term 'focus group' differs from the term 'group interview, where the latter is commonly applied to denote any interview in

which a group of people takes part (Edwards and Holland, 2013). Moreover, Freitas et al. (1998) stressed that the basic information molded by focus groups are the transcripts of the participants' talks and the researcher appearance and remarks. Additionally, focus groups can be utilized alone, or mixed with different strategies, and are frequently linked with the individual meeting.

In focus group research, the organisation inside the gathering is the primary accentuation of the examination. Inside the centre gathering the researcher animates discussion with points or notes to breathe life into the discourse, and members impact each other through their reactions to the commitments and suppositions communicated throughout the exchange.

The data gathering related to this research started by conducting focus groups that seeks to test and ratify the practicality of the conceptual framework and eventually support the development of the interview questionnaire. Three focus groups were conducted with nine participants in total, three participants per focus group. Participants were selected from different organisations, but all participants had common strategy background. Focus groups took place in Lebanon and KSA. After presenting the research objectives and the conceptual framework, the focus groups were run in the form of workshops to pressure test the components of the conceptual framework thereby listening & noting down to the participants' opinions. Then, the researcher presented the draft interview questionnaire and obtained again insights and inputs. The focus group was composed of practitioners, consultants and middle management. Each focus group had three participants. In order to ensure there is not a dominant member, or an influencing member, participants were selected not be report to each other. The information gained from conducted focus groups is the

source of the interview questionnaire. Below are some questions that were asked to cover complexity of concepts and purposes of study:

- What is strategy, and what are strategy components?

- What is engineering, and what are engineering components?

- What is OD, and what are OD components?

- What are the challenges of any organisation? Could you emphasis on resources challenges?

- What are the typical challenges of any strategy execution?

- How can we overcome strategy and organisational challenges?

- Why do strategies fail?

- What are strategy success factors?

- What is the relationship between strategy, OD and engineering?

3.5.2 Interview (One to One)

A qualitative research interview is an in-depth method and technique that seeks to describe the meanings of central themes in the life world of the subjects. Kvale (2006) defined the interview as a meeting where a reporter gains information from an individual, to achieve a specific objective, and more largely, as a dialogue with a purpose. However, Marton and Booth (1997) hold researchers responsible for the research phenomenon and plan. They asserted that the researcher has a duty to contemplate the experience, to discern its assembly against the backgrounds of the circumstances, to differentiate its salient features, to look at it with people's eyes, and still be exposed to future developments. Furthermore, Edwards and Holland (2013) reviewed a number of terms applied to qualitative interviewing, such as in-depth, informal, non-

directed, open-ended, conversational, naturalistic, narrative, biographical, oral or life history, ethnographic, and others.

What determines the type of interview can be the role of the interviewee, but the most common rationale for the selected type of interview relates to the underlying philosophy and specific approach taken in the research. Moreover, Edwards and Holland (2013) recommended using cue calls, making link/common words, and utilizing the native language to avoid challenges when running the individual interview.

Prasad (2005) argued that the social sciences and particularly business studies face distinctive difficulties that are apparent in the degree of willingness to use traditional positivist standards. Moreover, Manzano (2016) claimed that interviews are the most used method to collect data in the social sciences. Benney and Hughes (1956) stated that sociology has become the science of the interview. In the twenty-first century, most social researchers have become interviewers. Furthermore, Brinkmann (2007) argued that current interviews seek to probe the respondents' experiences and opinions.

According to Brinkmann, qualitative interviewing these days mainly takes place in sociological and ethnographic domains. Brinkmann claims that the reader should know that this researcher comes to the field from a psychology background. However, Seidman (2008) mentioned that the idea of gathering objective data from an interview is wrong as the interview is intimately entwined with the context of its production; the interviewers are part of the interviewing process, irrespective of how carefully and prudently they work to minimize their influence. However, Kavale (1996) suggested that a good qualitative researcher should be capable of having

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interviewing skills like being knowledgeable, structured, clear, gentle, sensitive, open, steering, critical, remembering, and interpreting.

Brinkmann (2007) stated that the qualitative researcher should observe, analyse, judge and act. Considerable knowledge could be lost if the interviewer focuses only on what the interviewee says. The fact would only be obtained by understanding other characteristics of the interviewee performance during the interview. A qualitative researcher must improve the interviewee skills of situational perception and judgment, thereby enabling the interviewee not only to act ethically but also to create valid and meaningful knowledge.

Brinkmann (2007) further contended that there is an organisation amongst ethics and qualitative research and also argued that the key advantage of qualitative researchers is the objectivity and the power of showing the object exactly as it is. To achieve objective research, the researcher's interpretations and descriptions have to be utilized. As for the sample size, Manzano (2016) stated that qualitative interview samples are usually smaller in size than those from quantitative research. Mason (2010) stated that the common professional practice sets the acceptable number of interviews between a range of 20 and 30 interviews. However, Emmel (2013) argued that an estimate of sample size could be clarified shortly after fieldwork starts.

Harvey (2011) has written on some of the opportunities and challenges facing researchers interested in interviewing elites. Harvey defined an elite as composed of individuals who hold a significant amount of power within a group that is already considered elite. Harvey suggested that an elite interviewee will often attempt to control an interview and be more particular about the questions they are willing to answer than other interview subjects. This is important because those

who are new to researching this group may not be aware of these subtle differences from reading a general social science textbook on conducting interviews. Harvey argued that interviews with business elites are often significantly shorter than interviews with other professionals within business. The personality of the interviewer and the interviewee, as well as the location, time and context of the interview should to a large degree shape individual approach.

This research employs the semi-structured interview. Questions were formulated after the focus groups were conducted. In addition, questions were derived from the conceptual framework. Two open-ended questions were asked at the end of the interview to give flexibility to the interviewee to express his or her opinions. The interviewee was asked 8-10 questions excluding the probing questions, follow-up questions, and interpretation questions. The data collection for this thesis used formal interview techniques to explore and understand the strategy engineering phenomena in KSA, UAE and Lebanon.

This was achieved by conducting a total of ten interviews; three with KSA organisations leaders, four with UAE organisations leaders and three with Lebanese organisations leaders. Each interview was conducted with one participant and lasted for about one hour. Through using an interview protocol which explains the ethical issues in the study, the interviewees were informed about the overall purpose of the research. The data have been treated confidentially and are not to be revealed, taking into account the confidentiality procedures, thereby assuring that no risk of detriment to the interviewees could occur as a consequence of the research. The interviews were digitally audio-recorded with the participants' prior approval and consent, and were transcribed verbatim. The interview was directed with structured questions that had been shared upfront with

the participant, however, the interview could also be considered as conversational since a lot of probing questions had been placed.

The executives and senior management of the organisations were targeted. Usually the CEOs, General Managers and Executive Directors have the full picture about the strategy of the organisation and where it is heading. In addition, they are in charge of governance and they are the best people to be asked about the reinforcement of governance and its impact on strategy implementation.

Post focus groups been conducted, one-to-one interviews started to occur. Focus groups helped the researcher to formulate the right questions to be used for the one-to-one interviews, as well as to test the practicality of the strategy engineering conceptual framework draft. The interviewees were asked to answer the key question: Why does the corporate strategy have to be reengineered? The questions were sent to the interviewees one week in advance. The interviews started by introducing the research topic and the objective of the research. The approach was explained, and the interviews were audio recorded after gaining the interviewee's permission. Then the interviews were transcribed. In order to ensure reliability, transcripts were shared with the interviewee for confirmation. Appendix I includes a version of the questionnaire.

3.5.3 Informal interviews

According to Frey and Fontana (1991), many social researchers often overlook the potential contribution of group interview methods, and their preference is often for implementing individual interviews. Group interviews could be official with a particular, structured objective

such as a marketing focus group, or could be informal, taking place in, for example, a countryside setting where a researcher stimulates a group discussion with an interesting question. Moreover, Zhang and Wildemuth (2009) explained that unstructured interview methods were developed in the disciplines of anthropology and sociology as a way of eliciting people's social realities. Informal interviews reported in the literature use several definitions and terms interchangeably, such as in-depth interview, non-standardized interview, ethnographic interview, and informal conversational interview (Zhang and Wildemuth, 2009).

Unstructured interviews depend completely on unplanned questions presented in the natural run of communication between the researcher and interviewees, and attract various definitions. Furthermore, Punch (1994) defined unstructured interviews as a way to understand the multifaceted performance of individuals without imposing any previous classification, which could limit the area of investigation. Furthermore, Creswell and Miller (2000) explained that qualitative researchers routinely employ member checking, triangulation, thick description, peer reviews, and external audits. They relate member checking to the post-positivist or systematic paradigm which necessitates member checking as one of the lenses used by the researcher. As the field observation sessions where sufficient to gather & validate the required data for this research, yet to enhance the researcher understanding about the research topic, the researcher conducted five informal interviews. These interviews were not voice recorded, but relevant notes were taken. However, the gathered information during the informal interviews were not compared and contrasted with the main outcomes of the interviews and observation sessions. Yet the gathered information during informal interviews gave the researcher another perspective/opinion from the same organisation on similar topics raised during the one-to-one interviews. In the context of this

research, informal interviews are interviews that happened without planning and they were not documented, however, they gave the research more insight about the organisation. Informal interviews in the context of this research are used for validation purpose.

3.5.4 Fieldwork Observation

Marshall and Rossman (1989) characterized perception as the precise portrayal of occasions, practices, and antiques in the social setting picked for study. Scientists directing perception can utilize their five faculties to portray the current circumstances and might give composed photos of the setting under investigation. Member and non-member perceptions have been utilized to examine the data prerequisites of a few gatherings of individuals, regularly, yet not solely, in work circumstances, (Cooper, Lewis and Urquhart 2004). Moreover, Ritzer and Ryan (2011) portrayed perception as a technique for request. Perception is an option or supplement to the utilization of meeting, narrative, or poll information. It is generally considered as occurring in 'normal' as opposed to exploratory circumstances, despite the fact that trials fundamentally depend on the experimenter's perceptions.

At the very least, perception includes a specialist watching and tuning in to activities and occasions inside some setting over some timeframe, and making a record of what has been seen. Subject to the size of the organisation, observations have to be made by visiting the organisations and meeting the front desk and process owners and key stakeholders. Since the research included ten organisations, the researcher conducted ten observation sessions; one observation session per organisation. The observation session lasted between thirty to sixty minutes. Wondering around the organisations' different departments, flours and buildings, meeting deferent people of the organisation, sensing, observing and validating what had been mentioned during the interview.

These sessions were not recorded; however, key notes had been taken. On average, three participants had been met per organisation, resulting in thirty participants.

3.6 Research Context and Sample

Charmaz (2014) describes hypothetical testing as motivating the researcher to test crosswise over substantive territories. Along these lines, taking part in hypothetical inspecting can lead the researcher to elevate the hypothesis to a formal, progressively conceptual level that cuts crosswise over various substantive territories (Charmaz 2014). This will shape the scholarly establishment whereupon the hypothetical structures rising from this work will have a serviceable and versatile degree of all-inclusiveness and generalizability for different fields. The point of hypothetical testing is to build up a coordinated hypothetical explanation that clarifies and records information for the fundamental research inquiries of the investigation. Hypothetical examining is about the choice of important sections of information and utilizing them in the elaboration and improvement of classes in the developing hypothesis (Charmaz 2014). This alludes to the accumulation of relevant information under every classification, debilitating every accessible data until there is no development of any new developments, and the classes are saturated. This is the manner by which a hypothesis advances from information in the grounded methodology.

The research reported in this thesis has employed a hypothetical examination in analysing and interpreting the emerging hypothetical classifications of concepts of strategy engineering. Therefore, the primary reason for hypothetical grounded analysis is to assemble elements of information that reveal the classifications within the whole structure. To do so, the research examined ten organisations (Public Organisations, Private Organisations and NGOs), in three

countries in the Middle East region. In short, three focus groups, ten interviews and ten observation sessions were conducted.

3.6.1 Research Geography Coverage

The research was conducted in the UAE, the KSA and Lebanon. Ten organisations took part. The firms were private, public and NGOs; an average of three organisations from each country were targeted, two of which were private, two NGOs and two public organisations.

3.6.2 Selection of Participants

In this research, the number of participants was predetermined. That is because the targeted participants are high-profile individuals and it is difficult to recruit them for interview due to time and work commitments. Furthermore, people usually do not tend to talk about strategic challenges; they prefer to communicate and explain the strategy itself. Ten interviews were conducted, and three focus groups and ten fieldwork observation sessions were held.

Marshall, Cardon, Poddar & Fontenot (2015) researched the number of interviews conducted for qualitative studies and found it was correlated with cultural factors, which they interpreted as implying the subjective nature of sample size in qualitative studies. These authors provide recommendations for minimally acceptable practices of justifying the sample size of interviews in qualitative studies. By reviewing 83 qualitative studies in leading journals, Marshall et al. revealed that there is little rigour applied when justifying sample size, and the number of interviews conducted in the top journals tends to fall within the range of 15-30 participants.

It is important to emphasize at this point that although there is no prescriptive quality to a legitimate meeting, at the same time, as per Giorgi's (2009), principal basis what one looks for

from an exploration meet in phenomenological research is as finished a portrayal as conceivable of the experience that a member has survived. The up close and personal meeting was longer and consequently more detailed with respect to depth and subtleties. The other shorter meetings held with the organisation employees were valuable to concentrate meaning and affirm the ideas that were experienced and portrayed by the primary members. In addition, the researcher broadened the quantity of subjects in shadowing the members to make up for the numerous subtleties typically found in the more extended, up close and personal meetings. The purpose behind expanding the quantity of records was not because of factual criteria, but instead to ensure disclosure, distinguishing proof and understanding of the problem under investigation.

3.7 Data Collection, Analysis and Saturation Point

Qualitative studies put more emphasis on the nature of their sources (depth) than size (breadth). That's why, speaking of the sample does not make much sense especially when the number of people who are targeted is very small. The research call interviewees and focus groups participants as "case participants". Moreover, considering the nature of the study, it makes more sense speaking on saturation point in so far as number of participants.

Data collection contains gathering and measuring information on areas of interest to the research, in a practical and organised manner. This helps the researcher to answer the research questions precisely, test theories, and assess research results. Data collection in this qualitative research is typically tilting towards 'how, and 'why' and those relating to the nature and shape of organisations and their strategies and experiences involved. The primary research data collection tools are structured for interviews, open-ended for focus group and improvisations for observations. The interviews are used to obtain a broad range of information about events. Focus

groups are used to validate the conceptual framework and interviews questionnaire. Field observations are used to conclude the data gathering.

In order to produce quality findings, the researcher developed a set criterion for participants. Only prominent strategy experts and participants from well-known organisations were asked to participate; eventually the criterion was met. Top and middle management/consultants were targeted. Consultants/experts were targeted from big four and strategy houses. Organisations selected were very influential, prime and very famous in what value they add to the community. It should be noted that the total number of participants in this research was 54 participants (9 in focus groups, 10 in interviews, and 30 in observation sessions and 5 in informal interviews).

After presenting the research objectives and the conceptual framework, the focus groups were run in the form of workshops to explore and examine the components of the conceptual framework thereby listening & noting down participants' ideas, insights and opinions. The draft interview questions were presented to the focus groups in order to obtain participants' ideas and insights. Significant ideas from focus group members were collected and based on that information, a major review was made. The focus groups indicated that the researcher should classify questions based on the conceptual framework pillars. They also suggested a separate section is included for strategy engineering. Based on the two pillars of the thesis conceptual framework, the interview questions were formulated and categorized in two main sections. Each section includes questions that directly address the sub-components of the pillars of the conceptual framework. The focus group was composed of practitioners, consultants and middle management. In order to ensure there was no predominant or influencing member, participants were selected who were not in direct reporting

relationships to each other in the organisation. The information gained from the focus groups conducted was the principal source informing the content of the schedule of interview questions.

Interviews were the main source of data for this research study. Ten interviews were conducted; three with KSA organisations leaders, four with UAE organisations leaders and three with Lebanese organisations leaders. Each interview was conducted with one participant and lasted for about one hour. Through using an interview protocol which explains the ethical issues in the study, the interviewees were informed about the overall purpose of the research. The data have been treated confidentially and are not revealed in the thesis, taking into account the confidentiality procedures, thereby assuring that no risk of detriment to the interviewees could occur as a consequence of the research. The interviews were digitally audio-recorded with the participants' prior approval and consent, and were transcribed verbatim. Each interview was directed with structured, open-ended questions that had been shared in advance with the participant, however, the interview style was primarily conversational since a lot of probing questions had been posed.

Finally, the field observation sessions were employed to gather more data validate the extant data for this research. To enhance further the researcher's understanding about the research topic, the researcher conducted five informal interviews during the observation sessions. These interviews were not voice recorded, but relevant notes were taken.

Since the research included ten organisations, the researcher conducted ten observation sessions; one observation session per organisation. The observation session lasted between thirty to sixty minutes. Wondering around the organisations' different departments, floors and buildings,

meeting different people in the organisation, sensing, observing and validating what had been mentioned during the interview. In short, three focus groups, ten interviews and ten observation sessions were conducted. However, the key data source was the interviews.

The interviews conducted resumed until the point of data saturation when, in the interviews with the last two participants, they did not mention any new major ideas. The participants' ideas, attitudes and perceptions gathered from the interviews were transcribed, then the text was coded and categorised, and then the descriptive categories were extracted. The table below presents interviewees' role and position (case participants).

Table 4: List of People Interviews

Industry	Position of Case Participant	Country
Public – Power & Utility	Vision Realization Officer	Saudi Arabia
Public – Centre of excellence	National Transformation Program – Planning Head	Saudi Arabia
Public – Centre of excellence	Senior Partner	Saudi Arabia
Public – Food	Senior Official	United Arab Emirates
Public - Education	Senior Official	United Arab Emirates
Public – Social	Senior Official	United Arab Emirates
Private - Construction	Senior Executive	United Arab Emirates
NGO – Social Care	CEO	Lebanon
NGO – Social Care	CEO	Lebanon
Private - Trading	CEO	Lebanon

Focus groups and interviews were all conducted starting mid-2019 until mid-2020. Focus groups and interviews were conducted in the respective counties (the country that the organisation exists). Focus groups and interviews were conducted in closed areas like offices and meeting rooms. None of focus groups and interviews was conducted in public places.

As part of the research method, the researcher made several observations by walking through corridors, and talking casually to staff, clients and visitors. The family business environment was not very sustainable. It was understaffed, had apparently under-qualified staff and the general lack of management tools been all obvious. It was managed like a one-man show. There was no succession planning, and although it purported to practice an agile strategy, it was inefficient. The table below states the focus group participants.

Table 5: List of Focus Group Participants

Industry	Number of Participants	Country
NGO	4	Lebanon
Private Sector	2	Lebanon
Public Sector	3	Saudi Arabia

While conducting the observation sessions at the NGO, the researcher observed high discipline, less improvisation, and more commitment to the organisation. During his observation sessions at the government entities, the researcher did not observe any deviation between what had been said during the interview and what had been said during the observation sessions. The researcher justifies this as a result of the organisation's maturity.

However, there was major deviations between what was said during the interviews conducted with private sector participants and the observation session findings. The table below provides information on the observation sessions.

Table 6: List of Observation Sessions and Participants

Industry	Number of Participants	Country
Public – Power & Utility	3	Saudi Arabia
Public - COE	3	Saudi Arabia
Public - COE	3	Saudi Arabia
Public - Food	3	United Arab Emirates
Public - Education	5	United Arab Emirates
Public - Social	5	United Arab Emirates
Private - Construction	1	United Arab Emirates
NGO	2	Lebanon
NGO	2	Lebanon
Private - Trading	3	Lebanon

The researcher conducted five informal interviews. These interviews were not voice recorded, but relevant notes were taken. Later, these notes were used as an additional source of information for identifying further literature review required for the thesis and discussion about the matters and subjects raised. The table below presents information on the informal interviews.

Table 7: List of Informal Interviews and Participants

Industry	Number of Participants	Country
Public – Power & Utility	1	Saudi Arabia
Public - Social	1	United Arab Emirates
Private - Construction	1	United Arab Emirates
NGO	1	Lebanon
Private - Trading	1	Lebanon

Three methods were followed in this research, where each method had two sub-methods. To give additional clarity to the reader, the sub-methods are included. Each sub-method is mapped to various focal research issues that were developed. The occurrence of the focal research issues is recorded here by sub-method (to understand more about the coding of the focal research issues, please refer to Chapter Four). The interview design involved formal and informal interviews. Focus groups involved employees and non-employees and the field observation consisted of participant and non-participant observation. The last two methods did not yield targeted participants for one of the two sub-methods. The following table explains what construct the researcher investigated for each of the selected methods.

Table 8: Research Methods Mapped to Codes

Methods		Focal Research Issue Codes										
Interviews	**1:1 Interviews** (10)	GAPBEN	GAPIDN	GAPGEN	PBPCNA	PBPSNA	PBPPRI	STRTRU	STRTAR	STRCHA	ORGSED	GOVATH
	Informal interviews (5)	GAPBEN	GAPIDN		PBPCNA	PBPSNA		STRTRU	STRTAR		ORGSED	GOVATH
Focus Groups	**Participants' employees** (0)											
	Non-participant employees (10)			STRRES	PROAPT	PROSUF	PROLOA	PROBEN	PERPER	PERIMP	PERMON	GOVPOL

Field Observation	Participant Observation (20)		GAPSTU	STRRES	ORGFTP	PERPER	PERIMP	PERMON				
	Non-participant Observation (0)											

Information accumulation includes assembling and estimating data on components important to the examination, in a valuable and sorted way. This encourages the participant to respond to the exploratory questions precisely, and enables the researcher to test speculations and tentative results. Information gathering in this subjective, exploratory and illustrative proposition about strategy engineering is typically orientated towards 'who' and 'what' questions, and questions identifying with the nature and state of participants' theoretical abilities, and the activities and encounters included. The essential research information-gathering methods are semi-organised, open-ended individual and focused interviews. The meetings are utilised to acquire a wide scope of data about participants' experiences in a set of separate events and contexts. Other information accumulation strategies used in this exploration incorporate shadowing, field perceptions of focused occasions, and an audit of records and antiquities.

3.7.1 Research Validity and Reliability

Patton (2001) states that validity and reliability are two factors that any qualitative researcher should be concerned about while planning a study, analysing results and assessing the quality of the research. He also argued that the researcher's ability and skill in any qualitative research states that reliability is to some extent an outcome of the validity in research. Moreover, Lincoln and Guba (1985) caution that sustaining the trustworthiness of research results depends on the issues discussed and the degree that they involve matters of validity and reliability. Thus, to ensure reliability in qualitative research, examination of trustworthiness is crucial (Seale 1999).

Furthermore, Creswell & Miller (2000) suggested that the validity is impacted by the researcher's opinion on validity in the research and the selected assumptions behind the empirical work. Later, Brinkmann (2007) argued that validity in qualitative research is connected directly to ethical considerations. It is about proactively clarifying, enriching and improving the genuineness of knowledge that is collected in order to improve the practices under consideration.

Sandberg's (2005) examination of methods of how should scholars justify knowledge produced within interpretive approaches is instructive. 'Rejecting the idea of objective truth while claiming the possibility of producing valid and reliable knowledge gives rise to two central questions: What criteria could be used for justifying knowledge produced by interpretive approaches and, more fundamentally, on what basis can such criteria be developed?' (Sandberg, 2005, p. 46). When justifying knowledge, Sandberg (2005) recommends commencing on the basis that person and world are inextricably related through lived experience of the world (Berger and Luckmann, 1966; Heidegger 1927) and by accepting from the outset that our interpretation is influenced by our specific historical, cultural, ideological, gender-based and linguistic understanding. In summary, Sandberg (2005) concluded that the criteria for justifying knowledge are perceived fulfilment, fulfilment in practice and indeterminate fulfilment.

Furthermore, Kvale and Brinkman (2009) stated that the qualitative researcher has to interact with genuine people to develop interesting and insightful understanding about the research problem. Later the quality of the interview depends on the qualitative researcher's social skills. According to Kvale and Brinkman (2009), the quality and reliability of research interviews have shaped

various intellectual debates about the lack of scientific reliability, problems with research methods and the generalizability of findings.

Qualitative research interviews are more concerned with authentic representation of the participants' perspectives and trustworthiness and less concerned with generalizability. Moreover, Mazzei (2007) suggested that the reliability of the interview data collected is also ensured by paying attention to silences, author's voice, and utilizing reflexive commentary as extra data for analysis. That would enhance the triangulation of the research data. Triangulation is defined as "a validity procedure where scholars search for convergence among different sources of information to form themes or categories in a study" (Creswell & Miller, 2000).

According to Sandberg (2005) reliability is an interpretive awareness that reflects on the procedures used for arriving at the interpretation. The researcher must demonstrate that he/she has dealt with their intentional relation to the lived experience studied and seek to apply interpretive awareness.

Sandberg (2005) identified three main types of validity: communicative validity, pragmatic validity, and transgressive validity. Communicative validity is obtained by communication between researcher and research participant, encouraging genuine dialogue between scholar and participant. Pragmatic validity requires checking for discrepancies between interview accounts and lived experience: what people say they do and what they do in fact. While transgressive validity is achieved by using irony in interpreting texts, seeking differences and contradictions and ensuring male and female gender perspectives are identified.

In order to ensure the validity and reliability of the findings (whether or not the research questions are answered), the triangulation method is applied in this research. Triangulation is performed by using more than one method to collect data on the same subject. This is a way of assuring the validity of research through the use of a variety of methods to collect data on the same topic, which involves different types of samples as well as methods of data collection. Focus groups are conducted first in order to give the researcher a better understanding about the proposed conceptual framework, and to give the researcher a better insight about the questionnaire questions to be used during the interviews. Then, conducting interviews with the organisations' leaders to depict their ideas and opinions about the research on strategy engineering. Also, when feasible, conducting observation sessions to identify discrepancies and variations.

3.7.2 Research Data Analysis and Interpretation

In interpretation, researchers make a construal about the participant issue or research phenomenon and ask what something means to develop varied understandings of the sense of it. In research, interpretation has two meanings. It can refer to the higher-order, more abstract conceptual layers of meaning constructed from or imposed on data. Data might reflect the aims, designs, and perspectives of human actors, the aggregations of human activity such as economic key indicators, or nonhuman phenomena. Interpretation can also refer to evaluating the intentions and implications of those one is studying, making sense of experience and behaviour, and seeing or understanding some phenomenon in its own terms, understanding its essence (Spiggle, 1994). "Interpretations are continuously reviewed as more of the text is understood by the interpreter" (p. 347; see Thompson et al. 1989, p. 141; Holbrook and O'Shaughnessy 1988, pp. 400-401).

According to Spiggle (1994), the investigator reserves the final interpretation of a particular passage of an interview or text after having considered the entire interview elements. Analytical processes manipulate data; interpretation makes sense of data concluded by more abstract conceptualizations. Data manipulation could be described as a series of operations. The intuitive, subjective, particularistic nature of interpretation. In interpretation the researcher does not engage a set of operations, rather, interpretation happens as a shift and represents a synthetic, holistic, and illuminating grasp of meaning. However, as indicated by Svensson (1997), phenomenography as a procedure and an instrument is principally concerned about concentrating on and depicting originations, with every origination speaking to one way in which the particular phenomenon under assessment is experienced.

According to Bruce (2000) and Limberg (2005), the information examination in phenomenographic studies intends to uncover variations in how the phenomena that have been considered are experienced. Marton (1986) discussed seven periods of information investigation in phenomenography; Familiarization, Condensation, Comparison, Grouping, Articulation, Labelling, and Contrasting. However, Watkins (2007) argued that the motivation behind phenomenography is to recognise the particular idea of the phenomenon throughout the meetings and during all phases of the information investigation. Essentially, the information gathered from the meetings is relied upon to add to the researcher's understanding of the issue under investigation and its importance to a great extent through its character and organisations with explicit situational and relevant components. Furthermore, Sandelowski (2000) contended that subjective research is a functioning strategy for examination of verbal and visual information that generate data and lead to the advancement and refinement of open codes, expounded codes, and

hypothetical classifications. Renner, Taylor-Powell and Renner (2003) emphasise though that the main reason for examining information is to uncover real and significant data. The examination approach could characterize and outline the information, perceive relations among factors, coordinate and perceive the refinement among factors, and anticipate results. The sequence of the research methods is as follows:

- Stage 1: Focus groups
- Stage 2: Interviews
- Stage 3: Observation

The reason for this sequence is that, first, experts' information is collected from the academics, practitioners, and consultants, and then further details added from the interviewees who represent their organisations. The observational visits conclude the data-gathering process and are another way of obtaining confirmation from junior staff and process owners and stakeholders. From this, the reader of the research can understand the overall story of the organisation including the cultural constraints. That approach enriches the research and adds new knowledge to the body of knowledge.

The collected data from the focus groups, interviews and observation were registered in scripts, saved, and cross-compared. Contradictions (or non-common findings) were recorded and compliance was also recorded. However, in case that a contradiction was found, a validation process was followed by repeating the question with a higher staff member or by cross-checking with a relevant stakeholder. In the case that the contradiction still exists, non-common findings were not neglected. That is to ensure validity. The data were analysed by categorizing the findings

based on the answers of each question and per data source (focus group, interview and observation). If commonalities were obtained from each data source type, a pattern was mapped which could lead to a new theoretical contribution.

To ensure reliability, all statements made by interviewees are equally important. The researcher checked his interpretation of all responses by reviewing the transcripts a number of times. In addition, an independent researcher reviewed three random samples of transcripts and compared them against the outcomes of the categorization exercise.

The meetings led by the researcher were recorded verbatim as transcripts, regardless of whether they were balanced meetings, formal meetings, or the center gatherings.

- Level of words investigation. This is examining at the degree of words. The key words derived from the transcripts were reviewed for commonalities and whether they alluded to a particular article.

- Level of coding. A code connotes the researcher's understanding of the carefully examined content. Coding is an endeavour to make a connection between sections of the content, hypothetical structure, and research questions. Therefore, codes are determined to a more theoretical level than the words that appeared in the translation.

- Level of deliberation and decrease. From perusing the information material, applicable ideas were distinguished. At that point, the researcher started looking for examples and connections between the ideas, and deciding classifications and their level of importance.

3.7.3 Obstacles and Solutions during the Data Collection Process

During the time leading up to the interviews, the researcher organised a meeting with a large portion of the interviewees before their actual interview meetings. The researcher held such pre-

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gatherings about a month prior to the interviews. These starter gatherings were opportunities to create trust with the members, familiarize the participants about the research objectives, expected benefits and nature of the interviews. Most of the participants were accessible to the researcher, yet they were still called potential participants, pending confirmation. Even after there was a confirmation, the participant always had the prerogative to quit or reschedule anytime. Therefore, the researcher decided to pre-communicate with participants, make them more excited and enthusiastic, test their willingness to participate and stamina; as the interviews lasted for almost sixty minutes, senior people are always busy and prefer not to spend time on irrelevant matters. All through these initial encounters with the majority of the members, the researcher had the chance to audit the interview questions. In addition, with respect to the interviews' execution, the researcher found that these pre-interview meetings gave the members an opportunity to unwind, ponder on and think about the experience. The researcher claims that this approach helped in getting a more in-depth portrayal during the meetings without posing an excessive number of questions. The researcher saw that the interviewees began to analyse and interpret their experiences without having to be prompted by the researcher. Their commitment and openly offered self-reflections expanded the obvious wealth of the collected data, which was particularly valuable since this exploration concerns the mental significance of the members' self-elucidations, learning and comprehension of their own and others' reasoning aptitudes and perspectives.

The purposeful part of this research investigation depends on the supposition that there is an underlying pattern and reality that can be elucidated by a researcher and expressed by participants. In this context, affirmation of the data collected depends on raw interpretive point of view where comprehension is co-constructed, and there is no target truth or reality against which the study's

outcomes can be analysed. A different number of researchers (e.g., Sandelowski, 2000) have scrutinized the utilization of observation for building up the legitimacy of subjective research and offer a thorough account on what to do to achieve intellectually credible and trustworthy results. To avoid confusion that may arise whenever participants appear to alter their perspective on an issue, the researcher probed deeper into their convictions and also utilized the voice recorder to enable subsequent reflection on their verbal accounts of the meetings. Even so, it always likely that new information will emerge after these encounters.

Moreover, Sandelowski (2000) argued that some participants might ask to see the transcripts. Therefore, the researcher endeavoured to manage and inquire further on some of these cases by returning to the spoken accounts to review the perspectives between the participant and the researcher and after that to affirm the issue or interpretation. Perhaps inevitably, a few issues remained; for instance, when the participant had to contradict the researcher's translation; whose elucidation should then remain unavoidably turns into a point of contention. Additionally, it is acknowledged that some people may take an interest in using the member checking procedure only in so far as wanting to be viewed as a "decent" participant or even just concur with a transcript record simply to satisfy the researcher (Sandelowski, 2000). What impacted on the research study to some degree was the way that various participants now and again communicated altogether different perspectives even about similar information.

3.8 Generalization of the Research Findings

According to Payne and Williams (2005), to generalize is to claim that the case in one place or time, will be the same elsewhere or in another time. Furthermore, Polit and TatanoBeck (2010)

claimed that generalization is an act of reasoning that involves drawing broad inferences from particular observations, and is strongly-acknowledged as a quality standard in quantitative research, but is more debateable in qualitative research. Applied qualitative researchers aim to increase the capacity to generalize from their studies (Herriott & Firestone, 1983). The goal of most qualitative studies, however, is not to generalize but rather to provide an insightful and contextualized understanding of some aspect of human experience over the intensive diagnostics of a particular case. Nevertheless, in an environment where evidence for improving practice is held in high esteem, generalization in relation to knowledge claims merits careful attention by both qualitative and quantitative researchers. In practice, issues relating to generalization are often ignored or misrepresented by both quantitative and qualitative researchers. Qualitative researchers normally do not make generalizations because their goal usually is not to make suggestions about the underlying population, but to attempt to obtain insights into particular educational, social, and familial processes and practices that exist within a specific location and context (Connolly, 1998). Robert (2013) notes that validity and generalization continue to be challenging aspects in designing and conducting case study evaluations, especially when the number of cases being studied is highly limited. However, according to Firestone (1993), the strongest argument for generalizing is usually supposed to be extrapolation from a sample to a population. This belief is apparent in writing comparing different methodologies, and it is broadly accepted by both qualitative researchers (Patton, 1990) and the general public. This argument relies on sampling and probability theory. To increase confidence in a qualitative finding through analytic generalization is to anticipate threats to doing so, what from the perspectives of

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mathematical and statistical forms of reasoning, Cook and Campbell (1979) call threats to external validity.

Generalization is always based on extrapolation. Different research traditions have developed their own arguments to justify processes of extrapolation. Firestone (1993) argued that in general, the argument most closely associated with qualitative research, case-to-case translation, compares favourably with the others although it does so by passing the responsibility for application from the researcher to the reader. Thus, its claims, while legitimate, are weaker. The point of subjective research is to follow the decent variety of any multifaceted phenomenon in the interpretive examination of information accomplished from meetings or perceptions in particular settings. Generalizability may be all the more fittingly considered as transferability, which is the degree to which discoveries can be used or rehearsed in various settings. Kvale (2006) named this kind of generalizability, outside legitimacy. Making generalizations involves a trade-off between internal and external validity (Lincoln and Guba, 1985). Lincoln and Guba (1985) admit that generalizability is "an appealing concept," because it permits a semblance of prediction and control over situations. Where quantitative researchers seek causal determination, prediction, and generalization of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations. Qualitative analysis results in a different type of knowledge than does quantitative inquiry (Strauss and Corbin, 1990).

In the context of this research, six organisations had been examined (in public, private and NGO sectors), in three locations (KSA, UAE and Lebanon), through interviewing ten senior executives and conducting various focal groups and observation sessions, generalization could be depicted

by location as these three locations have their own characteristics of government budgets, law, national economy, historical and cultural legacy and politics. Generalization could also be depicted by the nature of the organisation as the characteristics of a public organisation would differ from a private organisation and NGO. However, in the quantitative sciences, the validity of generalization is highly correlated to the number of sample size that is not that great. Therefore, the probability of obtaining generalization is low and statistically unsupported however the claims and assertions made still might be plausible and be socially accepted, even so, the researcher should be intellectually concise and cautious when making any such generalization.

3.9 Limitations of the Research Study

This research investigates private and government organisations, and family businesses are also covered. However, semi-government, publicly listed, NGOs and non-profit organisations are not covered here. In this part of the world - specifically the KSA, the UAE and Lebanon – it is not easy to conduct interviews with executives because of cultural, availability and response issues, particularly in government entities and in family-owned businesses. This could lead to a limitation in the sample size of people interviewed and contacted. The research is designed to interview top management executives like C level and GM only; the middle management employees are not covered in this research. Releasing financial information could be against the interviewee organisation's policy. Therefore, this research is not after financial figures.

Finding commonalities and patterns could be challenging because of the demographics and ethnographic differences across the three countries under study. Future researchers could replicate the same research on one country only. From another angle, the countries under investigation

could be expanded to cover the Gulf region or the MENA region. The most important limitation is that the literature does not mention anything about strategy engineering, although it makes reference to many elements under the strategy context. That would make it difficult to come out with focused findings that can answer the research questions.

The research does not discuss operational topics; the researcher endeavoured to entertain only corporate-strategic issues. For instance, the supply chain was not investigated in relation to strategy; however, the research could come across the impact of corporate strategy on the supply chain. This research seeks to introduce an emergent phenomenon in the strategy world; therefore, it should remain contemporary. Accordingly, the researcher did not dig deep into the histories of the case organisations; he only covered five to ten years of their operations. As for the literature review, though there could be literature available for the period before the 1960s, this literature review mostly covered the period from 1960s to date.

3.10 Research Ethics

Referring to ethics, Brinkmann (2007) stated that the qualitative researcher should be sensitive - both epistemically and ethically – to the research participants and context. Ethical and epistemic issues are linked in qualitative research. Research ethics have to take into consideration the actions that have to be taken to protect the research participants. In order to ensure the ethics of the research are of high standard, the researcher fully explained the research aim and methodology to participants, avoided jumping to conclusions about the anticipated outcomes of the research. Furthermore, the researcher aimed to avoid any damage or interruption to research participants

by adopting an international code of ethics – the *Ethical Guidelines of the British Educational Research Association*.

Participants should recognise the benefits vs risks of participating in the research. The informed consent is a critical subject in ethical consideration according to Kvale and Brinkmann (2009). Webb (2015) stated that informed consent could be challenging in the case of conducting unstructured and semi-structured interviews. That is because of the open-ended nature and criticality of the questions.

The interviewer and the interviewee have a very limited knowledge of what they are practically consenting to. Privacy and anonymity are important as third parties figure out personal narratives particularly when the research interviews run over a lengthy time. Therefore, the researcher informed the participants that he would maintain the confidentiality and anonymity of the research participants at all times. He clearly explained the research purpose, process, anticipated risk, participant's role and time required from him/her. I also informed the participants that they have the right to exit liberally during their research participation. An invitation letter was issued to the participants before any interaction. That is to introduce the researcher himself to the participant and to brief the participant about the research.

A Non-Disclosure Agreement (NDA) was signed by the researcher and delivered by hand to each participant. Furthermore, neither the identity of participant, nor the brand/s he/she represents would be released, unless permission was obtained. The participant signed the- informed Consent Form before the researcher approach him/her. Notification of approval was obtained from BUiD research ethics committee before the empirical research was conducted. BUiD provided a letter

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of verification that the student is registered on the PhD in Business Management study programme. A copy of this letter was presented to research participants in interviews and focus groups, and gatekeepers in the organisations. No specific main ethical considerations were identified. However, the reported analysis of the data aims to preserve confidentiality and avoid problems of attribution of identity by several ways.

The name of the participant will not be revealed, nor the name of the organisation he or she belongs to. The participants were aware that they could leave the research for any reason if they feel they have to, without any liability. Research participants were not to be subjected to harm in any way whatsoever. Participants selected the place and time of the interviews. They also had the liberty not to answer a certain question if they did not want to. Respect for the dignity of research participants was prioritised. Their opinion was taken into consideration whatever it was, even if it contradicted other opinions or the researcher's personal opinion, where the researcher made sure he did not reveal. Full consent was obtained from the participants prior to the study. Before the interviews the participants signed a consent form providing information on the project and the conditions of the research. The form is attached to the ethics form document shown in the appendix. The protection of the privacy of research participants was ensured.

The interviews were carried out in a closed and isolated environment. Adequate level of confidentiality of the research data was ensured. The voice recordings were not shared with anyone and were stored securely. Anonymity of individuals and organisations participating in the research was ensured by not revealing the names of the participants or the names of the organisation they belong to.

The researcher ensured he avoided any deception or exaggeration about the aims and objectives of the research, thereby sharing the research objectives that had been articulated in the research proposal document prior to the interview. Attached to the ethics form, the research introduction and research questions used were forwarded to the participants before the interview. Affiliations in any forms, sources of funding, as well as any possible conflicts of interests were declared. The participants were informed that the researcher was self-funding and were made aware of any possible conflicts of interest. All communication in relation to the research was implemented with honesty and transparency. Any potentially misleading information, as well as representation of primary data findings in a biased way was avoided.

3.11 Statement of Researcher Reflexivity

According to Silverman (1993), reflexivity can be defined as an individual activity. He proposed that sharing of reflexive writing (accounts of personal agendas, hidden assumptions, and theoretical definitions) and group discussions about arising issues, could improve the productivity and quality of the research process. Similarly, attentive to the integrity and transparency of qualitative research, Flick (1996), proposed that reflexivity is an attitude of attending systematically to the context of knowledge construction, particularly to the effect of the researcher, at each stage of the research process. It is important that the researcher's motives, background, perspectives, and preliminary hypotheses and research questions are presented, and the effect of these issues are sufficiently dealt with. Reflexivity emphasizes an awareness of the researcher's own presence in the research process. This becomes necessary if we accept that "as researchers, we create worlds through the questions that we ask coupled with what we and others regard as reasonable responses to our questions (Kikoski & Kikoski, 2004, p. 180)."

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We as researchers construct that which we claim to find (Steier, 1991). The purpose of reflexivity is to improve the quality of the research. Gergen and Gergen (1991) explain that by critical reflection and examination and exploration of the research process from different positions, we use our reflexivity to move us outwards to achieve an expansion of our knowledge and understanding.

The interview method becomes an appropriate research tool whenever the investigator is working on research problems involving human subjects (Patton, 1990; Glesne, 1999; Rossman & Rallis, 1998), although attention to several potential biases should be considered by the researcher to avoid common threats to the trustworthiness of the study. Therefore, in order to mitigate any possible bias, the researchers' role consisted of trying to understand the interviewees' epistemologies and ontologies (in relation to concepts of strategy engineering), without attempting to prove anything or advocating a personal agenda.

In order to collect data successfully through an interview, there is a relationship (rapport) that must be established between the researcher and the respondent (Glesne, 1999). A number of experienced researchers such as Maguire (1987) and Andersen (1993) have warned investigators about the undue influence they may have when conducting qualitative research, especially through the interview mode. According to Koch and Harrington (1998), reflexivity exposes the epistemological and ethical grounds of qualitative research. Reflexivity therefore has the effect of sustaining concern for objectivity. Many qualitative research studies consist of the intensive examination of an incident situated in its context (Glesne, 2011).

Case study methods and other forms of field research require the use of multiple data collection tools because no single data source is enough on its own. Glesne asserts that establishing sufficient relevance and validity are essential elements when conducting qualitative research, but reflexivity is an equally important standard, which should be incorporated into the research design. Relevance, validity, and reflexivity are overall standards for qualitative forms of research inquiry. Researchers' backgrounds and position in the research context influences what they choose to investigate, the angle of investigation, the methods judged most adequate for the purpose, the findings considered most appropriate, and the framing and communication of conclusions (Malterud, 2001).

Reflexivity involves reflecting on the way in which research is carried out and understanding how the process of conducting research shapes its outcomes (Hardy et al, 2001). Reflexivity entails the researcher engaging in a critical appraisal of his or her own practice - whether this be research or client work. Reflecting on why we frame issues in particular ways, investigating them in particular ways, and understanding how such approaches lead us to select particular kinds of solutions and theories and not others.

In this research, in order not to influence the interviewee, the researcher intentionally tried to avoid driving the interview with questions that directly link to the research questions in ways that constitute "leading questions". As well as not seeking to lead research participants to expound on set topics or agendas, the researcher tried his best to ensure that the research was not biased. Limiting bias can be performed by being transparent in the research process, recording events accurately during data collection, providing sufficient information for readers to make their own

interpretations and likewise taking into consideration all matters that any of the participants in the research disagree with. The researcher's motives, background, perspectives, and preliminary hypotheses were all communicated to the interviewee before conducting the interview. To ensure that the research is valid and reliable, some statements made by interviewees that were considered radically supportive of the research objectives were highlighted and removed from the study. Overall, the research design involved use of multi-data gathering tools in order to ensure sufficient validity and reliability of the research.

It is worthwhile readers knowing that the researcher for this thesis was particularly influenced by technology and information in his education, and that is why he decided to study computer science obtaining a Master's degree in Computer Science and Communication. The Masters dissertation topic was on voice-over internet protocol. However, the researcher had a parallel interest in management, therefore, the researcher decided to study for a Master's degree in Business Administration, and the dissertation was on crisis management and decision-making. Through studying computer science, communication and management, the researcher became interested in civil and architectural engineering.

This background probably helps to explain why part of the literature review for this thesis is about civil engineering as well as the engineering disciplines, in general. The origins of the term "engineering" stated in the literature review attracts the researcher's curiosity as too does the introduction of new engineering disciplines discussed in the literature review.

After graduation, the researcher worked in various domains, publics sector, private sector and strategy & operations consultancy. He gained wide business exposure on family conglomerates,

financial markets, automotive industry, trading, hospitality, property management, construction, animal wealth, food safety, food security, agriculture, education, transportation, utilities, and social and sectors.

Since graduating, the researcher has worked in the management domain, however, the researcher realized that his job is not protected since anyone can work in management, even if he/she does not have a university degree. While other researchers discover that being a medical doctors, engineers or lawyers, provides the incumbent with protection where not just anyone can assume his occupation; only those who have the required professional certification could assume the position. This finding influenced the researcher who believes that the management profession has to be protected, equally to engineering and other specializations. However, in order to understand how the engineering disciplines could be more closely allied with strategic management in organisations, the researcher conducted an extensive literature review to understand the past influence and future potential of the engineering disciplines, as well as using focus groups as a central method to elicit ideas from people experienced in management as well as applying them to formulate the interview questions.

Over time, in his career, the researcher has aligned his interests with strategic and performance management services; including government vision and policy, delivery & benefit realization, portfolio strategy, M&As, diagnostics, target operating models (TOM), organisational restructuring, process reengineering, corporate performance, divisional performance, process performance and individual performance.

The researcher was influenced by the approaches of the strategy houses and big four advisory consultancy firms as he worked directly and indirectly with them. However, the researcher had depicted several topics that were worth further research and became very much interested in contributing to the body of knowledge on strategy. To avoid becoming overly focused on ideas and practices in the large firms, the researcher took care to identify alternative perspectives published by the smaller consultancies, boutique firms, and by influential practitioners and emerging scholars

The researcher spent most of his time travelling around the Middle East due to his work appointments. The researcher is married with four children. The researcher is active in sports and has good health, but due to long working hours, the researcher had gained extra weight in the last couple of years. The researcher aims to publish a book about strategy engineering, as well as taking on an adjunct professor part time job after obtaining the PhD degree.

3.12 Impact of using Research Tools

The deployment of a combined set of diversified research methods generated a significant supply of data in this study on strategy engineering. The methods and tools used had been extensive for in-depth data collection and analysis and had applied multiple perspectives to examine participants' ideas and views on strategy engineering. The following table explains and summarizes the benefits and disadvantages of each research method.

Table 9: Areas Investigated vs Research Methods

Research Method	Area Investigated	Benefits	Challenges
1:1 Interviews	GAPBEN, GAPIDN, GAPGEN, PBPCNA, PBPSNA, PBPPRI, STRTRU, STRTAR, STRCHA, ORGSED, GOVATH	It was a magnificent chance to sit down with senior managers and talk about their ideas on strategy. The interviews were informed by numerous ideas and approaches articulated by the participants in this research. Their frameworks and models of strategy outlined and revealed a great deal about mindfulness and self-learning consolidating components of individual morals, processes of thinking and self-reflection. These interviews' records conveyed an abundance of learning in the practices and techniques applied by senior managers, and without these interviews, the researcher could not have come to formulating new ideas on strategy engineering.	The most conspicuous challenges were getting the interview access endorsed, setting the date, and deferring or changing the arrangements often several times. A few interviewees were not excited about being recorded, and a proportion of the participants demanded that they composed their answers and sent them after the interview or meeting was concluded. Finally, the point of the empirical interview study should have been further clarified in some case, so that all of the research participants recognised what was implied by procedure building for strategy and strategic management.
Focus group	GAPSTU, GAPIDN, PBPCNA, PBPSNA, PBPPRI, STRTRU, STRTAR, STRCHA, ORGSED, GOVATH	It was a valuable strategy to elicit point-by-point, data about focus group members' recognitions, emotions, and perspectives. Focus groups allocate collective group time to research phenomena, in contrast with individual meetings they give a more far-reaching scope of information and extend the opportunity to look for explanations about the leaders' abilities in driving change. Especially advantageous data were given by spotlighting	Most of the obstructions that the researcher encountered with the focus groups arose with the attempts by one or a few individuals who attempted to encourage the discourse in a particular direction. By dominating the discussion, they could change or reproach the perspectives of different members, thus making it harder for the researcher to obtain the full range of information available in the group. Likewise, a portion of the members did not cooperate maybe because of

		different groups' practices and approaches to strategizing, particularly issues of planning, implementation and governance.	a withdrawn group communication style or introverted personality. Also, there was a general predisposition dependent on the degree of fear that there would be an exchange of information disclosed in the gathering to parties outside the focus group. The researcher recognised these challenges and tried to abstain from impacting the discussion and sought to energize and motivate the majority of the members to express their ideas and suppositions unreservedly and transparently.
Investigation	GAPSTU, STRRES, ORGFTP, PERPER, PERIMP, PERMON	Observation methods empower the researcher to think about the participants through "close to home" perception and relational communications inside the work environment. It is a helpful method to explore members in genuine collaboration and communication with their work and friendship groups. The researcher attempted to direct his perceptions of sessions before the meetings to ascertain and comprehend in greater depth participants' explanations of on how they manage and achieve successful progress in the working environment.	Observation can present the researcher with difficulties in distinguishing what is happening distinguishing it from more insignificant learning and peripheral activities.

3.13 Coding Stage

The coding process is a process used to categorize, tag and accumulate the data. Codes assist as a method to abstract and clean the course of dialogues and data collected. The researcher developed codes to link, analyse and interpret the data collected. In phenomenographical research, the coding is an essential part in the analysis process. The researcher frequently initiated the analysis by trying to write down a brief statement defining his preliminary impression or assessment in general. The objective of coding was to explicitly find out terms or expressions used in the context of strategy engineering. Additionally, the researcher's coding system was safeguarded by the fact that the literature offers a wide range and rich sets of general and specific thoughts on strategy engineering. Consequently, the earlier review of the literature was important in helping the researcher with what he wanted to deliver with the collected data, which was an extensive range of terms and methods relating to strategy engineering, attained through various qualitative research methods like interviews, observation and focus groups.

The researcher used both open and pre-set codes, beginning with a "start list" of static codes fed from the theoretical framework and previous familiarity with the subject matter. The prepared code list was planned before the interviews began. However, the numbers of codes increased throughout interviews based on participants' feedback and expressions of thoughts. Sandelowski (2000), argued that the researcher could start with a pre-existing coding system, constantly updating the system during data gathering and the analysis stages, and in certain cases, it might be rejected in totality for a new system. The process of pre-existing coding is a "template analysis" as stated by Miller and Crabtree (1992).

In the very beginning, the researcher created a preliminary list of 18 pre-set codes, and defined what each stand for. This code inventory was an essential reference tool in the analyzing and interpreting process. Through the data collection process, new codes came into the picture. Therefore, a new set of codes came from understanding the transcripts and analyzing the data. The researcher identified and created four new codes, which were separate from the pre-set codes list. Thinking about the coding of the data is essential in order to look at these codes as a system for organising the data. Furthermore, during the process of creating codes, the researcher asked numerous queries as he was reading the transcripts; for instance, what is this statement trying to say? What does it describe? What are the dominant ideas, concepts and themes here? What confirmation does he/she attempt to provide? What is he/she delivering?

3.14 Summary of Chapter

The research considers that strategy is under the umbrella of science. As the research is conducted in the Middle East region, and because of the nature of data required to be collected, the researcher decided to conduct this research following qualitative methods. This qualitative research focuses on leadership at executive and senior levels in organisations. To ensure validity and reliability, the researcher conducted three focus groups, ten interviews and ten observation sessions.

This research includes new propositions; research questions were developed with the expectation of leading to development of a new theory. This research therefore has to have a strong element of subjectivity and hence can be categorized as subjective in its orientation to the empirical domain. In order to achieve the qualitative research objectives, the researcher used an interpretivist epistemology.

The research conducted interviews, focus groups and observations to discover new insights about the field and understand the phenomenon of strategy engineering from multiple perspectives. Methodological triangulation was applied by following a multi-method research approach.

The research design comprises of a sample of ten organisations nominated from all three major sectors of employment; Public, Private and NGO's. There are three government organisations in the Kingdom of Saudi Arabia (KSA), a PMO (portfolio management office), a performance management government entity (centre of government) and an energy & utility ministry. In the United Arab Emirates (UAE), the large size family business is a conglomerate operating in multiple industries and three government entities specializing in education, food and social wellbeing. In Lebanon, the sample selected was two NGOs operating in multiple fields relating to social well-being and a medium size family business in export/import trade. The data collected from the three qualitative research methods (focus groups, interviews, observation) were recorded, transcribed, analysed and interpreted. In order to achieve concrete findings, the research is inductive. It starts by capturing observations, then finding patterns. If commonalities were obtained from each data source and type, a pattern was mapped which, it was hoped, could lead to a new theoretical contribution. A code connotes the researcher's understanding of the carefully examined content. Coding is an endeavour to make a connection between sections of the empirical content (including first-order concepts, second-order categories, themes, and new theoretical ideas), hypothetical argument, and research questions. Therefore, codes are identified and developed to a more theoretical level than the words that appeared in the transcripts. From this data and codes, strategy engineering definitions were derived. The research is empirical in so far

as that the theoretical outcomes should emerge inductively from the data rather than are deduced

according to concepts available in the existing academic literature.

CHAPTER FOUR: RESEARCH RESULTS

4.1 Introduction to Chapter

This research adopted a qualitative methodology to examine strategy engineering. Based on this purpose, data were collected and interpreted systematically. Saunders, Lewis and Thornhill (2007, p. 4) define research as:

> … something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge. Two phrases are important in this definition: 'systematic research' and 'to find out things. 'Systematic' suggests that research is based on logical relationships and not just beliefs (Ghauri and Grønhaug, 2005).

Strategy has many definitions; however, in the management context, strategy is all about future directions. Strategy is not time bounded; it can be for one day, one week, one month, one year, three years, five years or even 50 years. However, the results show that strategy engineering is an overall approach to achieve a certain set of objectives. It is the approach, the overall platform, the road towards a specific target. Consequently, strategy engineering has numerous contributions to make in professional life, academia and even consultancy.

The researcher conducted multiple methods of data collection, and these tools had a substantial influence on obtaining accurate and sufficient information from the sample of research participants. The coding procedure was inspired by ideas and themes from the literature review on strategy engineering. The codes were utilized prudently to refer to the impressions given and the spirit of the explanations, views and styles of expression voiced by the research participants. In the following sections, a detailed explanation of the analysis is presented and the results

acknowledged and analysed based on the process of coding and descriptive categorising of the data collected.

4.2 Focus Groups Result and Analysis

A commonality amongst the three focus groups was that it was the first time they had taken part in such a group. Many questions, in terms of 'why now', 'who gave you my name' and "why you nominated me" were asked. The focus groups did not declare any radical statements, or statements totally opposite to the statements that were made by the senior executives; however, it was obvious that there was fear and hesitation before answering a question, particularly when the researcher asked why strategy fails. He could say that the focus groups outcomes confirmed the data gathered during the interviews. As an outcome of the focus groups, two key finding were noted: Strategy Engineering Conceptual Framework and Key considerations. The focus groups' key outcomes were more psychologically oriented. Moreover, because the contribution of the focus groups participants was very particular as expected. All discussions were very enlightening and insightful. The terms, expressions and observations noted were due to massive experience they possess.

4.2.1 Focus Groups Outcome '1' (Strategy Engineering Conceptual Framework)

Based on the focus groups input, the researcher drafted the first draft of the strategy engineering framework after the focus groups been conducted. That was based on the input of the focus groups participants. They indicated to major streams that enable successful strategy, strategy resources and organizational development. Focus groups participants However, the Strategy Engineering

conceptual framework was ratified after literature review been done and research results been analysed and discussed in chapter 5.

4.2.2 Focus Groups Outcome '2' (Key Considerations)

During the focus group conducted with the NGO, the researcher observed a sense of high collaboration. Everyone knew the entire strategy, was well prepared and well versed, and could answer even if the question was not reflective of his/her functional role. The researcher observed that the strategy is well communicated in NGO's, and it is well cascaded to each and every member. However, due to the cost of strategizing, he discovered that although the strategy is there, embedded and implemented, it is not documented.

However, the researcher did not have the same impression while conducting the focus group with the family business staff and shareholders. A key shareholder nicely declined to participate, that was a shock for the researcher; why this shareholder did not want to participate. His response was: "I don't feel comfortable talking about our business strategies failures and lessons learnt and so on while having a more senior family member attending the same focus group." When I asked why, he mentioned that in family business, the relationship between the shareholders is very politically driven and complicated. Therefore, this shareholder preferred not to speak out. Later, in a side talk, the shareholder revealed that he did not take part because he would be told in public that he does not really understand the business dynamics. That's why he remained silent; though he has a voting power, there is always someone who dominates and runs the board meetings.

The story was a bit different when conducting the third focus groups with government middle staff. All of them were willing to contribute, very well versed about the subject, and did not fear their bosses, but almost all were disturbed because of frequent changes in leadership and in strategic direction. They described the situation as a "moving target" that would be impossible to achieve. They were concerned about the constant changes. They also disliked planning for a long time, while implementing less. They also perceived a lack of balance between planning, perfecting, changing and execution.

4.3 Interviews Result and Analysis

This research proposes that strategy engineering is an essential tool for any organisation to deliver effective outcomes. In order to create successful outcomes, strategy should take into consideration all aspects, so a SWOT analysis is a good component for successful strategy. Stakeholders' analysis is a good element of a good strategy. Having the right team is also an important part of having a successful strategy. As for cascading the strategy it is part of the communication system of the organisation. Communication and engagement are extremely important in all aspects of formulating a strategy, but the key to success is commitment from all concerned. When organisations need a strategy, they explore different options and scenarios, based on current circumstances and forecasts for the future. So, the forecast for the future and the current situation will definitely change if there are interventions or if there are changes in the organisation structure or mandates, and so on. That is why it is challenging to implement long-term strategies in volatile industries or volatile markets because of the frequent changes. Therefore, the planning horizon for strategy with a dynamic volatile industry is usually very short; a year or a couple of years

maximum. For more established industries or sectors a strategy plan can be in place for 10 years or 15 years because the frequency of changes is very low.

4.3.1 Strategy Resources Results & Analysis

To deploy effective strategy engineering, you have to begin with understanding what you're trying to achieve and you have to reach out to your beneficiary; that's something really important. You have to have active participation from stakeholders and stakeholders are not limited to beneficiaries only. Stakeholders are even wider than that and broader than that. So, they include primary beneficiaries' position. Secondary beneficiaries' stakeholders who will affect or be affected by strategy. Sometimes these are your employees. Sometimes they are employees of other organisations. Sometimes they are organisations or authorities that regulatory authorities that have a say in what you do. So, all these stakeholders have to be actively participated a participating in the process specifically those who will carry out the execution those who will understand how these things will be executed and will give you some insights on pros and cons of different directions and trade-offs. You have to build on your existing strategy if you have something so you have to do an evaluation process of what worked what didn't work and you don't you build the culture of how having strategy audits and strategy evaluation. So, every year you get better.

Creating the strategy that fits what leaders want and of course that would result in no strategy analysis being conducted or not enough time being spent on planning and the result is a poor plan or a very aspirational plan without solid assumptions and justifications. Sometimes conducting strategy planning with no sufficiently capabilities lead to a bad strategy. Planning based on very

outdated information or lack of information and data would lead to low quality diagnostics that leads to poor planning. Poor planning is when not doing enough pressure testing and scenario planning.

When asked about the strategic resources a family business owner from Lebanon said:

"In my business, I establish a family to work. We have to be a family at work and not necessarily the one who heads the other because of the nature of our work and products that need quick decisions so we have to work as a family to ensure fair, effective and efficient work; to the interest of everybody. When you lose someone from your staff, that's a big problem; and it's unfortunate, that's a loss".

Wang, Ma, Song and Liu (2016) argued the political relation vs business transformation in family businesses. At the end of the day, it is very easy for experts to trick the system and develop these KPIs that look really good and effective and high value from the surface, but once you dig deep you will find that there are KPIs and targets that can be achieved without focusing on the real benefits to the stakeholders, and this is where the benefits realization comes into account. So many strategies focus on output versus outcome. Outcome is the desired end result. As an example, to improve lives, life expectancy can be extended, from 65 years to 85 years, which is an average for KSA. This is an outcome. It cannot be achieved immediately. It is part of a process involving policy, healthcare providers, education, and so on, and may happen over, probably 10, 15 or 20 years. This results in a different generation that lives longer, this outcome must be kept in mind, and the relevant sets of KPIs and capabilities needed to realize this is really long term. There are also *leading* and *lagging* indicators.

Furthermore, a senior consultant in KSA said when asked about strategic analysis:

"You have to understand what are the potential paths that or let's say strategic risks that you might be exposed to understanding your current situation doing enough SWOT and PESTLE and Micro Macro

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situational assessments. All of these are reasons for poor planning. One more thing for poor planning specifically when you're non-commercial or non-profit organisation is the lack of beneficiary engagement. So not talking to the beneficiaries specifically on the public sector and not understanding their pains. Their point of views is also one of the reasons".

According to Gürel and Tat (2017), SWOT analysis is an assessment tool used for strategic planning and strategic management in organizations. However, when asked about strategic diagnostics in relation to strategy successfulness, a senior consultant said:

"Strategist did not do enough due diligence to understand the internal or external environment to protect reasonably predictable future. That is why the strategist needs to assess and ensure that all his recommended actions and tactics are applicable, doable and practical. The assumptions that were made while strategizing was not realistic or relevant to the circumstances and the environment where the firm or organisation operates".

Organizations need to manage actively their competency portfolio, analyzing emerging and future needs for competence in line with the strategy development process (Morgan 1989; Nordhaug & Grønhaug 1994; Whipp 1991). Moreover, when a Family Business Owner in Lebanon asked about planning success factors, he said:

"The quality of the people you're dealing with is not that calibre. Therefore, this impacts your strategy success in terms of implementation, but the strategy development is yours and it happens at your though so and I am sure that you always strategized well, but there's challenges. One of the challenges is the people. Visibility and transparency enable the organisation to strategize but you cannot strategize for a long-term strategy because the weather is a major player to a detriment of any strategy, political situations and which impact economic situation which impacts liquidity with the people. In these cases, we have a strategy for six months and sometimes one month and we are working on the shortest strategic period; it might be a week strategy; we reduce the time period to ensure success. We cannot invest a lot of capital in the market so that we keep a buffer. You have to have a vision so at least you can achieve 80 to 90% of the strategy.".

Porter (1987), observed that organizations lead diagnostics increase strategy success rate. Also, the head of planning of the largest vision programme in KSA said about capacity building:

"Capacity building and training and orientation sessions are very important. There's approver. People are enemies for what they are not familiar with, so if you begin doing something and people don't understand what we're doing though. The any person is an enemy of what he doesn't understand. So unknown terminology unknown methodologies. Unknown models would be enemy of your employees. So, you have to orient and on board or employees on what you're doing while you're doing it. What is what's in it for them? So, what do they get by doing this? What's the positive impact if they, do it? What's the negative impact they don't by doing this you get their buy-in and you can get their participation the active participation that we talked about is by people who really believe that what they're doing is correct and is beneficial to the organisation and them personally. So that is also important to be able to link the planning and formulation of the strategy with the achievement of the strategic value at the end and your objectives and your outcomes the link between those two are the benefits of the benefits realization process. So, benefit realization management will assure one major concept did I achieve the strategy regardless of whether I achieved my execution meaning I can deliver a project 100% successfully. So, the project is on time within budget high quality deliverables. All the deliverables have been verified. The project is a success but that does not mean that there's not necessarily this is that is that I have achieved my strategy so I can have a 100% successful project. But I did not achieve my outcome. So, I have to have that middle link that link between delivering the initiatives and the value chain to my strategy which is the benefits that I'm trying to achieve from the projects which create value in my causality model to achieve departmental. objectives which would achieve divisional objectives which would achieve corporate objectives and so on so that link of benefits realization management understanding the leading indicators that would result in achieving my lagging indicators on the long-term is very crucial".

Competency was defined by Boyatzis (1982) as a fundamental characteristic that the individual possesses leading to achievement of outstanding performance. It is basically a combination of knowledge and skills that are needed for attaining high performance, (Bhardwaj, 2013).

Furthermore, when asked about the strategic resources, an NGO CEO from Lebanon said:

"I had an auditing firm. He's an CPA, he is a finance graduate and the CPA expert, he was involved with my strategy and before I had an advertising company, they also they were a part of my strategic plan and I had that electrician in my office he was also without him knowing a part of my strategic plan and going green energy and to how to lower the budget. The household was the week before in my office; she was saying we should use another type of soluble or solutions for making the floor and the school and the hospital and she said she's a household, what if we purchase or for the procurement, we get all our staff as she said from one supplier and thus, we will get a better price and we'll get the gallons tailored for us and whatever so everybody is a part.".

According to Combs (1993), resources scarcity is a major reason for franchise business. Changes and innovations in certain industries such as concrete, cement or steel have been very slow. So, if you look at the way business operates in cement factories or steel factories for the last 20 years,

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not a lot of changes have been introduced. I interpret two issues occurring that mainly revolve around consumer electronics, software, computers, applications, telecoms, mobiles, that all of these are very volatile. Frequent changes mean that it is difficult to implement long-term strategy. When it comes to strategy communication vs strategy cascading, here is the difference. When strategy is *communicated* this means that it is not locked in drawers. It is accessible to everyone. However, when strategy is *cascaded* and aligned, this means that it is implemented by division and department tiers, and every job has a personal scorecard. Therefore, communication is knowing the organisational strategy while cascading an alignment is knowing the different components of that strategy.

However, when asked about strategy key success factors, a family business CEO in Lebanon responded:

"Honesty is the best tool for the strategy to succeed. The trust you can get from customers is what makes the organisation generate and achieve its strategy. Sometimes small strategies are developed to achieve the big strategy and sometimes the big strategy is introduced first. Sometimes a big strategy may be developed but it later becomes clear that it is not possible to achieve it; in such a case, an interim strategy is a solution. Different factors can affect the implementation of the strategy; and an unchangeable strategy cannot be developed for some businesses depending on the nature of the products or services offered. Therefore, the speed of decision-making of the most important factors is key; for example, if a business wants to sell a product for the amount of X, sales could take place in a minute; otherwise, the buyer might decide to change his mind. That is why the product display time is reduced until it is sold within a short period of time. In other words, the products are being displayed from 8 pm to 8 am instead of being constantly displayed".

Waal (2009) discovered five HPO factors: management quality, Action quality, planning quality, continual improvement and workforce quality. However, Jenkins (2011), confirmed that there are factors that have great effect on performance when they are implemented in concert with one another and when aligned to achieve organizational goals, be it on leaderships, customer centricity, functional alignment, process enhancement, measuring, employees' development and

external linkages. The success of strategy means the success of the organisation. The strategy means how the leadership of the company or of the organisation is going to deal with, manage and organise the organisational resources. To achieve this, the strategy needs to allocate a budget for it to succeed and to allocate other government resources & capabilities.

Moreover, when asking a senior consultant in KSA about leadership, he answered:

"The most important thing in the leadership change is stability and focus. No matter what you do, if you have a board that changes frequently you cannot face anything but continuous change in strategy and vison. So, these two just go together. So, I would focus on getting the board buy-in and ownership of the strategy and I would make sure it is documented and no matter who is leading the organisation, as an executive being a GM / MD or a CEO or whatever he is or she is obliged to or obligated to Lead the organisation towards achieving, the objectives that are set by the board. So, there is very little room in changing the destination. But of course, any leader who is responsible, to move the organisation forward definitely has room to add his touch within that overall approach and an overall strategy and I think again, if you go back to the governance the question of who is responsible and who is who is responsible to edit or change or recommend changes and then who's responsible to approve once this is locked.".

Vora (2002), argued that leaders core values and concepts enable high performance. Strategy engineering is highly influenced by leadership, strategic analysis and capacity building. Strategy engineering provides criteria to measure success. Strategy engineering is influenced by strategic resources. Gap-based diagnostics is a main component of strategic resources. Gap-based diagnostics include internal and external analysis, strategic analysis for resources (HR, IT and Finance), benchmarking, identifying challenges, identifying issues, identifying risks, identifying areas for improvement, identifying improvement measures, strategic analysis for market attractiveness, strategic analysis for market competitiveness, identifying full potential and recommending corrective action/s.

Leadership style impacts on strategy resources. The most important factors that support successful strategy engineering are stability and precision. Leaders must ensure that strategy is a plan that

should be implemented with some chances to change when and as required only. Frequent change dilutes the strategy. Frequent change of leadership and senior executives interrupts the implementation pace and momentum. As well, leadership should be clear about strategy performance measurements. KPIs and targets should be in place, with owners and data sources identified. Leadership should show a high level of commitment towards strategy; that would increase people engagement. Moreover, leadership are responsible for setting a good work environment. Teamwork, a one-family organisational culture, cooperation and competition would all impact on the strategy's degree of successfulness. Fairness is a major component in the organisational environment. Lack of fairness results in less committed employees that result in less productivity and could even prompt deliberate carelessness or sabotage. Lack of fairness leads to less trust in many organisational aspects. Less trust within an organisation might lead to lack of honesty with management and clients.

Strategic analysis impacts on strategy resources. Gaps would be identified by conducting various types of tests. R&D is initiated by good strategic analysis. Successful R&D means that a gap had been identified, a recommendation had been formulated, and a valuable innovative strategic action have been taken that meets stakeholders' expectations. If the analysis is not comprehensive enough, then the gaps would not be depicted. That would negatively impact the solution since the recommendation would not fit to the gap. This then would result in organisational stagnation; hence strategic failure. For instance, in a centralized organisation, procurement is supposed to have superior buying power thereby benefiting from economy of scale. However, if a centralized organisation is placing separated orders, that means this organisation had not utilized its scale. Only comprehensive internal analysis for a procurement division could arrive at these

conclusions. Equally, a comprehensive internal analysis would identify synergy opportunities that would catalyse strategy implementation, hence strategy successfulness. Moreover, analysing the effective and efficiency of work processes and procedures would result in identifying and resolving issues, hence facilitating the strategy's successfulness.

Capacity building will also impact on strategy resources. On the top of being a good place to work, organisations should employ high calibre staff for embarking on a successful strategy engineering journey. A strategy engineering journey is very long and demanding. The more the strategy engineering team get deeper into their analysis, the more value they generate for the organisation. However, a balance between analysis and planning is required. Over-planning is equally harmful as not having a plan. A strategy engineering team does not consist of strategic planners alone, it incorporates all organisational functions. Thus, building a capable and diverse team to design and execute strategy engineering is essential.

A good strategic engineer must make a good job of data-mining and foresee the structure and the risk assessment as he could be misled by more optimistic figures, false indications and charts. A successful strategic engineer should question all the input given to him and thus produce his own data sheets and rely on them to minimize any future drawbacks. Mainly companies, organisations and institutes in Lebanon put strategic planning in place for where the company wants to go - i.e., the best nuts company, the best school. However, according to what standards is planning implemented and who will categorize it? Is the goal quantitative or qualitative; does the company want to invest in the process? Large companies are buying false reward. For banks, what is the success benchmark in Lebanon is complying with the G.A.T.C.A and F.A.T.C.A. treaty or anti

money laundering agreement as a part of the strategy. Alternatively, is accumulating money a success? Does a strategic engineer or implementer play a role in the mission and ethical status? Can they engineer a vision or make dreams come true? Or do they lower the expectations for a day dreamer? A strategy engineer is exposed or has been exposed to many firms and many sectors while CEOs are exposed only to schools only to companies, particular factories or offices and specific industries. The higher number of companies that you are exposed to then the better engineer you are and the more you can be trusted as a consultant. This is my way of thinking or how I see things, said an NGO CEO in Lebanon.

Additionally, when a senior consultant in KSA asked about prioritization, he said:

"Many studies show that about 90% of strategies fail because of poor implementation. Often, we see that the team that developed the strategy are far away from practical experience, hence. There is a huge gap and there's no link between shifting from strategy to implementation. So that is like a sudden, shift without proper buy-in and on-boarding so you end up with two different teams one develops a strategy and another team responsible to implement, you find this huge gap usually. It's often you see the team responsible for implementation is not engaged in the strategy development phase so they don't know why or how, and sometimes you find them not even believing in the strategy itself because they were not part of it."

Li and Yang (2003), governance tackles the key compliance processes, measures, and goals for meeting and surpassing regulatory and legal requirements, as appropriate. However, the "strategy" criteria fall in two sections - strategy *development* and strategy *implementation*. Strategy development addresses the strategic planning process, terms, scenarios, participants, changes, transformation and prioritization of initiatives, as well as agility and flexibility. However, a senior government executive in KSA said that prioritization is:

"a key success factor to strategy implementation. Actions have to split into three different buckets. Very urgent and cannot sleep. I need to be address ASAP. One that could really wait. And it's not as the one in between so and these are the Gap analysis and I'm assuming that a good Gap analysis was done. And also, I'm assuming that the leaders really can transcend and have a very good centre of the reaction of the new

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change with the policy or structure. So, if he has a good sunset of the outcome of this change, and we totally understand what's going to happen after this change the people leaving the organisation or more resistant towards the new way of doing things so and by introducing things in a very efficient and effective way then change will be successful in the opposite is true. Sometime the leader cannot really have a sense of his action the outcome of the action and he will be really playing catch-up so action and reaction.".

Strategy engineering is also influenced by importance of actions, urgency of actions, organisational needs and dependencies. Thus, the four factors are part of prioritization. Prioritization is a sub-component of strategy resources, where strategy resources is the first pillar of strategy engineering. After diagnosing the organisation, the organisation would set the strategic priorities based on importance, urgency, needs and dependencies.

Important action item is that brings great significance or value to the organisation. Important action is the action item that contribute most to the gap bridging. It has the highest weight amongst actions and it have the best consequence. Importance might be due to volume of safeguarding the organisation.

However, urgency is when a certain action is required to be done today before it is too late tomorrow. Any delay in implementing an action, would result in major damage to the organisation. Urgent actions are no regret actions; could be an aid or a rapid intervention. SWAT (special weapons and tactics) team usually is assigned to undergo an urgent action. Lately, governments are introducing delivery units that act line SWAT teams in order to intervene at the right time and eliminate a legal, procedural or financial obstacle. SWAT team is a law/policy enforcement team that eradicate a certain risk swiftly.

Furthermore, organisational needs are things that are required to achieve organisational objectives or to bridge a certain gap. Organisational needs are critical wants that could not be skipped.

Organisational needs are not luxury, could be deferred for a good reason but could not be neglected.

After rating and qualifying action items, dependencies have to be identified. What starts first and what comes next and what goes to the last. When a dependency is identified, two actions could be in series, while when dependency does not exist, two action items could go in parallel. Later, dependencies could contribute to the identification of causality between strategic objectives. As well as dependencies could facilitate the identification of portfolios, programs and projects.

4.3.2 Organisational Development Results & Analysis

Some strategies require the strategist to study the existing governance in order to implement a proper strategy. Some of the other objectives require the strategist to think about and articulate new governance to handle certain operations. So, it cannot be claimed that strategy comes before governance, it depends on the situation. It could happen both ways.

A senior government executive in KSA said about change management and its impact on strategic planning:

"If you do not have a strategic plan, then you are planning for failure. Sometimes the circumstances will not help you. So, while we start implementing strategy for any reason something happened which distract the whole strategy and it changed the direction of your strategy. So that's why sometimes strategy should be a working document, a living document, it should remain unlocked, dynamic. So, it's not like a fixed plan, you built it and you don't want to move anything. As long as circumstances are changing, it is permeable for a strategy to change".

According to Pasqual and Weck (2011), change management is the phenomenon of change propagation by which a change to one part or element of a design requires additional changes

throughout the product. However, when a senior planning government official in KSA asked about planning success factors, he said:

"The planning side really should reflect the culture as well to be successful. Sometime you're not really matching and you're asking for too many things on the plan to be done so quick, i.e., in Saudi Arabia right now, we're going to put unrealistic strategy and planning without really reading the culture So the plan will definitely have to pick into resolution, with the consideration that the culture of performance up front".

Brydena & Bollmanb (2000) argued that strategic planning and strategic management had become a mature academic profession. Moreover, when asked about leadership change in relation to strategy implementation, a senior management consultant in KSA answered:

"Change management vs strategy implementation is the biggest challenge. Every incoming leader has new ways of doing things as does the new team particularly tier 2 employees.   Sometimes it takes six months or so, if not longer, for the new leader just to understand really what is happening in this organisation. And he began to read it to select his change management team that you were going to force is a new way of doing things in your strategy. And that's take time. So, every single time you introduce a new team a new leadership team, you're losing six to one year minimum and if you do it every two years, you're losing 50% of the opportunity to really go and make things happen.".

Aguinis (2007) discussed that when arguing about strategy and strategy execution management, it concerns the full cycle of strategy implementation. Furthermore, a senior executive management consultant said when asked about change in strategy:

"The change management topic itself is very well discussed and there many different strategies and approaches to manage that. You always show the carrot ahead of the stick show them what's there for them before telling them what are the consequences of not following the change. That's one the other one is having the change agents. It's like a steering committee, you identify those in organisations to influences the organisation. They don't necessarily need to be from the way top management".

However, said when asked about over planning, a senior executive management consultant in KSA:

"Call it plan plan plan plan plan plan. That means take your time and really provide a very good plan; one plan that is 90% done and you're not going to change yourself that much. This is what I mean—Plan Plan

Plan. What's happening in Saudi Arabia is over planning and then change the plan again with another over engineered plan. KSA is not stable, it's very dynamic and based on this you cannot really go to the execution yet because people get lost. Saudi Arabia wants something different and this 'different' was introduced too quickly on the go — it could have been done better So eventually things had to be fixed put on the plan side and it has to be very well monitored on the performance side. We have to wait and see it because Saudi Arabia is too big too complicated too bureaucratic.".

Barber (2011) discussed that too much planning is a common mistake that strategists make, while less implementation happens. However, when asked about the over engineering an NGO GM in Lebanon said:

"If you go back to the Germany and UK and Japanese schools. It's a plan plan plan and then execute especially if you have a long-term plan. This region is "Plan Quickly Mode" and see and test how things will go and then revise after a while. Be at the government or even big corporations. So, of course when your plan is not very well studied and a lot of scenario planning and tested and backed up by a lot of research. So, you have eventually you have to plan again? Or as a planner or leader you will fail and somebody else will come over you. Then he can again. So, I will give you a small example: In Middle East, specifically Oman, Muscat was influenced by the British way of planning things Oman had a 2020, 20 years back. And now they're working on 2040. I'm supposed to be with them again. Probably soon on a very short assignment. Three years ahead of starting of the cycle of 2040, which is 2021. So, and they're taking their time like three years on the plant side. And I'm not saying the Omani is good version to give as an example of success of the execution. No, it's not. However, they are giving the plan. It is right and it is attention. Meanwhile if you go to Saudi Arabia. Maybe other countries here. It is plans quickly on the execution execute and then discover that you need to change the plan and you go and plan again and go back to execution. So, to answer a question plan plan plan and then execute".

Hauc and Kovacİ (2000) discussed that the effectiveness of management activity in the whole company is increased by introducing the project plan of business strategy implementation. However, when asked about his opinion about communication as a catalyst to strategy implementation, an NGO GM in Lebanon answered:

"Communication is key to making sure that all stakeholders and involved people are aware of what is going on. Communication is about transparency and setting expectations. Change is a difficult task, and people are by nature resistant to change Strategists are aware of this and know that making major changes to an organisation in terms of human behaviour among certain groups of people that has been in place and followed the same routines for a long period time, brings resistance, as people tend to like to create their own comfort zone and live in it. So creative changes are something difficult that requires change management; this in turn requires buy-in from the people concerned and that should be in the mind of any strategist. The rabbit says in the wonder world if you don't know the path any road is your choice, and it

is for the strategic engineer to pit the safety bumps and direction signs and the asphalt, and supply you with the GPS navigation apparatus".

According to a senior executive management consultant in KSA, organisational levers are so important for strategy implementation success:

"When you don't bring the right contractors, you don't put budgets that are well-developed. You don't put people that are good enough. So, it's a combination of productivity efficiency picking the right partners the right contractors the right teams managing the projects. Well so its execution. And then when strategy is not achieved it's not because you didn't have a good strategy. You had the good strategy. It's just that you didn't prepare strategy enablers. So, you can have a culture in place where you have a governance on how you deal with changes in strategy, but you have to have the ability to dynamically change your strategy. It's not set-in stone. It's not something that you don't touch.".

Strategy has so many levers. Levers could be having the right organisation, having the right tools, having the right processes, having the right tactics, having the right objectives, having intermediate objectives, assets, systems, bylaws, and employees. The organisational levers readiness is the essence to the delivery of best strategy.

Moreover, when asked about the organisation structure a Senior Consultant in KSA said:

"The organisational structure itself plays a main role in the success of the strategy. Newly established all with the new mandate organisation. When the mandate for a new organisational strategy is approved, it is vital to ensure that all the required structures, policies and governance forms ae in place for the strategy to succeed, where governance is embedded for a long time in the heart of the people and in the organisational culture, then making changes is difficult. So, to be able to implement good strategy governance forms have to be taken into consideration, along with the limitations that may already be in place with the governance, which is not always easy to change, particularly in public sector. So, this is going back to how fast to book and go. Loving the Titanic is different from a Scooby or small boat. So, each one inherited with the lot of attributes, example the Titanic because of the size usually the government is so inflexible in structured organisations like ADNOC or be it a government entity with half a million people.".

Rumelt (1982) argued that organization structure is a key player of OD, and he suggested that corporate profitability varies subject to diversification strategies. Caves (1980) defined "organizational structure" as a tool used to internally allocate tasks for hierarchized resources in

order to have proper decision rules. According to a senior consultant in KSA, he described

governance as:

"What's happening in Saudi Arabia, revision of the plan and adjusting of the plan so much so quickly, but we're going in a zigzag, that is why it is taking too long in planning. There's really no strong plan upfront and they did not really focus on the execution yet as the plan is weak, and conflicting overlapping messages. Let's focus on the objective first and then let's focus on the program next. And a lot of adjustments is happening on the plan and will continue to happen for the next 2-3 years. So, I do not call this good planning time, it's not good planning time".

According to Gelter (2009), governance is the essential way, method, law and practice followed

in order to make sure the organization is working properly. However, a senior government official

in KSA said when asked about governance in relation to strategy implementation:

"Governance has many definitions; the most important feature is *accountabilit*y. Accountability should be supported by an authority matrix so all roles and decisions would be agreed upfront and implemented. Governance is very important and enforcement of governance is also critical. Committees are an essential part of the governance structure. Governance is a component of the strategy; it is not that strategy comes first and governance comes second. Governance is the authority that each and every member of the organisation structure has so I always ask myself this question, the way I see it on top of my mind that there is a prerequisite of the governance so first of all, you need to build the org structure. So, we need to have all the rules that existing in this company or in this organisation when you have all the rules and then you identify for each of the rules what each the responsibility of each role then you can start saying before this process, let's say this person can review, this person can approve, this person can confirm, this person can do a quality review, so those are the authorities I would say".

Hillman and Dalziel (2003) discussed that centralization and decentralization influence the

strategy implementation When asked about policy change in relation to strategy implementation

in relation to project management, a senior government official in KSA answered:

"Taking for example in KSA as we know and the national transformation program one of the key challenges is the procurement because if you follow the classic traditional procurement process that is enforced by the MoF Ministry of Finance policy, the process Itself by design takes around three to four months for major projects to be appointed to a supplier or a partner, so three to four months with a transformation program is a very long time just for procurement. So, one of the benefits or the added value that our centre here was able to provide to all public agencies or entities was the introduction of a new policy that gives huge flexibility to any initiative under the national transformation program and there is an exception with a more robust procurement process. Once the change achieves the objective, things go

back to their original situations; for example, once NTP is done or is over by 2020 immediately issue a decree to cancel that change in policy or which is also important you might run a post activity analysis and assess you, maybe not continue maybe. VROs will be probably dismantled.".

Grundy (1998) argued that project management as a tool for strategy implementation. Strategy implementation projects established an increasingly significant and high-profile application of project management. As for project management, a big four consultant from KSA was asked about the strategic outcomes, he said:

"What we have mentioned is lagging it comes to really long. We will need to wait 20 years to know if our strategy succeeded or not. Here comes the art and science of developing leading indicators; things that you can measure in a year two years five years ten years that can give me a hint an indication of whether we are moving in the right direction or not., so and these could be strategic on long term, but some could be measured through the output as an outcome. You can have even an outcome you can have leading and lagging in the outcome without but the output is immediate, so you have an initiative, you have a program. You can measure immediately the output out of this program and initiative so you think here comes the importance of measuring both and benefit realization could happen at an outcome level and it could happen at an output level. It all depends on the initiative. So, for example if the benefit I'm looking for is to improve my ranking in ease of doing business. So, if the benefit I'm looking to introduce is improve ease of doing business in the country. There are certain things that I can do like opening centres improving regulations, whether it's introducing new ones or changing or deleting or cancelling some regulations. Then this is a direct output of a specific initiative, but then I would have immediate benefit realization some as the earlier one, which is the life expectancy. That's a benefit realization that takes very long time.".

Benefit realization is making sure that the set target and the sets of the objectives are achieved in their simplest terms and forms. Some schools of thought believe that project managers should not be concerned about benefits realization, but should just be focused on delivering projects, achieving tasks, and finishing on time with the right cost, with acceptable quality. Strategists need people to implement the strategy and if strategists do not get the buy-in from the implementers, then the entire strategy is at risk. If the strategy sponsor (the leader sponsoring such changes) gives up on the strategy halfway through, the strategy is bound to fail unless a new leader steps in and continues to process. A sponsor is needed for every change, and is obligated to see the process through to its intended outcome.

Barber (2011) suggested that the needle of the strategic outcome will not move if the initiatives are not fit or not sufficient. However, when asking a senior consultant in KSA about performance management, he answered:

"So maybe you have a product and you don't have any target how many items you want to sell during the year at the end of the year maybe you sell 1,000; 1,000 it could be a very good number and it would be a very bad number, right? So, in order to know this in advance, you need to come up with a KPI that would say what is your target? What do you want to achieve by the end of the year? Of course, on your competitors, on benchmark on many things and then when you sell 1,000 for example, if your target is 800 then you are exceeding it. You should be very happy and celebrate and if your target was 10,000 you said 1,000 then you should be very worried and start looking into the root causes of the issues that you have.".

Handfield and Ghosh (1995), stated that performance management is a mean of organizational sustainability. In NGOs, strategy is built on the success of every program with a set of ethics. An NGO GM in Lebanon said when asked about reasons of successful strategy implementations:

"as in every domain with the international NGOs' monitoring and assessment processes we find ourselves and in addition to competition, that we are inserting strategies and adopting," ready strategies" and not tailoring our own strategies that are bounded with many limitations not the least is the religious limitations and the non-stable political and fiscal situation in Lebanon".

The main driver for strategy is the leadership; leadership commitment to strategy, willingness to implement the strategy and buy-in for the strategic initiatives. They should be supportive and they should be aware about the strategy and its expected outcomes or what is the strategy looking for? Leadership should be aware of and well informed about the steps or phases of the strategy. As well as if the strategy has robust key performance indicators, then leadership have a robust major measurement process. Then leadership would know whether they succeeded or not, as well as they know about the results in a structured way; i.e., cause and effect relationship provide an opportunity to know how KPIs will impact or influence the another KPIs within the strategy. Performance management (PM) is an emerging and very sensitive area. It is gaining increasing importance in today's business environment. When starting any project, the organisation needs to

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know what exactly it wants to achieve. What is the target? If no target is set, then the outcome is difficult to measure.

Strategy engineering is highly influenced by change management, strategic communication and OD. OD is the second pillar of strategy engineering. OD consists of strategic planning, OD, governance, project management and performance management.

Any strategy has a finite life and is subject to change. However, there are two types of changes that work to the detriment of strategy: change in leadership resulting in change of strategy, and, change of strategy resulting in change of leadership. Frequent change in strategy dilutes the strategy and interrupts the organisation. Usually new leadership tends to prefer implementing a tested strategy that has been applied before in an organisation elsewhere, because new leadership often hold less faith in the organisation's existing strategy and team. Moreover, new leadership might often resort to replacing senior executives, which might impact on progress of the strategy implementation. Besides, the communication of the new strategy downwards then providing feedback upwards would also impact on strategy implementation and its rate of progress. Managers at all organisational levels should be aware about key aspects of the strategy, in addition, all employees should be fully aware about his/her expected contribution to strategy within his/her domain.

Strategic planning takes inputs from prioritization exercises and formulates vision, mission, values, strategic objectives and initiatives. A strategic plan should avoid being unrealistic; strategic planning is about reading the organisational, industry and national cultures involved. Over-planning works to the detriment of an organisation so that it stagnates usually stuck in the planning phase

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and lacking strategic action and delivery. Strategies that are too complicated are often related to organisations that are too bureaucratic. Simple organisations are able to produce more meaningful strategies. The more a strategy is complex, the less the organisation is likely to grasp the appropriate strategy. The less the strategy is complex, the more likely the organisation will execute the strategy successfully.

Organisation structure along with the functional roles of the departments and job descriptions of the staff should possess strategic fit. The strategic plan and organisation structure must be aligned. Organisation structure should support strategy communication and implementation, and should be vivid and clear. It must include all committees and advisory bodies; direct and indirect reporting lines should be clearly specified and relevant. Centralization and decentralization have major impacts on strategy, mainly from cost, risk and efficiency perspectives. The strategy will dictate whether the organisation is oriented towards centralization or decentralization. IT should implement centralization or decentralization based on the strategy; equally all corporate and shared services like HR and Finance.

However, governance, would demarcate the roles between the centre and the core business. Governance has a major role to ensure polices and procedure are in place. Governance ensures that authorities (financial and non-financial) had been distributed fairly, adequately and safely. Raising the decision-making quality is part of the role of governance. Governance should ensure that decisions are taken on a timely basis, by the right group of people that yields the maximum benefit. Moreover, governance has responsibility to secure minority rights are observed. To do

so, governance engages with the company's legal function, board of directors and principal stakeholders.

Initiatives that are derived from the strategic planning exercise would typically be categorized in portfolios. These portfolios are organised into programmes. Initiatives could be categorized directly into programmes, which would then require designing into various portfolios. In the project management profession, a programme is larger than a portfolio. Individual initiatives are projects that ought to have strategic fit to the strategy. All initiatives should have detailed plans, business plans/cases, outcome indicators and outcome targets, intermediate indicators and immediate targets, and progress indicators. For all initiatives, benefit realization should be measured, according to the level of achievement, complexity of project, current project status and severity of risks.

Performance management should not be used as a punishment tool. Performance management is a means to assess and improve performance. Performance management systems may be used to troubleshoot issues. Performance management is an apparatus that acts as a form of navigation indicating whether or not an organisation is going in the right direction. If an organisation's senior executive management want to execute a strategy, then the organisation should monitor, assess and evaluate the strategy execution. This should occur at the level of project initiatives, organisational processes, individuals and departments. Performance management provides an early alarm, system so long as the KPI's alignment and cascading are performed correctly. Reporting performance frequently avoids any critical slippage in performance. Over measuring, double measuring and expensive measuring work are all to the detriment of the organisation.

Organisations that make decisions based on information are called "Informed Decisions Organisations" and they are more likely than others to be successful organisations. While organisations that take decisions based on opinions and improvisations are more likely to be fail.

4.3.3 The Position and Potential of Strategy Engineering

There are numerous benefits of adopting strategy engineering. Strategists should always start with the end in mind. Targets should always be the ultimate objective. Therefore, the strategy including initiatives should have some leading indicators. Leading indicators are intermediate indicators which will lead to the outcome indicators. Priority-based planning is part of the strategy and it may be an enabler to the strategy. GAP-based diagnostics is like when you do gap analysis and imperative analysis, SWOT and PESTLE analysis in the strategy.

There are many reasons for poor planning, one of which is "jumping in conclusion". Force-fitting something that is precooked in mind. Sometimes, this is an effect of bad leadership or rush. When having an executive with specific direction in his mind and he wants to force-fit a strategy component and jump in to a conclusion.

A family business owner from Lebanon said when he was asked about strategy success:

"I constantly measure. The most important measure is income. You need to know how much your income is to make sure that your strategy is applied efficiently or not. If you find that income in declining, that means that the strategy is a failure".

Lien, Teng, and Li (2016) claimed that key cause for strategy failure is an inefficient execution. Increase in the demand for products is a key indicator of a successful strategy. If a company wants to achieve the expected income, it must have gained more customers who are much more willing

to buy their products, and gained suppliers that are much more willing to supply the company's

needs. Success is not only an increase in income but can be in the form of expanding the base of

customers and suppliers.

When asked about the strategic outcomes a big four consultant from KSA said:

"A successful strategy which is well engineered will definitely have a very good benefit realization and impact but in some cases, the impact would be decreasing the budget on expenses vis-à-vis electricity and renewable energy; in order to do that, you have to always engage people in all levels from the GM of the organisation until the GM n-1 (one level below the GM) or GM n-2 (two levels below the GM) to the lowest employee level possible because these are the people who then will carry the strategy forward and these are the people who can implement it on the top of what the strategic planners (who are owning the strategy) who own the vision and the mission and the values; would make sure that everything is happening as per their aspirations of the leadership".

Barber (2011), stated that in order to ensure that strategy is going to deliver, continuous tests have

to be conducted When asked about the strategy engineering an NGO GM in Lebanon said:

"We are definitely exposed to a limited number of organisations, while the strategy engineers would be a guy who have exposure to a very wide range of sectors and organisations, be it on public, private and NGO. GPS is developed to be followed, methods and frameworks are all tools that support organisations to arrive to where the strategy is seeking. We don't say that there is a good strategy or bad strategy, but we say that there is strategy which is not executed properly. And when we talk about strategy execution, we talk about Performance Management. We talk about governance. Maybe we talk about communication engagement and so on".

According to an engineering consulting firm, "Strategic Engineering" in Australia

(https://strategicengineering.com.au/), strategy engineering in the contracting sector is about

finishing on time, within budget, and with high-quality deliverables' standard. Moreover, a

family business CEO in Lebanon said about strategy engineering:

"People hear about civil engineer architectural engineer mechanical engineer. It's not known that any person studied strategy engineering, however, in my own opinion, the most important engineering in the world is strategy engineering. Strategy engineering could be positioned as the mother of all engineers; the world has to generate strategy engineers and have to let people adopt strategy engineering framework. In

future, people will have a chance to know that strategy engineering is the father and the mother for all engineering disciplines because if we want anything to be successful, it should be engineered. Strategy engineering must be a mandatory course for management majors, and gradually it could be a stand-alone major in universities. Now a days, if you want to let your children go and learn strategy, there is no correlation between engineering and strategy. So, we have a big gap between strategy and engineering although engineering is the action that is supposed to make everything successfully. Everything we do have to be correlated to the science. In order all sciences to be successfully, it should be engineered in a proper way. Engineering is the word that can make any business and any science successful".

Furthermore, in order to bridge the gap, a civil engineer gave an analogy about civil vs strategy engineering concepts, he said:

"I'm an engineer originally. So of course, anything that is in the domain of engineering I really believe in engineering as the heart of creating a better world and in all aspects and even when it comes to management, so besides of management should be engineered should be built and better terms and in better practices and mechanisms. So being able to engineering strategy to result in better inputs processing and outcomes. I think is a valid direction. Terminology, of course is very close to my heart". I want to tell you that I am waiting for the day that I can tell my kids go and study Strategy Engineering in the university and strategy engineering in the University will make life better in all words in all country and will make success and specialization in everything".

Horikawa (2009) argued that civil engineering is the oldest of the engineering domains, and its main task is to execute civil works in order to make the properties of matter and the sources of energy in nature valuable to humans. A family business owner from Lebanon said when he was asked about strategy success:

The art of strategy success is based on how a company can combine the strategy with the department's annual plan and performance appraisal of all employees. I think everyone will be aware or will be responsible for the implementation of strategy the key performance indicators or the performance appraisal if it is work far than or far of the projects and initiatives that related to strategy. When the initiative is implemented, there should be some sort of indicators that are needed and monitored. Based on that the company can decide whether it is really achieving the benefit realization.

Strategy success means that the organisation has achieved targets that have been set for KPI's. Success is not necessarily achieving 100%, success is achieving the minimum accepted by the board. In order for a strategy to succeed, CEOs should define what success is otherwise, you

CEOs would always have a debate with the board whether or not the strategy is succeeding or not.

The phrase "strategy engineering" is not commonly used, and is underutilized in the academic and practitioner literatures. This term could be introduced and used more often in published work provided that it is properly justified conceptually, theoretically and ultimately in day-to-day actionable strategic practice. Therefore, the term strategy engineering could be investigated in greater depth. Strategy engineering seeks to enhance strategic planning frameworks based on priorities, prerequisites and interdependencies that enable the highest quality strategic plan and subsequent implementation. Strategy engineering is an intellectual discipline that requires high calibre, analytical competencies and its practice orientation is paramount (engineers are mostly concerned with getting things done). Strategy engineering assumes that it would require a group of processes (or process categories) to be performed in order to achieve the optimal outcomes. Strategy engineering offers strategy practitioners opportunities to add value, such as enhancing causality, impact, predictive validity, controls and benefit realization. To deliver these benefits, design and execution depend on adequate specification of a robust set of planning and implementation stages that are based on diagnostics and prioritizations set within time-bounded activities.

Strategy engineering contains a set of tools that support organisations in building solid strategy focused organisation. Strategy engineering is about defining necessary and possible strategic solutions for identified gaps. Strategy engineering is very reliable in diagnosing all aspects of the organisation and depicting areas for improvements. Strategy engineering provides a framework

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to prioritise actions based on organisational capacity, urgency, needs. Strategy engineering supports the organisation in defining what is success, based on a strategic direction. Strategy engineering ensures strategically fit organisation structure. Strategy engineering establishes reliable systems and controls to ensure that stakeholders' rights are maintained and fully upheld. Strategy engineering ventures on strategic planning to align organisational project in order to ensuring benefit realization. Strategy engineering goes hand in hand with performance management various layers to ensure that the strategy is implemented as planned.

4.4 Summary of Main Findings

Correlating the strategy and engineering terms make sense. The world is losing a great deal in strategy planning because there is not enough awareness of strategy engineering. There is no framework or model talking about the strategy process from a to z; describing how and when we gather data and how we collect our data and how we analyse those data up to how we judge the success of strategy.

It is important to develop qualifications and credentials for strategists. The job of strategist is very challenging unlike project management for example, which has credentials, along with some other disciplines. The researcher observed that project management is a very solid clear framework that could be unified. Strategy engineering is something much bigger - much more challenging. Thus, in the same way, it is increasingly important that strategy engineering is also constructed and defined within a clear framework. Strategy engineering has great potential once perfected or at least developed and has the potential to solve a range of problems.

The researcher discussed the importance of introducing a worldwide renowned concept of having a worldwide renowned certification process for strategy because right now certifications in the strategy domain are very narrow, and are not globally standardized. There are different certifications that are offered by Palladium, KPI institute, and BSI and by specific universities; however, none of them is comprehensive and none of them is sufficiently 'global' there is nothing like PMI's PMP, for example. If that certification existed for strategy engineering, it would have saved many conflicts and deficiencies. The researcher postulates that, in order to have a successful strategy execution, four layers should be addressed first; these are strategy direction, initiatives and project management, operations, and human resources.

Engineering and applied science involve applied precision, applied clarity and numbers. Strategy by itself should be beyond that; it is not only when organisations have a quantitative side, it is also having the change management, the politics and the prerequisites in place. The term 'engineering' was used the opposite way; when someone wanted to implement a well-done strategy in the past, they called it "over engineered strategy". So, we always used this phrase all the time in the past to remind people not to over-engineer the status. So, the 'strategy engineering' term for well-accomplished strategies in the future probably could be used. Also, the term 'strategy engineer' could be used on the structure of the strategy and not necessarily on the execution site. In this context, the discussion is talking about building the design and not really following the monetary aspect of the plan. People would not mind using it in the future, but terminology really is not a final destination, it is really what goes on inside.

Protecting the strategy job is a priority, and should be mandated. There should be a government body or a professional body who mandates that in the same way that other professions, organisations, orders and assemblies are all usually regulatory bodies that governs and orchestrate a profession. These bodies usually issue work permits that are prerequisites for obtaining a job offer. The strategy profession market has to be regulated. It simply does not make sense to employ someone in strategy firms and management consultancies who has never studied a strategy course at university. That would be a recipe for failure. No one should have the right to take up a strategy-related job unless he/she has the suitable strategy qualifications.

The examination of the results of the empirical research for this thesis demonstrates that strategy engineering is of great significance. Whenever there is successful strategy and effective implementation, strategy engineering is implemented and exercised by organisations. In particular, the successes of quality programs, strategic planning, and all OD programs are the result of the strategy engineering approaches. The results confirm that the success of organisations is directly related to the identification of gaps, priority setting, direction setting and initiative planning, structuring, and measuring performance. Furthermore, organisations' use of strategy engineering components has varying degrees of efficiency.

The identification of organisations in this research sample was based on the assumption that all contributors of the sample would own a series of strategy engineering components, but would display them to fluctuating degrees of knowledge and proficiency.

The research clearly shows that the seven components of strategy engineering – explicitly gap-based analysis, priority-based planning, strategy planning, project management, OD, performance

management, and governance - are all significant and required areas in leading organisations to success. These seven areas of strategy engineering are acknowledged by the sample of organisational leaders as areas of no regret, significance, responsibility and accountability. However, some areas of strategy engineering are more significant than others. Recurring statements and discussion by participants during the data-gathering phase suggests that identification of gaps and analyzing the root cause, setting true north, fit-to-purpose organisation structure, aligned initiatives, planning performance and solid policies and procedures are the most critical and effective components in building successful organisations. Based on the theoretical framework, constructs had been identified. Respectively, focal research issues and frequency of occurrence. The frequency indicates to the validity of research participants perception/opinion. The focal research issues occurrence summary is vivid in Appendix VI. For further details, please refer to Appendix VI. The table below summarizes the occurrences:

Table 10: Theoretical Framework and Codes

Theoretical Framework	Constructs	Focal Research Issues	Frequency
Gap-based Diagnostics	Benchmarking	GAPBEN	10
	Studies	GAPSTU	10
	Identification of gaps and analyzing the root cause	GAPIDN	75
	Generating recommendations	GAPGEN	30
Priority-based Planning	Corporate needs analysis	PBPCNA	20
	Stakeholder needs analysis	PBPSNA	30
	Prioritization	PBPPRI	66
Strategic Planning	True North	STRTRU	54
	Target Setting	STRTAR	10
	Resource Planning	STRRES	20

	Change	STRCHA	30
Organisation Structure	Design philosophy	ORGSED	40
	Fit to purpose	ORGFTP	44
Project Management	Alignment pressure test	PROAPT	38
	Sufficiency Analysis	PROSUF	34
	Likelihood of achievement	PROLOA	10
	Benefit realization	PROBEN	20
Performance Management	Performance Planning	PERPER	46
	Implementation	PERIMP	40
	Monitoring and Reporting	PERMON	30
Governance	Policy and Procedure	GOVPOL	60
	Authority Demarcation	GOVATH	50

CHAPTER FIVE: DISCUSSION

5.1 Significance of the Research

Wernerfelt (1982), argued that the usefulness of analyzing a firm from resources perspective not from product perspective. He identified new strategic options which emerges from strategic resources. He believes that products and resources are two sides of the same coin as most products required the services of most resources and most resources are used in several products. To get to an optimum product/service, minimum necessary/viable resources should be utilized. Traditional strategic planning tackles strength and weakness of resources positions (Andrews, 1971). Lawrence and Lorsch (1969), identified four steps to OD, diagnostics, planning actions, implementing actions and evaluation of achievement. However, Kahn (1974) claimed that the term "Organisational Development" is significantly undefined in the literature. Gerasimov and Gerasimov (2015), argued that there are some concepts of OD, from slow improvement to a radical change of management systems and their components.

This research is defining strategy engineering in the context of both strategy resources and OD. Therefore, the research significance is that it proposed strategy engineering as a new model taking into consideration the dependencies of OD on the strategy's ability to deliver; strategy engineering motivates and supports robust and effective governance. Strategy engineering is an integrated model that aligns all organisational aspects, from planning for strategizing, on to implementing the strategy. The researcher has predominantly argued that a strategy engineering model will help

policy makers and strategists by highlighting a new horizon, which has been available informally for many years, but has escaped adequate formulation. Furthermore, the exploratory, inductive components of this qualitative research present a new theory based on emergent findings and indicate important directions for future academic research and practice-oriented investigation. Moreover, it is predicted that the strategy engineering model could lead to advances in theory and practice whenever it remains firmly based on concepts in engineering and principles of strategy and business management. In conclusion, the concept of 'strategy engineering' has been explored in this thesis in much greater depth than ever before and it presents a common methodology and set of standards for strategy researchers, policy makers and practitioners.

This research is the first study that groups strategy resources components in one concept, as well as the first to group OD components into one. It is also the first time that capacity building has been clustered under strategy resources and that the sequence of OD sub-components has been placed sequentially this way. This thesis is the first to examine the relationship between strategy resources and OD.

The topic explored was not easy to research since it is not a prevalent topic in the literature and selecting this research problem entails high risk of failure. The researcher understood that a high-risk research subject would have potential to yield high value results and low risk research is more likely to yield results of comparatively lower value. To mitigate the risk, the researcher includes a very wide range and diversity of relevant concepts in the review of the literature and many prominent scholars and recent researchers have been cited and discussed.

This research contributes to the body of knowledge in regards to the strategy engineering topic in academia as, currently, the literature does not say much about strategy engineering. Therefore, this research has defined the boundaries of strategy engineering and made them available for future researchers. The strategy engineering concept highlights and bridges the gaps between current and target states, establishes dependencies, moreover, strategy engineering influences the organisation to plan and implement change. The strategy engineering concept deploys an organisational approach bringing together various units assuring alignment of all key elements, factors, stakeholders, people, and culture. Strategy engineering empowers the operational implementation of business strategy and delivers a common language to articulate a strategy in real terms of values and objectives. It further provides a tangible set of structural ideas around which to generate positive and fruitful debates and arguments. The strategy engineering concept offers a common language for communicating aims and understanding internal obstacles and external forces, and provides organisations with an opportunity to justifiably optimize the size, shape, structure and delivery of organisations.

The research also has implications for practitioners, by shaping the strategy success thereby incorporating several procedures, on strategic resources, gaps diagnostics, organisational aspects and other practices that matter the most. It encourages education institutes to think about offering more focused and detailed courses, and training institutes should develop comprehensive certificates that enable the holders of these certificates to carry the loads of a very complex topic -strategy engineering.

The research in this thesis has defined strategy engineering and the strategy engineering components. Strategy engineering is a conceptual model that depends on two main pillars - strategic resources and OD. The first pillar is based on identifying gaps, priorities and prerequisites to diagnose what is the current state of the organisation and what has to be done, while the second pillar is based on establishing organisational enablers in order to obtain a successful organisation. Furthermore, this research has discussed the reasons for successful and failed strategies, identified strategic challenges, and recommended mitigations. A range of tools including gap-based analysis, priority-based planning, strategic planning, organisation design, project management, performance management and governance have been discussed, reviewed, evaluated and redefined in order to create a firm conceptual basis for strategy engineering. The strategy engineering concept is based on input vs. output. Gap-based planning is a pillar within the strategy engineering conceptual framework. If organisations are capable of diagnosing correctly, this would enable them to prioritize efficiently and then organisations can plan effectively. That would allow organisations to execute well and measure accurately. This will definitely yield towards achieving desired result.

5.2 Empirical Concepts of Strategy Engineering and their Relationships to the Literature

This section discusses strategy engineering and related concepts relevant to the literature review. 'An important task in the discussion chapter is to position your results within the larger literature of the area and discuss how it supports, contradicts, or extends that scholarship. Being able to position research generally requires a great deal of reading and reflection' (Heppner & Heppner,

2004, p. 335). This section shows how this research supports previous research, extends previous research and contradicts previous research.

Defining the term "Engineering", Petroski (1992) stated that engineering is the presentation of mathematical methods or scientific theories or economic formulas in order to develop and innovate a machine, model, system or organisation, where an engineer is an engine operator. Furthermore, Borrego (2007) mentioned that engineering is the creative application of scientific theories to design structures, machines, apparatus, or processes; in light of maintaining priorities and prerequisites. As a discipline, engineering has undergone numerous evolutions. Based on evolution over time, the researcher identified five stages of development; 1) Founding Engineering, 2) Conventional Engineering, 3) Contemporary Engineering, 4) Emergent Engineering, and 5) Anticipated Engineering (where strategy engineering is located).

Based on the literature specified in Chapter two, the "Founding Engineering Disciplines" were initially established within architectural engineering and military engineering. Later, the engineering sciences and philosophy started to evolve into more focused domains. Civil engineering, mechanical engineering, electrical engineering and agricultural engineering began to appear more frequently as distinct areas of established technical and professional practice. In the mid-twentieth century, the world started to become much more complex in terms of markets, industries and technical products and services. As a result of these developments, the applied sciences started to change more rapidly and at higher levels of complexity; computer systems began to appear along with many electronic breakthrough achievements.

With these major technological changes, a need for complexity engineering grew alongside other disciplines. Therefore, electronic engineering, computer engineering and systems engineering disciplines began to become more essential and widespread areas of mainstream practice. The new engineering disciplines have all been classified under contemporary engineering disciplines. Strategy is a subject discipline and area of practice that depends on programme implementation; however, strategy engineering is resolutely a phenomenon of long-life duration. Strategy engineering is constituted as a set of connected activities and an anticipated (emergent) strategic management discipline.

The literature review covered strategic planning and governance, including organisation structures and roles and responsibilities of incumbents. However, strategy engineering is a new school of thought, which starts from the prioritization concept but with definite linkages to corporate growth and customer centricity. Researchers publishing in the social sciences and engineering literatures rarely discuss the linkages between strategy engineering and governance.

Strategy resources is an integral part of strategy engineering and includes all of the diagnostics, resources and prioritization elements; all these elements combined lead to a reliable strategic plan that simultaneously facilitates OD. Traditional strategic planning deals with strengths and weaknesses of resources and positions (Andrews, 1971). However, Wernerfelt (1982) discovered that the usefulness of analyzing a firm from the resource's perspective is not the same as analysing it from a product perspective.

Wernerfelt (1989) stated that after you know your critical resources and the capacity of each, you are ready for action; you know the resources at your disposal. Furthermore, Peteraf (1993) stated

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that the resources bundle and capabilities underlying production are heterogeneous across firms. Firms gifted with such resources are capable of producing more economically and better satisfying customers' wants. Helfat & Peteraf (2009) have since drawn researchers' attention to the significance of dynamic capabilities for understanding how firms can sustain a competitive advantage by responding to and creating environmental change. Dynamic capabilities started as an 'approach' to understanding strategic change (Teece et al., 1997). Dynamic capabilities specifically address concerns rooted in behavioural theory, including organisational growth, organisational learning and managerial decision-making, routines and processes (see, for example, Helfat et al., 2007; Teece, 2007; Zollo and Winter, 2002).

The resource-based model is theoretically associated with internal assets, asset specificity, and, less directly, with transactions costs. Firms must adopt strategies that their resources can support. Conner (1991) argued that a resource-based approach to strategic planning focuses on costly to copy attributes of the firm resources. However, Johnson, Langley, Melin and Whittington (2007) researched the gap highlighted by resource-based researchers and concluded there is a need to understand the activities that support the distinctive resources providing competitive advantage for organisations. Collis and Montgomery (2008) advocate that this problem can be divided into identification of compelling resources and un-compelling resources.

Strategy engineering is a flexible theory able to categorize resources into compelling and un-compelling. Under the first pillar of strategy engineering's conceptual framework, in the second sub-component of strategy engineering, the gap-based diagnostics is capable of assessing organisational resources, whether human, technology or financial. The procedure thereby is first

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to identify the critical sets of resources, then assess how far these resources are competitive and attractive, leading to an evaluation and estimate of the strengths and weaknesses of these resources in order to recommend a full potential programme.

The resource-based view is not new, it offers an explanation of competitive heterogeneity based on the premise that close competitors differ in their resources and capabilities in important and durable ways. These differences in tum affect competitive advantage and disadvantage. Nothing in this premise necessarily implies a static approach to the resource-based view, notwithstanding some controversy in this regard (Priem and Butler, 2001). Indeed, recent research on the evolution of organisational capabilities suggests the promise of dynamic resource-based theory (Helfat, 2000). The concept of dynamic capabilities (Teece, Pisano, & Shuen, 1997), for example, has attracted increasing attention (Zollo & Winter, 2002; Zott, 2002; Teece, 2018). By definition, dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities. Teece (2018), argued that business models, dynamic capabilities, and strategy are interdependent and that the strength of organisational dynamic capabilities support shaping its proficiency at business model design.

The resource-based view extends not only to the assets of an organisation but also to its capabilities. A resource refers to an asset or input to production that an organisation owns, controls, or has access to on a semi-permanent basis. An organisational capability refers to the ability of an organisation to perform a coordinated set of tasks, utilizing organisational resources for the purpose of achieving a particular end result. Both resources and capabilities may evolve and change over time in important ways. This analysis focuses on the evolution of capabilities,

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deferring an analysis of resource evolution to another time and place. Heterogeneity of capabilities and resources in a population of firms is one of the cornerstones of resource-based theory (Peteraf, 1993; Hoopes, Madsen, and Walker, 2003).

Based on historical case analyses of large US corporations that grew in the 19th and 20th centuries, Alfred Chandler's (1962) "Strategy and Structure" defines strategy as consisting of long-term goals and objectives and accommodating a set of processes that are required to achieve these goals. Andrews (1971) summarises a strategy as consisting of a pattern of goals and intentions that defines the business of the company. Moreover, Mintzberg (1985) argued that strategy is often in practice a comprehensive look at the organisation but not a very accurate future vision. Furthermore, Barber (2017) stated that strategy is the competitive advantage that achieves lasting progress over competitors. High-performance organisations are the result of organisations implementing integrated systems. For example, organisations that have unrelated diversification strategies have robust and strict financial controls. Consistent with what Engelbart (1992) argues, achieving high-performance organisations will involve huge changes throughout their capability infrastructures. A high-performance organisation is simply an establishing system and goal perspectives to determine how much performance is required in order to determine how much resources are required. Waal (2009) examined the factors that determine the constant success of any high-performance organisation (HPO). In the literature the HPO is often referred to using different terminology such as, the high reliability organisation the adaptive enterprise, the flexible organisation, the agile corporation, the high-performance work organisation, the real-time enterprise, the high-performance work system, the intelligent enterprise, the resilient organisation,

the sustainable organisation, the accountable organisation the robust organisation, and the responsive organisation.

Under the second pillar of strategy engineering's conceptual framework, in the fifth sub-component, performance management is allocated. The common strategic assumption and rigour is that all organisations should be performance-based. Strategy engineering advises adequate monitoring and measurement in order to enforce accountability and benefit realization. Following this procedure means that sufficient and suitable KPIs would be identified on all organisational levels; corporate, divisional, process and individual. These KPIs should be measured and reported frequently. A blend of leading and lagging KPIs is preferred in order to be able to establish the precise causes of an issue, and to realise integrated intermediate and long-term visibility.

Hierarchies are associated with bureaucracy and bureaucratic organisational forms (Thompson et al., 1991; Rhodes, 1997a, b). Characteristics of bureaucratic hierarchies include a high degree of centralization of policy-making and resource allocation, essentially suggesting an institutional channel to implement central directions, with limited autonomy given to the periphery.

Under the second pillar of strategy engineering's conceptual framework, in the third sub-component, governance is allocated. Governance in the context of strategy engineering is achieved through rational coordination and control. It ensures that accountability and responsibility exist and are fully functional, encompassing authority demarcation, committees, policy formulation, process and procedure design, risk mitigation, stakeholders' rights, transparency of reporting and legal functions.

This section addresses "Gap Based Diagnostics" which is a critical part of strategy resources. Gap based diagnostics concentrates on diagnostics and recommendations. If the diagnostics are not right, then the recommendations would not be suitable or lack sufficient fit, thus, the gaps will remain open. Furthermore, benchmarking is the search for the best industry practices which will lead to exceptional performance through best practice implementation (Camp, 1989). Pyzdek (2003) argued that prioritization is to arrange or deal with issues in order of significance. Organisations normally face challenges in terms of budget, time, and personnel, and as improvement projects may also disrupt normal operations and standard routines. The effective and efficient, selection and alignment of them with organisational objectives is crucial for the success of any improvement initiative. Rothermel, Untch, Chu and Harrold (1999) characterize the prioritization technique as an execution order according to some criteria.

Moreover, Pool (2000) claims that an OD model is established to measure concepts of a learning organisation. Donald (2011) defines OD more broadly as a management discipline that aims to improve organisational effectiveness by increasing the utilization of human resources and systems. OD objectives seek to generate an organisation that is fully operational while simultaneously enhancing opportunities for individuals to develop their potential. OD is the set of systems and tools that enable organisations to successfully plan and implement strategy. It includes five main sub-components: strategic planning, organisation structure, governance, project management and performance management. The literature on each of these sub-components are iterated in the following paragraphs.

Horwath (2006) argued that the term "Strategy" was first used in military practices to point to a long-term plan set within conditions of high uncertainty acting by following agreed procedures and agreed decisions. Bateman and Zeithamal (1990) defined strategy as a set of implementation items aligned to designed resource allocation to achieve the organisational objectives. Byars (1984) and Bartol and Martin (1994) went further defining strategies as comprising a large inventory of action plans for interacting with the situation in order to achieve long-term goals.

Thompson (1967) defined organisational structure as an internal outline of relationships, responsibilities, functions and lines of communication. Barney and Griffin (1992) and Bartol and Martin (1994) went slightly further describing organisational structure as a vital framework of positions adopted to carry out the organisation's objectives. However, Caves (1980) argued that "organisational structure" is a tool used to internally allocate tasks for hierarchized resources in order to have systematic decision making, and clear procedures for the entire set of organisational functions - including but not limited to appraisal and reward - required to best achieve corporate strategy. Grande and Torgier (1970) defined the organisation as an entity linking multiple people that has a particular common purpose.

Ferguson, Mansbach and Richard (1996) argued that a polity is a recognisable entity; any group of people who have a collective identity, who are organised by some form of institutionalized social relations, and have a capacity to mobilize resources. A polity can be a group of people organised for governance, the government of a country, or country subdivision. Moreover, Hezri and Dovers (2006) examined the role of sustainability indicators as an assessment method for sustainability within the emerging context of governance and governance policies. According to

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Rhodes (1997) the term policy is an alternative to a set of formal and informal institutional linkages between governmental and other players structured around common interests in public policymaking and implementation.

Grundy (1998) has discussed the ways that strategy implementation and project management have generally developed quite separately and independently. Consequently, numerous opportunities for cross-fertilization are presently under-exploited in theory and in practice. Hauc and KovacÏ (2000) argued that the effectiveness of management activity in the whole company is increased by introducing the project plan of business strategy implementation. Moreover, Barber (2011) stated that too much planning is a common mistake that strategists make, and means that less implementation happens that should. However, Pich, Loch and De Meyer (2002) argued that a suitable strategy depends on the type of uncertainty present and the complexity of the project. In a major study on the state of academic knowledge in the project management subject discipline, Cicmil, Williams, Thomas and Hodgson (2006) argued that whilst a great deal is written about traditional project management, only a little is known about the ''actuality'' of project-based working and management.

According to Otley (1999) performance management is a means to execute, accelerate and improve performance by monitoring and reporting performance on frequent basis. Without measuring, there is no management. Setting the right KPIs and KPTs will benefit the organisation. In relation to public sector performance, Osborne & Gaebler (1993) contested that performance is perceived as the realisation of public values and this is more likely to occur when there is active reinvention of government facilitating greater entrepreneurial behaviour. In the private sector,

Hatry (1999) asserted there are always challenges involved in deciding how to measure performance of a company. Bouckaert & Peters (2002) argued that research on corporate performance has tended to use a range of different measures of success, which can be classified into one of two groups: financial and nonfinancial. According to Kaplan and Norton (2001) when Peter Drucker (1954) introduced the "management-by-objectives" (MBO) concept, Drucker's brilliant concept was poorly implemented in practice, leading to MBO in most organisations focusing on a range of local measures and initiatives that were not linked to high-level corporate objectives. The BSC facilitates individual objective setting to be cohesive across the organisation and linked to high-level strategic objectives. Kaplan and Norton (1993) suggested that the main benefit of strategy maps is that they are able to communicate the strategy to an entire organisation.

The literature review conducted for this thesis reveals a substantial compatibility with the specified strategy engineering pillars and their components. The empirical research has led to some modifications of the initial concepts on the subject and contributes to the wider body of knowledge through a framework model that integrates critical parts of a strategic plan showing how strategy execution is advanced based on the identified relationships. The ultimate purpose of this model is to enhance organisational success thereby building capacity, identifying gaps and priorities, strategizing, structuring, implementing robust governance, implementing project and performance management principles.

Besides, this research concludes that strategy engineering is a novel and steadily anticipated discipline of theory and practice. Implementing the strategy engineering model requires professionalization of the area which could be attained through university collaboration and

professional institutes and associations. Future developments will lead to more detail and clarification of the efficacy of the proposed approach to strategy engineering. For these outcomes to be achieved, a strategy engineering curriculum, professional standards criteria and sub-criteria will need to be developed. Furthermore, to assist organisations in diagnosing their current state or in implementing strategy engineering, strategy engineering assessment tools will need to be introduced.

5.3 Discussion of the Research Results

This section states the most important, meaningful and useful findings. It reflects on the big picture of the empirical research. The presentation of this section follows a sequence similar to the structure that was presented in the results section. 'Probably the most important element of a discussion chapter is a thorough and engaging description and analysis of the results of each hypothesis of the study' (Heppner & Heppner, 2004, p. 330).

In this section, the results will be linked to the research questions. 'Regardless of the order, you must thoroughly discuss your findings for each hypothesis and research question. Omitting results because they were non-significant or uninteresting is not appropriate' (Heppner & Heppner, 2004, p. 334). However, results in relation to research objectives will be stated in chapter six.

Strategy highlights the availability of choices for an entity or organisation to move towards the desired outcome, through adopting different choices thereby analyzing various potential paths in advance of strategic action. Reflecting on paths an organisation might pursue or even those an

individual can offer presents different scenarios and resources to achieve the optimal outcome. Strategy is fundamentally about choices that are available to organisations and individuals.

As for the practical implications and theoretical contributions, it is anticipated that this research will develop a new model that takes into consideration the dependencies of policies and organisational structures on strategy and governance. That model will assist policy makers and strategists by highlighting a new perspective and school of thought that was not thought about before. In addition, the model proposed in this thesis advances a new theory based on the findings explored. The terminology used here is based on the idea that strategy is a plan. In order to be successful, the plan must be structured in a professional manner, taking into consideration all key success factors and key success criteria.

Strategy engineering is especially critical in the contemporary business world more so than any other form of management and engineering. Strategy engineering, it is claimed by the researcher for this thesis, should be the guiding principle for all strategies. Strategy engineering's existence and value is based on the extent that it is found to be realistic. Strategy engineering is oriented to finding a suitable mechanism and approach to achieve specific objectives. The strategy engineer's role is to translate leadership objectives into tactics and into applicable actions that have achievable intermediate targets appropriate to the conditions of internal and external environments.

Whenever a strategy is planned, different options and scenarios should be explored. An organisation wants to assess these choices to generate scenarios that are usually based on current circumstances and forecasts for the future. The forecast and the current situation will definitely

change if there are interventions or there are changes in the organisation structure, external conditions and regulation or strategic direction. Subsequently, if the industry or market is volatile, it is difficult to implement a long-term strategy due to fluctuations in the business environment. In such a case, the planning horizon for a strategy with a dynamic volatile industry is usually very short; planning ahead can only be conducted for 1-2 years, while the more established industries or sectors can introduce a 10 or 15-year long strategy plan because the frequency of environmental change is comparatively low.

Strategy is a future desired state that an organisation or even an individual would like to attain over time, along with wanting to know the optimal way to achieve the desired outcomes and the difficulties that they may present. The operating model of the organisation influences strategy planning and strategy engineering, for example, by cascading the targets through hierarchical channels to the concerned departments then cascading them down to the sections, and finally on to the people working inside these sections.

Designing and implementing strategy is analogous to building a roadmap for any future potential activity, which could be a business or a project, or anything which looks into the future, whether in the short-term, two to three years, or over the long-term typically for five to ten years. It actually depends on how organisations want to develop strategy components and implement strategy to meet objectives. In short, strategy engineering involves a plan for the future that includes all the activities that the business needs to carry out in order to achieve its goals and objectives. Strategy could be short-term or a long-term strategy; however, to avoid incipient likelihood of failure, strategy should be achievable.

The term engineering derives from the concept of an engine. The question as to what constitutes an 'engine' has evolved over the centuries and especially so since industrialisation and post-industrial society. Within the specific contexts of engineering and strategic management, it can be considered as groups of machines with various purposes that work respectively and in parallel to achieve one aim. Civil engineers' study for several years in universities and learn to apply professional knowledge to understanding whether designed structures are safe or not. Civil engineers explore the designed structure's safety in multiple ways; such as by running certain system/software programs or by conducting procedures to check whether the limits stated and the safety factors are taken into consideration, starting from load combinations and the moment, shear, reinforcements, stirrups, wind and seismic, soil and geotechnical factors, material, professional codes, regulations and standards. Strategy engineering and its vision is similar in some ways to civil engineering because it attains good or bad, positive or negative, safe or unsafe, logical or un-logical results. The research aim was to establish a new understanding about strategy engineering terminology specifically for those practitioners in the field of business management and strategic management, and also for future researchers who are looking to learn something new and are motivated to contribute to the field of strategy engineering.

The model advanced in this thesis on strategy engineering proposes a matrix of two dimensions, effective strategy plans and efficient strategy execution. This entails four probabilities as to how effective and efficient the desired strategy execution actually is. An ineffective strategy plan; means that the choice an organisation selected was not effective. When the strategic direction that the organisation had chosen does not achieve the desired results, it would be more likely that the organisation will have poor capacity or poor planning.

Strategy execution depends on support from executive leadership actually wanting it to happen. In the domain of strategy engineering, if initiatives are executed by middle management, there will be a strategy manager and a performance manager building the case for developing and refining the strategy. If the leader of the organisation does not authorise the revised strategy agenda and the change agenda is not given a go-decision, then it will probably fail. Hence, in terms of hierarchical authority relationships and ensuing organisational politics, there is often no difference between strategy update and strategy refresh. Many events and changes in the internal and external environments of organisations, such as disruptive technologies can prompt changes in strategy. Such changes often necessitate organisations reassessing and developing the capabilities of their workforce.

In the context of strategy engineering, a strategy refresh should happen between every three to five years because the word 'refresh' means complete revision, but a strategy update should be addressed every year. Organisations should analyse internal and external factors, changes and dynamics. Managers should ensure that the updated strategy is capturing all the changes in the environment and making appropriate adjustments by designing strategic responses to the competitive and consumer markets, and government regulations. How frequently organisations change varies according to each case, but management have to be prepared to change their strategy whenever confronted with the need for dynamic change. Organisations usually have procedures where objectives and KPIs change at the end of review periods whereas organisation structure and policies usually change less frequently.

Teams working on strategy engineering projects though should not overestimate the willingness of leadership to change and neither should they underestimate the possibility of stakeholders adapting or resisting rapidly. Private sectors tend to be more flexible to continual change, so it could be easier in the private sector to build an organisation that supports strategy engineering whereas the public sector tends to move more slowly due to complex political and societal stakeholder environments containing numerous competing political factors.

In the discipline of strategy engineering, governance is the system that identifies responsibilities, accountabilities, roles and functions. Policy is part of the governance. Having a policy or company law or internal guidelines are all part of governance. However, policy on a country level is looking from a top-down, national government approach. Therefore, strategy engineering's success will be partly dependent on the adequacy of national policies. Policy definition depends therefore on the organisational and national context; corporate policy or country policy. For strategy engineers in private sector organisations, policy is dependent on the organisational context and the corporate strategy identifies the strategic direction, component values and priorities.

Policy is part of governance and governance is part of OD. That is why strategy comes always first. However, if an organisation possesses bylaws and policies and does not have strategy, then in this case a strategy has to be articulated and the bylaws and policies should be aligned. Organisations should build their policies based on strategy vision, mission and values.

Policy is one of the tools that strategies should rely on; policy changes, regulation changes, new projects, new activities, all these are strategy engineering tools that support in achieving priorities and objectives. At the government level, when a government issues policy that regulate a national

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service or provide a certain value for citizens, this is different from a corporate policy designed to discipline and guide organisational functions.

This research has potential influence of strategy engineering on organisations. Organisations that fail in implementing their strategies are failing because they are stopping short, or missing a critical milestone, or building the strategy on a uniform basis. These root causes may be categorized under several categories; organisational capacities or people competencies. The world is facing more frequent economic crises and the social science disciplines are becoming progressively more specialized. In effect, strategy practitioners have been left behind so that no clear & comprehensive integrated strategy framework is provided in many organisations. While numerous strategy tools exist, they are not integrated, hence whenever a strategy practitioner implements any of these tools, milestones will often be missed. Missing milestones is a common reason for strategy failure. Also, some failures do happen due to ineffective leadership behaviour or inappropriate attitudes. Some failures occur because of missing systems in organisations, although these could be considered as a dependency, but no body recognises these facts.

Many strategy practitioners are not principally educated or trained in the management disciples. They simply find a job within their domain of studies, and then later decide to explore and learn strategy field. By attending training events, they do become more familiar with strategy topics, however they lack the strategy logic with solid academic foundations. They might appear fit for a strategy role at first, but as they proceed in their career and become senior practitioners, they lack sufficient competence in strategic management. This pattern has negative implications for the

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organisation in the long-run. Consequently, there is a lack of professionalism and the strategy discipline should be more actively protected and developed as a professional occupation.

One of the recommendations arising from out of this research is that when strategy engineering becomes promoted in the business world as a comprehensive framework for strategic management practice in organisations, strategy engineering would also have great potential for being incorporated in universities as an undergraduate major subject. As well as strategy engineering is best to be implemented in organisations. The initial conceptual framework for strategy engineering mentioned in Chapter Two, consists of two main pillars, strategy resources and OD. However, after analysing the data collected, the researcher concluded that the first pillar (strategy resources) would have to be adjusted. A critical sub-component was missing; "Capacity Building". Capacity building depends on three main items: 1) leadership behaviour in relation to strategy, 2) transformation team, and 3) change management.

Leadership style is critical for strategizing and implementation. Leadership must be decisive, absolute even about what leaders want to achieve and what leaders what to do and how they want to implement the strategy. Leadership should be assertive and firm about their decisions related to their strategy. Frequent changes and fluctuations work to the detriment of organisations. Leaders should be role models; very committed to strategy. Leadership must introduce a healthy work environment incorporating; fairness, accountability and responsibility.

Moreover, in preparation for gap-based diagnostics, leadership should form a transformation team to conduct the strategy exercise forward. Later, this team would drive the operations in the organisations and ensure that everyone is on board, on one page, aligned and aware of what is

happening. This team become the strategy champion and leadership ambassador in the organisation. The transformation team plays a critical role in obtaining buy-in from all organisational functions. Since people are enemies to what they do not know, people within the organisation will not like the strategy exercise in the beginning. Many people prefer to remain in the comfort zone believing that strategy is a headache. It changes most of the important things that people do in the organisation. On top of that, people dislike being monitored and measured, because strategy has a performance aspect. This performance aspect can be linked to the rewards system such as: bonus, commission, and promotions. Therefore, it's normal that people initially resist a new strategy. Here lies the importance of the role of the transformation team, to facilitate and continuously communicate and highlight the importance of strategy engineering and the value strategy engineering will bring to the organisation and to individuals.
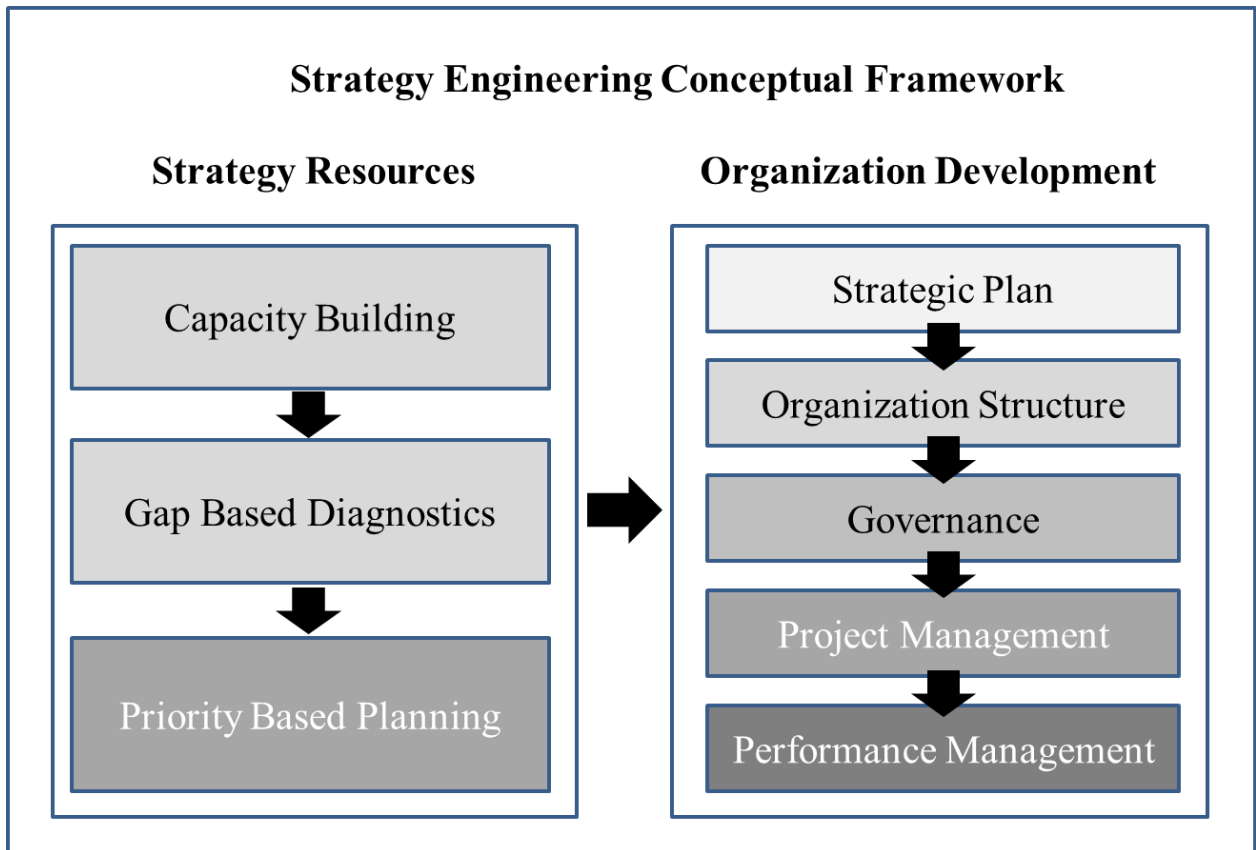
The role of the transformation team is to engage all organisational levels by conducting webinars, trainings, workshops, focus groups, and one-to-one meetings. People working in organisations are the most valuable assets. Ultimately, these people would be the ones who will implement the strategy and therefore should with time become satisfied with the process and eventual outcomes of the strategy.

Change management is critical in a strategy project. A strategy project is not a straightforward project. It involves a lot of turbulence and unexpected events. Even when the strategy is signed-off today, changes might be required tomorrow. This creates challenges in making sure less friction and more efficiency can be obtained from change management. The table below shows the strategy engineering conceptual framework.

Identification of stakeholders' needs is a critical part of strategy engineering. Equally identifying what an organisation needs from a stakeholder is critical. The identification of stakeholders needs begins first by identifying and classifying stakeholders. Then there is the identification of organisational needs from stakeholders, and based on those identified needs, priorities are formulated.

Organisational services and product offerings should also be identified and aligned to stakeholders. However, geographies in operations should also be identified. Since not all services and products can be offered in all regions and geographies, services and products should be also aligned to geographies. Equally, processes that enable service delivery should be identified. People required to perform these processes should be clearly identified in the organisation structure. Organisational functions would be determined as well as the required people skills.

Figure 5: Strategy Engineering Conceptual Framework – Updated Post Analysis

Strategy Engineering Conceptual Framework

Strategy Resources	Organization Development

```
Capacity Building
      ↓
Gap Based Diagnostics          →
      ↓
Priority Based Planning
```

```
Strategic Plan
      ↓
Organization Structure
      ↓
Governance
      ↓
Project Management
      ↓
Performance Management
```

In the beginning of the research, section 1.2, the researcher identified two main gaps related to strategy. Below are the discussions based on the gaps depicted.

a) The use of the terminology 'strategy engineering': Strategy practitioners deal with strategic planning as a process but often treat the issues too simplistically and superficially, consequently, they frequently ignore critical matters of priority, sequence, dependency and strategy implementation. Therefore, practitioners usually stop short, either during setting the plan, or after setting the plan, or during implementing the plan or while monitoring, assessing and evaluating the plan.

b) Strategy realization success: What enables strategy success is identifying strategy prerequisites and strategy dependencies. Following an in-depth review of the literature in the field of strategic planning, the researcher identified a gap relating to the application of the terminology itself, particularly in the topic of strategy engineering. Furthermore, the strategy field has also seen increasing diversity in terms of methodology. Traditionally strategic planning has been viewed as a process, while the stages of that process – setting the plan, implementing the plan, and monitoring the progress of the plan – remain understudied. The enablers of strategy success also remained understudied. It will be argued in this thesis that social scientists have failed to consider the importance of such stages as prerequisites to strategy implementation/execution and have not thought sufficiently rigorously about policies in relation to their dynamic interdependencies.

5.4 Summary of Chapter

Chapter five presents a discussion of the main research objectives, questions, data gathered and analysed in the study as well as conclusions drawn from the literature review.

The purpose is to reflect on the research findings and guide the reader to understand the significance and implications of this research project. According to Heppner & Heppner (2004) the discussion is central to the reader's perception of the value of the work as the reader might doubt the significance of the research, while the researcher might also be reluctant to make his/her work public.

'At times like these, you should remember Carl Rogers' simple but powerful statement: The data are always friendly. Thus, no matter what you find in your research and whether or not it is

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expected or contrary to predictions, the data are important to the knowledge base' (Heppner & Heppner, 2004, p. 328). The discussion is, in a sense, a "defence" of the research to the larger scholarly community. 'Although research may be designed and conducted in a private fashion, the purpose of the research is to build a public knowledge base and, thus, the results of research are ultimately for public consumption' (Heppner & Heppner, 2004, p. 328).

The discussion section is important for answering the "so what?" question. It is the follow-up to the introduction section, which persuades readers that this is a worthwhile study. The researcher should stay close to the data in order to make plausible and reasoned interpretations; 'Sometimes students take "leaps of faith" with their data and make claims that are unwarranted by their actual data' (Heppner & Heppner, 2004, p. 329).

The following sections discuss the analysis of the results including the main findings, and examine the debates grounded in the data. Specifically, it advocates in favour of identifying organisations' challenges when incorporating strategic planning and implementing strategies. The following section discusses the structure of the strategy engineering landscape.

Strategy defines long-term goals and objectives and adopts the set of processes required to achieve these goals. Strategy is a pattern of goals, intentions, and goals that are documented in a way that defines the business of the company and the type of company. Strategy is a comprehensive organisational future-oriented plan. Strategy is a long-term recurrent leadership activity, and strategic decisions and action are not immediately noticeable. The essence of the strategy is to define what is not needed and is highly influenced by change management agendas, strategic communications and people's attitudes and behaviours.

Engineering is about designing a model that utilizes and integrates various tools, inputs and resources in order to achieve a specific desired outcome. Engineering is a science that resolves social problems and issues. Recently, the term engineering had been coupled with various procedures like "financial" and "sustainability". Therefore, as strategy is a function that requires professionals who can perform long and complex procedures, it is permissible to adopt the term engineering alongside strategy; hence this research introduces the term "Strategy Engineering".

The established resource-based view of the firm (Barney, 1991) helps to bridge performance gaps. The resource-based view acknowledges the significance of firm specific resources. Resource-based theories such as the core competencies framework challenged the prevailing orthodoxy in classical strategic management. Resource-based theories radically shift the terms of debate in the strategy field and in so doing have changed the pattern of dialogue on the relative roles of the internal and external environment.

The main areas included in the OD programme are: development of new services / products; implementation of measures to improve the quality of products / services, improving the efficiency of management and innovation activities, ensuring the completeness and rationalization of the functional structure, ensuring the optimum number of employees, improving the informational, hardware and software support of technological developments, staff development, improving the working conditions and the system of remuneration. Furthermore, the OD model is established to measure the constructs of a learning organisation. OD is a management discipline that aim at improving organisational effectiveness by increasing the utilization of human resources and systems. It is also about managing parameters in a dynamic environment. OD is an emergent

behavioural science field that provides a set of methodologies for systematically bringing about high-performing organisations.

Strategy success means that the organisation has achieved targets that have been set for KPI's. Besides, it is likely that customers trust is what makes the organisation generate and achieve its strategy. It is likely that leaders being fair, would establish a family at work that yields effective and efficient outputs. In general, it is known that in relation to high employee turnover; people leave managers, they don't leave organisations, it is likely organisations will bear significant loss when losing some of their most credible and high-performing employees. Equally, organisations are more likely to fail in their intended strategies when managers who are not capable remain in their organisations.

There are many reasons for poor planning, one of which is "jumping to conclusions" or "force-fitting" something that is previously prepared. Moreover, people are likely to fight what they are not familiar with; unknown terminology, methodologies, tools and models. Organisations that begin strategy engineering projects while people don't understand what leadership are doing are highly likely to fail. Moreover, the calibre of the people an organisation possesses is a main success factor for strategy's success. Therefore, less capable staff will impact on the extent that any strategy is successful during its planning and implementation phases.

Strategy engineering is influenced by strategy resources and OD. A good strategic engineer should make a good job of data-mining and foresee the structure and the risk assessment as he could be misled by more optimistic figures, false indications and charts. A successful strategic engineer

should question all the input given to him and thus produce his own data sheets and rely on his data to minimize any future drawbacks.

Strategy resources is highly influenced by capacity building, gap-based diagnostics and priority-based planning. Strategy engineering provides criteria to measure success. OD is highly influenced by strategic planning, organisation structure, governance, project management and performance management.

A strategy engineering journey is a complex one, capacity building appears to be a critical components of strategy engineering, moreover, strategy engineering states that establishing a transformation team and change management, are key leadership roles. Predominately, it is the role of leadership to set a healthy and productive working environment. According to the strategy engineering model, teamwork should part of corporate values, a one-family organisational culture, cooperation and competition would all impact on the strategy's degree of successfulness. Fairness is a major component in the organisational environment. The more the strategy engineering team get deeper into their analysis, the more value they could generate for the organisation. However, a balance between analysis and planning is required.

Gap-based diagnostics is about internal and external analysis, strategic analysis, benchmarking, identifying challenges, identifying issues, identifying risks, identifying areas for improvement, identifying improvement measures, strategic analysis for market attractiveness, strategic analysis for market competitiveness, identifying full potential and recommending corrective action/s.

Priority-based planning is also influenced by importance of actions, urgency of actions, organisational needs and dependencies. Prioritization is what people lack the most yet prioritisation remains based on subjective judgement in many organisations. Organisations prioritize in different ways enhancement of skills, orienting the training, reinforcing the research, deploying technology, and developing new products and services. As part of this prioritization, stakeholders' needs identification is a critical activity. Services and products should be aligned to stakeholders, as we as processes. Equally, services and products should be aligned to geographies, information and technology. Missing skills and competencies should be depicted in the need's analysis for human resources. Also, the required skills and competencies should be aligned to the organisation structure.

Strategic planning takes inputs from prioritization exercises and formulates vision, mission, values, strategic objectives and initiatives. A strategic plan should avoid being unrealistic; strategic planning is about analysing and understanding the organisational, industry and national cultures involved. Over-planning works to the detriment of an organisation so that it stagnates usually becoming stuck in the planning phase, lacking strategic action and delivery.

Organisation structure along with the functional roles of the departments and job descriptions of employees should possess strategic fit. The strategic plan and organisation structure must be aligned. Organisation structure should support strategy communication and implementation, and should be vivid and clear. It must include all committees and advisory bodies; direct and indirect reporting lines should all be clearly specified and relevant.

Governance, would demarcate the roles between the centre and the core business. Governance has a major role to ensure polices and procedure are in place. Governance ensures that authorities (financial and non-financial) are distributed fairly, adequately and safely. Raising the decision-making quality is part of the role of governance. The decision-making quality could be measured by time required to take a decision, efforts required for a decision to be taken and how strategically appropriate and feasible it is.

Benefit realization and risk management are primarily the domain of project management. All initiatives should have detailed plans, business plans/cases, outcome indicators and outcome targets, intermediate indicators and immediate targets, and progress indicators. For all initiatives, benefit realization should be measured, according to the level of achievement, complexity of project, current project status and severity of risks.

Performance management should not be used as a tool for negative rewards. Performance management is a means to assess and improve individual and group performance. Performance management systems may be used to troubleshoot issues. Performance management is an apparatus that acts as a form of navigation indicating whether or not an organisation is going in the right direction. Mistakes and failures should be identified in order to be able to reflect on necessary adjustments and responses. KPIs should be identified on all organisational levels. Performance data should be owned and reported by the KPIs owner. Performance validation should be conducted in order to ensure that the reported performance data is valid. Performance reports should be developed and discussed in specific fora on a regular basis. KPIs and KPTs should be frequently assessed and reviewed.

CHAPTER SIX: CONCLUSION

6.1 Introduction to Chapter

This chapter gives the overall conclusion to the thesis on strategy engineering and reiterates the key findings that demonstrated the strength of the selected research methodology, analysis of the attained objectives, research limitations, research contributions to the body of knowledge and recommendations for future research. In general, engineering practice is the practice of logic and problem solving, and a practice of practical steps. Successful strategy and strategy implementation requires application of engineering principles. The research has advocated in favour of developing strategy engineering as a stand-alone strategic management discipline.

Strategy engineering is a concept that assumes practice is strongly influenced by strategy resources and OD. Strategy engineering is constituted as a set of connected activities and an

anticipated (emergent) strategic management discipline. It is a new school of thought, which begins with the prioritization concept and is closely linked to corporate growth and customer centricity. Strategy engineering requires thought and debate about designing and executing suitable approaches for achieving certain objectives.

Organisations applying strategy engineering can learn to incorporate and implement strategy projects efficiently and effectively. Leadership should apply strategy engineering for capacity building developing internal capacities and supporting specialized transformation team and robust change management practices. This research therefore has critical implications for strategy resources and OD concepts.

The scope of this thesis offers a new way to investigate strategy engineering and its comprehension in leading to successful organisations. The researcher has used a qualitative research approach to understand strategy engineering based on three main methods.

The methodology followed in this research is centred on one-to-one interviews which were highly informative for investigating strategy engineering; nevertheless, the interviews alone were not enough to illuminate all aspects of strategy engineering in so far as its understanding and adoption. Qualitative tools and methods were deployed to examine, determine and explore strategy engineering as has been described in the Methodology chapter. While individual interviews with senior officials, practitioners and experts added value to delineating the roles of strategy engineering in organisations, the interviews and focus groups with peers and subordinates added further breadth and were particularly helpful in revealing strategy engineering definitions and components. This was mainly the case in certain aspects, such as benefit realization, centralization and decentralization, and frequent changes to leadership, where data gathered from subordinates were additionally able to demonstrate aspects that need to be examined externally by those interacting with the organisations' leaders.

This research has taken five years to be completed. During that time, the researcher has worked for four different global consultancy organisations living in three different countries.

NGO's, family conglomerates and prominent public organisations that participated in this study showed great interest in supporting this research. Leaders involved in the research were aware enough and knew their organisation's strategy well, hence they were able to elaborate and contribute to the research effectively. Organisations have launched a good range of improvement

programmes to combine and increase the concepts of development in the field of business strategy. The most important of programmes at the time the research was conducted were excellence, customer experience, strategic planning, and business process reengineering. All of them pursued change transformation and OD. The results of this research demonstrate that the success of those organisational programmes is driven by good strategic planning and management practices. Successful organisations are dependent on how the strategists strategizes and the level of leadership commitment towards the strategy journey.

6.1.3 Research Achievements

This research has been initiated based on guiding research questions. Subsequently, the researcher formulated four research objectives to guide him through the research process. The achievements of this research in relation to the objectives of this thesis are as follows:

Objective 1: To define and elaborate the concept of strategy engineering as an emergent phenomenon relevant to academics, practitioners and consultants, in particular, achieving increased knowledge and understanding of strategy resources and organisation development. A new niche understanding about strategy engineering and organisational design and systems had been developed. Based on this research, the concept of strategy engineering should become more known amongst researchers and practitioners commencing with the idea that it consists of two main pillars, strategy resources and OD.

Objective 2: To explore and elaborate a new concept of strategy engineering, based on opportunities, gaps, deficiencies and limitations in the academic literature.

This research proposes a new term, "Strategy Engineering" and has developed a strategy engineering definition and conceptual model. Comprehensive research limitations have been identified.

Objective 3: To interpret, assess and evaluate the available theoretical and empirical concepts of strategy engineering, making recommendations for future research studies. Research results have been gathered, analysed, interpreted and concluded. The available theoretical and empirical concepts of strategy engineering have also been evaluated. Recommendations related to future research have been stated. This research has established a new niche understanding about strategy engineering and OD.

6.2 Recommendations

To ensure that strategy engineering research continues to evolve, in this section the researcher makes several recommendations based on the results of the study. These are divided into recommendations related to future research in strategy engineering and recommendations related to government policy makers and practitioners.

6.2.1 Recommendation for Future Research

In academia, the researcher recommends that there is much to come in the future on strategy engineering definitions, scope, detail, criteria, sub-criteria and boundaries. In practice, universities will need to apply extra effort to develop strategy engineering programmes. Consultancies have plentiful opportunities to elaborate and inform management practices in strategy engineering. Equally, professional institutes should start implementing strategy

engineering standards, criteria and boundaries. The researcher anticipates that some pioneering quantitative research could be conducted. For publicly listed organisations, the author proposes that this research should be conducted using a mixed-methods approach, incorporating financial and strategic management data sources. A broad set of areas of strategic management have been recognised as significant for future research in the field of strategy engineering. The following is not an exhaustive list; however, it includes some potentially meaningful areas for critical investigation and creative analysis:

- Exploring other factors that affects strategy success using similar qualitative approaches to those adopted in this thesis.

- Assessing the influence of the recommended framework of strategy engineering in other countries and other sectors could be very beneficial if carried out as follow-up studies.

- Assessing and evaluating the practical benefits of the recommended framework of strategy engineering.

- Future scholars could conduct the same research but including more numbers of participants.

- Conducting the same research based on quantitative and mixed-methods methodologies.

6.2.2 Recommendation for Government Policy Makers and Practitioners

The research findings suggest that the strategy engineering framework can be used as a support for clarifying and communicating the significance of strategy engineering to future scholars, practitioners and consultants. Implementing a strategy engineering model helps to consolidate conceptions of strategy engineering, and explain the meaning of strategy engineering by

highlighting the features that are articulated in the model. Moreover, a strategy engineering framework represents a valuable model as it enables researchers to investigate the factors involved in the process of effective planning and implementing.

The findings of this thesis support the recommendation that strategists need to assume a particular focus on strategy engineering in order to develop and raise their own and their organisation's likelihoods to succeed. As flexibility and compliance become more critical for strategy experts (Al-Reyaysa, Pinnington, Karatas-Ozkan, & Nicolopoulou, 2019; Heikkurinen, Clegg, Pinnington, Nicolopoulou, & Alcaraz, 2019), so too will the demand for sufficiently developed strategy engineering. Strategy practitioners must recognise the challenges of practicing various management and planning approaches in organisations that are very dynamic.

The thesis generally claims that successful organisations are not based on copying the practices of successful strategies. This research proposes that organisations should focus not on what other companies are doing, but rather what they actually need to do to succeed in their chosen markets. Accordingly, this thesis recommends that strategy engineering programmes should be developed and delivered seeking to focus primarily on strategists' training and the education of university students in order to ensure that strategy engineering is practiced in a maximum number of organisations. In the long run, the strategy engineering model developed in this research has significant implications for placing the cornerstone building blocks and criteria which would probably encourage strategy practitioners to reach the expert stage of adoption of strategy engineering.

The research provides a firm basis on which to consolidate future research related to strategy engineering as one of the topics that currently lacks the momentum of scientific and social science research in strategy studies. Several capacities have been recognised as vital for future research in the field of strategy engineering. The following is not an exhaustive list; nevertheless, it includes some potentially valuable capacities for serious investigation in the future:

- Examining adjacent areas of strategy engineering using the same methods applied in this thesis.

- The strategy engineering conceptual framework and research method can be utilized as a benchmark to initiate and develop philosophies.

- Assessing the influence of the recommended framework of strategy engineering in other sectors and in other countries, can be undertaken as follow-up research.

- Developing strategy engineering criteria, sub-criteria, process maps, templates, tools and detailed work instructions.

- Developing strategy engineering assessment tools

- Establishing strategy engineering professional communities

- Offering strategy engineering courses in universities and institutes

6.3 The Role of Strategy Engineering in Effective Strategic Management

There is a long list of symptoms and causes that contribute to successful strategy engineering, and it is probably best therefore to focus on human symptoms first. First, the lack of long-term planning is one of the major issues apparent in most organisations. Executives and managers are usually busy trouble-shooting and fixing issues all day and night. For the majority of the time,

therefore, they are immersed in day-to-day operations and over-committed to short-term planning with deleterious consequences for long-term planning. Second, there is usually a serious lack of the knowledge and awareness of strategic management throughout the organisation.

Not having the right vision is one of the key failure factors when developing a new strategy. Vision is part of strategy, where strategy has many components. Values, vision, mission, and purpose, are all critical elements that when not recognised can lead to strategy failure. In the MENA region, a major shortcoming is that executive and senior levels of management resist communicating and sharing strategy across the organisation. This leads to poor vertical alignment and insufficient cascading of strategy. The corporate, business and operational aspects of any strategic plan should be shared with all of the organisation's divisions, departments, teams and people.

As a result, managers throughout all organisational levels cannot relate the strategy to their role and business, equally they are unable to identify their contribution towards strategy. This shortcoming can be alleviated by cascading strategy vertically. These are probably some of the major components that are key and critical issues for strategic failure. Communication is about ensuring people inside the organisation are aware about the strategy. Lack of awareness leads to deficiencies in strategy execution.

When organisations refer to their strategy, they talk about something that will be achieved in the future. Most organisational plans depend on consultant companies or regular advisors to give a custom indicator about the future industry trends. The main problem is how to know what the

future is - most of the time it is a very subjective judgement. It is not just about the consultant; it is also about the information and data received from within the organisation.

There are many reasons for the strategy to fail. The top three are leadership, over-engineering and culture. (1) *Leadership* is the top one at all levels. So, leadership is lacking when it gets to communicating (selling) strategy. Later on, following the execution and making the right decision. (2) *Over-engineering:* Many organisations and governments are strategized with over-engineered plans. Over engineering is when the plan includes too much detail and dimensions. (3) *Culture*: The performance management rigours and strategy engineering concepts are the foundations., but without a solid disciplined culture no strategy will be successful, even if the leader is influential. The support, skills and experiences are key cultural elements for any strategy's successfulness.

Resistance to change is a common occurrence and leaders need to incentivise and motivate staff and show them how the change actually benefits everyone. Leadership needs to know the consequences and the implication of strategic success and convince people that while it will never be easy, it is achievable. Strategy fails when people start implementing initiatives without being convinced. Therefore, strategy owners/sponsors have to obtain the buy-in from all stakeholders if possible, in order to guarantee a better strategy yield.

Strategy engineering is an integrated conceptual framework that includes all strategy parameters. Strategy engineering consists of two main pillars, "Strategy Resources" and "Organisation Development". Organisation development is highly dependent on strategy resources as strategy resources is a prerequisite for organisation development.

The strategy resources pillar consists of three main components, capacity building, gap-based diagnostics and priority-based planning. Strategy resources spreads not only to the assets of a company but also to its capabilities. A resource means an asset or input to production (tangible or intangible) that an organisation possesses, controls, or has access to on a semi-permanent basis. An organisational capability states the ability of an organisation to perform a harmonised set of duties, utilizing organisational resources, for the purpose of achieving a specific outcome. Both resources and capabilities may develop and change over time in significant manners. This analysis focuses on the development of capabilities. Heterogeneity of capabilities and resources in a group of organisations is one of the cornerstones of strategy resources. Before starting any strategy project, leadership should make sure they can provide highest level of commitment towards the strategy exercises and its outcomes. The leadership should ensure that the strategy team have adequate knowledge, experience and wisdom. Leaders should avoid making frequent changes as these can interrupt the strategic planning and implementation. The strategy team should be very particular about identifying gaps, since the diagnostics are the main drivers for improvements measures and valid recommendations. Equally, the strategy team should be able to identify organisational priorities in relation to organisational needs and available resources.

The OD pillar consists of five main components, strategy planning, organisation structure, governance, project management and performance management. The strategic plan should be comprehensive, simple, cascaded and communicated to all organisational layers. The strategic plan should take into consideration stakeholders mapping to services, products, processes, technology, information and geographies. The organisation structure should be aligned with the strategic plan. Reporting lines should be vivid and functional roles and responsibilities of

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committees and departments should be clear and aligned to job descriptions. Equally, job requirements, skills and competencies should be aligned with the job descriptions. Relevant authorities must be demarcated, especially between the core business and the corporate centre. Policies, processes and procedures should be aligned to the organisation structure and strategy. Projects and initiatives are considered under strategy execution, therefore they should be mapped to the strategy, planned and detailed sufficiently in order to ensure benefit realization. Moreover, performance management is the navigation system of the organisation. Performance management provides early alarms in case of any deficiency occurring. Performance management is not be used as a punishment tool, but for assessment, appraisal and improvement. To ensure optimal performance management, it should be linked to performance-based rewards policies. However, over measuring, double measuring and expensive measuring should be avoided since it can demotivate and even ruin the organisation.

Lastly, the main challenge to implementing a successful strategy is the reliability of how it is measured. Organisations need to find robust indicators that give the organisation a clear vision about the progress of the strategy projects and initiatives and how it is going. If the indicators are not clear or are not reliable or invalid, then organisations will fail in measuring the strategy.

6.4 Implications

The fundamental implications of this research are at the levels of academic institutes, practitioners, organisations, and governments. This discussion has emphasized the implications of the major theme in the literature on strategy engineering and classified significant theoretical and methodological opportunities for the area of strategy engineering. This section also highlights

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methodological implications 'that can help future researchers develop more rigorous and effective designs' (Heppner & Heppner, 2004, p. 330). As well as it includes the implications of the research results for practitioners and researchers. Suggestions for specific ideas for future research studies are mentioned.

This research proposes to position and develop strategy engineering as a stand-alone discipline, therefore, if the research recommendations are implemented, it is feasible that strategy engineering could be offered as a course in business management schools or even as an undergraduate major. Gradually, strategy jobs could become more protected through higher education and professional qualifications. In is likely that strategy related jobs will be especially sought after by strategy engineering graduates. Eventually, strategy jobs will be assumed only by strategy engineering graduates, whereas now a days, any one could assume a strategy role even if he/she do not hold a strategy qualification.

Moreover, practitioners would benefit from learning and specialising in strategy engineering policies, processes, tools and frameworks. Furthermore, it is possible that organisations (if incorporating the strategy engineering framework) would face less challenges, and would be more ready to incorporate and implement strategy projects.

This research recommends future scholars develop strategy assessment criteria and tools. By using strategy engineering assessment criteria / tools, this would increase awareness about the strategy engineering model and would improve compliance with the strategy engineering criteria; the ultimate result would be more successful and sustained organisations.

Organisations that have high rates of employee turnover, would likely suffer from a lack of achievement of vision and less successful strategy projects. Therefore, government leadership would learn from strategy engineering in general and specifically how to build internal capacities to be able to implement strategy projects that require stability in leadership, specialized transformation teams and robust change management practices.

Furthermore, this research could have critical implication on strategy resources and mainstream OD concepts.

6.5 Limitations

Due to the nature of the topic, mentality and the culture of the region studied, there are several limitations related to this research that have been depicted and are listed as follows. Two major limitations of this work must be acknowledged. The empirical research is all based in one geographical region, the Middle East, and the data are based on a limited sample of senior executives from private and public sector organisations.

This research discussed private, family conglomerates, government organisations and NGO's. However, semi-government and publicly listed organisations were not covered. Industry sectors included were limited to education, food safety, food security, health care, animal wealth and social care. Major industry sectors like Oil and Gas, entertainment and IT were not included in this research.

Potential research participants are more likely to be less interested in discussing with a strategy researcher critical strategy topic when they suspect they might be interpreted or used in a negative

way. Though the researcher has presented and explained research ethics, introduction and procedure, some of the participants preferred not to share sensitive documents that validated their statements in relation to the interview data. Moreover, the researcher's own time was constrained by work and family commitments, which affected the determination of the sample size.

It is important to apply the same research in different regions, given that each region would have its own specific contextual factors. For instance, talking about strategy success (by numbers) in the Middle East is restricted, while financial figures are normally shared in many other parts of the world. All participants work for organisations that are located in the Middle East; therefore, the participants are more likely to have a similar mentality.

This research discussed organisational successfulness in relation to strategy engineering components; however, it does not link strategy's successfulness by sector; in so far as strategy's amount of success in areas such as supply chains, manufacturing, fast moving customer goods, property management and contracting.

Conducting deep research about organisations would provide additional insights about what exactly went right or wrong vis-à-vis the change in the organisation leadership and the change in the organisation ecosystem. This research focused on the past three to five years, however it would be great to conduct a deeper research study in relation to historical data; i.e., Five to ten years. However, this would involve more obstacles as in Middle East the leadership changes frequently. This renders it very difficult for participants to be able to answer questions that relate to periods and organisational events that are outside of their experience.

Most of the literature review tackled the period between 1960 until 2019. It would be valuable to conduct a literature review for the period before the 1960s. This would enrich and give more authenticity and credibility to the literature review, and hence obtain an improved historical perspective on the research results and the concept of strategy engineering.

6.6 Summary

The research was seeking to establish a new understanding of strategy and a new school of thought. The strategy engineering model consists of strategy resources and organisation development pillars wherein strategy engineering is a means to achieve effective strategic implementation, thus satisfying and utilizing several tools and techniques. Two main research questions were considered related to strategy resources and organisation development.

Strategy Engineering is commonly used in practice although it is not sufficiently represented in the literature. In the context of this research, strategy engineering is defined as a way of conceiving strategy alignment, project rigour and organisational ambitions that all contribute to the long-term sustainability of organisations.

Researchers have described the strategic planning process and the strategy implementation cycle from multiple theoretical and practice perspectives; however, there is still insufficient emphasis on the importance of governance as a key success factor of any strategy implementation. Practitioners predominantly deal with strategic planning as a process, however, in relation to both governance and strategy implementation, they stop short when it comes to benefit realization, after setting or implementing the plan, or while monitoring the implementation. Frequently, they do not

reflect adequately on the key success factors which are prerequisites to strategy's implementation. Further, they do not incorporate enough specification in their planning on strategy resources and organisation development, as key success factors for effective governance and strategy implementation.

The empirical research for this thesis is qualitative and concentrates on leadership at executive and senior levels of management. It was conducted during 2018-2021 in the KSA, the UAE and Lebanon, in both private and public organisations. The research methods and data collection included ten interviews, three focus groups and ten observation sessions, designed to maximize variation as well as to increase validity and reliability. The research considers strategy broadly as categorized under the umbrella of the sciences, and consistent with these subject disciplines. The epistemology and ontology therefore are post-positivist and inclining towards an objectivist paradigm. In order to achieve credible findings though on what is predominantly an emergent phenomenon, the main research approach adopted was inductive in relation to identifying and examining emergent characteristics, but much of the analysis, interpretation and argument is based on abduction, informed by current engineering and business management theoretical concepts available in the academic literature.

The process of data collection and its interpretation led to identification of both old and new concepts of strategy. Based on prior literature review a set of working hypotheses were formulated and subsequently propositions were devised, inspired by the emergent themes observed by the researcher in the primary and secondary data analysis. The empirical research therefore leads to the creation of a new theory of strategy engineering based on an intellectual and practice-based

perspective, dominated by post-positivist and objectivist principles. In summary, the new theory development in this thesis relies on the utilization of abductive methods and academic reasoning, in conjunction with following an interpretivist epistemology and ontology grounded in inductive qualitative methods, which arguably is the most appropriate methodology for inquiry into emergent phenomena.

This research contributes to the field of strategy management by introducing a new conceptual model that takes into consideration the dependencies of strategy resources and organisation development. It is foreseen that this new conceptual model will assist business and engineering colleges, professional institutes and associations, policy makers and strategists by encouraging them to explore new analytical techniques and implementation practices. It is recommended that future strategy scholarship investigates more deeply into the relationships between strategy resources, organisation development and governance by following principles of strategy engineering. It is anticipated that more exploration and testing of the proposed conceptual model will lead to further developments in theory and practice.

The main research contribution of the research study is an elaborated definition of strategy engineering and a detailed specification of its essential components. Strategy engineering consists of seven components which are: gap-based analysis, priority-based planning, strategic planning, organisational structure, project management, performance management, and governance. Inevitably, these components are of varying levels of significance in different contexts, however when combined, they contribute to knowledge in establishing the emergent phenomenon of strategy engineering as a new academic paradigm in business management.

The research significance is that the proposed new model takes into consideration the dependencies of organisation development on the strategy's ability to deliver, and overall, strategy engineering inspires and supports robust and effective governance. The researcher has consistently argued that this new model will help policy makers and strategists by highlighting a new perspective, which has been available in some ways for many years, but has eluded adequate formulation. In addition, the exploratory, inductive components of this qualitative research present a new theory based on emergent findings and require future academic research and practice-oriented investigation. Furthermore, it is envisaged that the strategy engineering model could lead to advances in theory and practice whenever it remains firmly based on concepts in engineering and principles of business management. Two major limitations of this work must be acknowledged. The empirical research is all based in one geographical region, the Middle East, and the data are based on a limited sample of managers from private and public sector organisations. In conclusion, the concept of "strategy engineering" has been investigated in this thesis in much greater depth than ever before and it presents a common methodology and set of standards for strategy researchers and practitioners.

All of the above is a synopsis of the research strategy for finding out about and developing and refining the concept of strategy engineering. It has led to the conclusion in this thesis that strategy engineering is a concept which inspires new approaches by combining various resources and systems to assure the alignment of all key organisations' elements and factors, stakeholders, people, and organisational culture.

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List of relevant professional websites

http://www.strategiceng.com.au

http://strategyeng.com/about.html

http://www.strategyengineers.com/en/

http://strategic.mit.edu

https://www.tatapower.com/businesses/strategic-engineering.aspx

http://www.inderscience.com/jhome.php?jcode=IJSEAM

https://www.isem.nus.edu.sg/research/Strategic/

https://www.oilonline.com/company/strategy-engineering-consulting-llc

http://strategic.mit.edu/docs/designunderuncertaintyv2.pdf

https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=38441058

https://www.igi-global.com/journal/international-journal-strategic-engineering/175350

http://www.springer.com/gp/book/9783319524900

https://www.sesteam.com

https://www.everbrave.ca/clients/strategic-engineering/

http://www.rdi.co.uk/pdf/msc_strategic_engineering_management_anglia_ruskin_university.pdf

https://www.alamo.edu/uploadedFiles/District/About_Us/Chancellor/2015-2016_Baldrige_Excellence_Framework_Business_Nonprofit.pdf

https://www.britannica.com/technology/weapon

Appendix I – Preliminary Interview Questionnaire

Q1: Do you believe that decentralizing financial functions would serve the best interest of your organisation?
Q2: Do you believe that decentralizing financial functions would lead to more risk exposure?
Q3: Do you believe that documenting policies is a prerequisite to decentralization?
Q4: Do you believe that it is better to shift and then lift the functions?
Q5: Do you believe that most shared services functions should be decentralized in order to boost the business performance in terms of revenue?
Q6: Do you believe that if an organisation has very diversified activities, then it is better for this organisation to be decentralized?
Q7: Do you believe that decentralization of financial functions is an enabler for organisational growth?
Q8: Do you believe that decentralization of financial functions is an enabler for creativity?
Q9: Do you believe that decentralization leads to more autonomous business units?
Q10: Do you believe that decentralization shall come with accountability?

Appendix II – Final Interview Questionnaire

Section 1: Strategy Resources

1. How do strategy resources influence organisation development in strategic management based on principles and concepts of strategy engineering?

2. How does gap based diagnostics contribute to effective strategic management of strategy resources?

3. How does priority-based planning contribute to effective strategic management of strategy resources?

Section 2: Organisation Development

1. How do the main elements of organisation development support strategic management and strategy engineering?

2. How does strategic planning contribute to effective strategic management of organisational development?

3. How does the organisation structure contribute to effective strategic management of organisational development?

4. How does the governance contribute to effective strategic management of organisational development?

5. How does the project management, contribute to effective strategic management of organisational development?

6. How does the project management, contribute to effective strategic management of organisational development?

Section 3: Strategy Engineering

1. Could you please define strategy engineering?

2. What are the challenges facing strategy engineering successfulness and how to overcome these challenges?

Appendix III – Invitation Letter Template

Research Invitation Letter

Dear Mr./Ms. …………………..

My name is Badih Matar. I am a PhD candidate at The British University in Dubai, concentration in Business Management, Student ID 2015132147.

My research topic is Strategy Engineering vis-a-vis Governance Reinforcement.

The objective of my research is to:

a)
b)
c)

I would be grateful if you accept my invitation to participate in my research as a (Interviewee, for a focus group, observation visit).

Please note that I will sign a Non-disclosure Agreement (NDA). In addition, please note that you are free to exit the research anytime you wish without any obligation towards the undersigning.

Upon accepting my invitation, I will be in contact to coordinate the date and time.

Thank you in advance.

Badih Matar

Appendix IV – Informed Consent Form

Informed Consent Form

I am ………………., working as …………….. at ………………., with my full capacity, I am signing this form and I hold all the responsibility toward this.

The research I am participating in is ……..(enter research title).
The researcher's name is: Badih Matar

I reserve all rights to exit the research when and as needed. Time will be my sole prerogative without any responsibility towards the researcher.

I also have no objection for the researcher to use the research knowledge generated by interviewing me or any of my staff.

Participant signature

Appendix V– Non-Disclosure Agreement

Non-Disclosure Agreement

I will not disclose any information provided to me, neither soft copies, nor hard copies.

I will not reveal secrets of the ……..(insert company name) or its clients or its competitors to anyone else.

Disciplinary Action

I have read and understood the statement above, and I agree to comply with it. I understand that any violation of these guidelines will be treated most seriously, and may result in disciplinary action being taken against me.

Researcher Name:

Signature: _____

Date:

Appendix VI- Summary of The Research Occurrences

The underlying order of these components are according to the frequency and strength of the presence in the sample of the research; they are as follows: A total of 764 references categorized into 125 references to gap-based diagnostics; 116 references to priority-based planning; 114 references to strategic planning; 84 references to organisation structure; 102 references to project management; 116 references to performance management, and 110 references to governance. In regards to Gap-based Diagnostics, the highest occurrence was for "Identification of gaps and analyzing the root cause" with 75 occurrences, while the lowest occurrence was for "benchmarking" and "studies" with 10 occurrences each. In Priority-based Planning, the highest occurrence was for "Corporate need analysis" with 66 occurrences, while the lowest occurrence was for "Corporate need analysis" with 20 occurrences. In Strategic Planning, the highest occurrence was for "True North" with 54 occurrences, while the lowest occurrence was for "Target setting" with 10 occurrences. In Organisation Structure, the highest occurrence was for "Fit to purpose" with 44 occurrences, while the lowest occurrence was for "Design philosophy" with 40 occurrences. In Project Management, the highest occurrence was for "Alignment pressure test" with 38 occurrences and "Sufficiency Analysis" with 34 occurrences, while the lowest occurrence was for "Likelihood of achievement" with 10 occurrences. In Performance Management, the highest occurrence was for "Performance Planning" with 43 occurrences and "Implementation" with 40 occurrences, while the lowest occurrence was for "Monitoring and Reporting" with 30 occurrences. Finally, in Governance, the highest occurrence was for "Policy and Procedure" with 60 occurrences, while the lowest occurrence was for "Authority Demarcation" with 50 occurrences.