

**Influence of Benefits Realization Practices on
Organizational Projects Success in UAE**

تأثير ممارسات تحقيق الفوائد على نجاح المشاريع المؤسسية في دولة الإمارات
العربية المتحدة

by

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Abstract

Benefits Management field was first introduced in the late 20th Century to emerge as one of the most growing fields of interest in research and practice. The concept of Benefits Realization Management has become an integral part of project, program and portfolio management. The rationale of the concept is to align an organization strategy with its operations and projects execution. The role of Benefits Realization Management practices in projects life cycle varies from pre-initiation to post-execution; however, ultimately BRM practices are concerned with harvesting the benefits sought from organizational projects. Projects are created by organizations to achieve a strategy or set of strategic objectives, achieve the organization vision and deliver the benefits anticipated by costumers and stakeholders. Therefore, the ability of a project to create value for the organization is considered an attribute of success. Projects are tools to create value and BRM practices are a supporting management device to value creation.

This study was dedicated to examine the association between BRM practices and organizational project success mainly in United Arab Emirates. A survey was conducted in UAE collecting data form 72 respondents to reflect their perception of BRM practices and organizational project success and to test the research hypotheses by the use of regression analysis and One Way ANOVA tools found in the Statistical Package for the Social Sciences (SPSS) software. The literature review determined a gap in this field of knowledge inside UAE and the contribution of this paper is to narrow this gap and recommend further studies in this field of management. This research emphasized on the different aspects of organizational project success criteria and benefits realization practices. The research model contained one independent variable, which is benefits management practices, of 6 factors and 13 dimensions and one dependent variable, which is organizational projects success, of 2 factors and 7 dimensions. The findings of this paper demonstrated that BRM practices have significant positive impact on organizational project success. Therefore, BRM practices do support organizations to achieve their strategic objectives and enhance their value.

The study concluded with research limitations and recommendations on further studies such as Benefits Realization Management contribution to organization governance success, critical success factors of BRM etc. The theoretical and practical implications of the research were also discussed in the conclusion.

Key words: Benefits Management, Benefits Realization Management, Benefits Realization Practices, Project Success, value creation

المخلص

تعد إدارة الفوائد من المجالات التي لاقت إقبالا كبيرا في مجال الأبحاث ونطاق العمل منذ نشأتها في أواخر القرن العشرين. حيث اعتبرت إدارة تحقيق الفوائد في الأونة الأخيرة جزء لا يتجزأ من إدارة المشاريع والبرامج والمحافظة. يهدف هذا النوع من الإدارة إلى مواكبة استراتيجيات ورؤية المؤسسات عن طريق ترتيب أولويات تنفيذ المشاريع والتركيز على المهام التي تتماشى مع هذه الأهداف الاستراتيجية للمؤسسات. تلعب ممارسات تحقيق الفوائد دورا مهما في إدارة المشروع من مرحلة التخطيط ، دراسة الجدوى وصناعة القرار إلى ما بعد مرحلة التنفيذ والتشغيل حيث تتغير هذه الممارسات بناء على دورة حياة المشروع. تهتم إدارة الفوائد في مجملها بحصد القيمة والفوائد المرجوة من المشروع حيث يعتبر المشروع أداة لتحقيق الفائدة للمؤسسة والعميل أو المستفيد النهائي. هذا وتعتبر قدرة المشروع على تحقيق الفوائد المرجوة والأهداف الاستراتيجية للمؤسسة معيار مهم من معايير النجاح. في حين يعتبر المشروع أداة لخلق القيمة، تعتبر إدارة الفوائد أداة مساعدة في خلق القيمة وتحقيق الرؤية المؤسسية.

تسهم هذه الأطروحة في بحث العلاقة ما بين ممارسات إدارة الفوائد ونجاح المشاريع ضمن نطاق الإمارات العربية المتحدة حيث تم عمل مسح بياني وجمع استبيان 72 شخص من العاملين في مؤسسات وشركات الدولة. يهدف الاستبيان إلى جمع آراء الموظفين عن إدارة الفوائد ومعايير نجاح المشاريع المؤسسية لاختبار فرضية البحث باستخدام برنامج النظام الإحصائي SPSS. تم في متن البحث مراجعة مخرجات الدراسات السابقة التي تمت في هذا المجال وتم إيجاد العديد من الدراسات المتعلقة بالموضوع عالميا ولكن لم يتم العثور على دراسات وافية داخل الإمارات العربية المتحدة. نحاول من خلال هذا البحث أن نساهم في ملئ هذه الفجوة في مجال إدارة تحقيق الفوائد والتمهيد لعدد من الدراسات الأخرى في هذا المجال داخل الدولة. يشمل نموذج البحث متغير ممارسات تحقيق الفوائد المستقل والذي يتكون من 4 عوامل و13 بعدا بالإضافة إلى متغير مستجيب وهو معايير نجاح المشروع المؤسسي حيث يتكون من عاملين و7 أبعاد. أظهرت النتائج وجود تأثير إيجابي لممارسات تحقيق الفوائد على نجاح المشاريع المؤسسية مما يعني أن لإدارة الفوائد دور فعال في تحقيق الأهداف الاستراتيجية المؤسسية.

تناولت الدراسة في الختام قيود البحث ومقترحات لأبحاث مستقبلية في مجال إدارة الفوائد مثل مساهمة ممارسات تحقيق الفوائد نجاح الحوكمة المؤسسية، عوامل النجاح الرئيسية لإدارة تحقيق الفوائد الخ. تم أيضا مناقشة تطبيقات الدراسة في المجال النظري والعملي.

كلمات البحث المفتاحية: إدارة الفوائد، تحقيق الفوائد، معايير نجاح المشاريع، خلق القيمة

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Chapter 1: Introduction

1.1. Background

Benefits Realization Management (BRM) field is growing rapidly and has become a trend for researches recently (Breese, 2012). The author added that BRM practices are sought to enhance the connection between portfolio, program and project management. The author confirmed through literature that BRM was closely associated with the development programs and portfolio management. BRM was developed as result of the increasing concerns with projects low success rate and lack of flexible projects appraisal frameworks to realize the arising benefits (APM, 2009).

1.2. Problem Statement

Chih & Zwikael (2015) stated that organizations usually suffer from high rate of project failure because the project did not achieve the expected changes. Breese (2012) clarified that the major issue is the miss-alignment between the executed projects and the organization vision at which projects after execution are foreseen to be neither a priority nor relevant or did not actually deliver what was agreed when the project was approved to be executed. Marcelo et al. (2016) argued that practices such as determining the project strategic relevance to the wider agency and government goals and objectives are important in projects selection. Therefore, it is essential to assure that the selected projects meet the organization strategy.

United Arab Emirates has flourished over the past decades since the initiation of the federal union and discovery of oil (Al-Nahyan et al, 2012). Series of mega real estate developments and construction projects have been implemented and this momentum was accompanied with vast investments in infrastructure. The population has bloomed in number and the demand on infrastructure service is continuously increasing. Al-Nahyan et al (2012) added that the economic fluctuations over the past years have shortened the number of infrastructure projects. Marcelo et al. (2016) added that even for the most developed countries, the luxury of

implementing all of the required projects is not attainable, so there is a need to make sure that the project selection best serves the vision. The need for such a mechanism was the urge for developing Benefits Realization Management (Bradley, 2008). Breese (2012) argued that despite the foreseen advantages of Benefits Realization Management in theory and across literature, it has not been easy to implement in practice due to impracticality and immaturity of the mechanism. The author further argued that there are still areas of improvement to drive BRM to maturity. Mossalam & Arafa (2016) in their recent study conducted in United Arab Emirates stated that organizations are still in lack of frameworks that can trigger the benefits realization practices effectively.

Even though the Benefits Management concept existed for more than 2 decades, the number of studies which provided empirical evidence on the efficiency and effectiveness of BRM are limited. One of the pioneer researchers to do so was Serra & Kunk (2015). In UAE, the studies found on benefits management were limited according to literature review and therefore, there are still various topics that can be explored in this field.

1.3. Research Aims, Objectives and Questions

The aim of this research is to examine the relationship between benefits realization practices and organizational projects success. In order to achieve the research aim, the following objectives have to be addressed:

- Understand the history of BRM.
- Identify the drivers of BRM.
- Identify the practices of BRM
- Outline the key challenges faced in implementing benefits realization practices.
- Examine the different perceptions on project success and the key organizational projects success criteria.

- Study the relation between organizations, strategic objectives, value creation, benefits realization management, project life cycle and project success.
- Set up a research model to examine the impact of impact of benefits realization practices on organizational project success.
- Investigate the discrepancies in perceptions of benefits realization practices between the different groups

The primary questions which the research will try to address are as follows:

- Do benefits realization practices have a positive impact on organizational project success?
- How was project success measured through history, how did the criteria evolve and what is the perception of project success in the present time and is it different from the past?
- Is the influence of benefits realization management perceived differently between different groups?

1.4. Research Structure

This paper comprises of 6 chapters starting with introduction and endings with conclusions and recommendations. The contents of each chapter are illustrated as follows:

1.4.1. Chapter 1: Introduction

This chapter discusses the research subject background and outlines the research rationale and problem statement. It further details the research aim, objectives and questions.

1.4.2. Chapter 2: Literature Review

This chapter presents a holistic review of previous studies undertaken on the subject of benefits realization and organizational project success. It discusses the different views and findings which are used further in Chapter 5 to discuss the data analysis results.

1.4.3. Chapter 3: Research Methodology

This chapter demonstrates the approach adopted to design the survey and collect response, and the techniques used to analyze the data and test research hypotheses.

1.4.4. Chapter 4: Results Analysis

This chapter presents the analysis results in details following the methodology outlined in Chapter 3 including descriptive analysis, correlation test, regression analysis and One Way ANOVA. The undertaken analyses were used to examine the research hypotheses.

1.4.5. Chapter 5: Discussion of Results

The data analyses results from the previous chapter were discussed in comparison with finding from literature.

1.4.6. Chapter 6: Conclusion and Recommendations

This chapter of the paper summarizes the research findings, outlines recommendations for future studies and addresses the research limitation and areas to be improved in further studies.

Chapter 2: Literature Review

2.1. Introduction

Breese (2012) stated that many initiatives often fail in achieving the organization strategic objectives. Chih & Zwikael (2015) added that government funded projects often fail to meet their targeted benefits. Musawir et al. (2017) also stated that it is common in practice for organizations to fail in attaining the desired outcomes of their projects that are supposed to support the organization endeavor in achieving its vision. Zwikael & Smyrk (2012) added that there is an ongoing crisis resembled in investing in inappropriate projects that do not sever the purpose. Marcelo et al. (2016) revealed that governments have little resources in comparison to the number of infrastructure projects in need to be implemented to close the growing gap between supply and demand, therefore, investing in the wrong projects is not considered feasible at all. It is obvious that there is an agreement between the authors that these concerns need to be tackled and there is a gap need to be filled. The drivers for solutions are summarized in three points:

- The failure in prioritizing which projects suit the organization strategy
- The persisting gap between organization expectations and implementation results
- The failure in appraising projects generated value

Musawir et al. (2017) added that investing in the right project is always the major dilemma, so first of all what is project? Project, as defined by Project Management Institution (PMI), is a temporary organization established to deliver unique objectives within defined constraints. Turner (2014) added that project is a structured approach set to deliver benefits that support the organization in achieving its strategy. Serra & Kunk (2015) stated that organizational strategies, which imply changes, are achieved through the creation of projects that aim to enhance the organization value and deliver benefits for stakeholders. It can be drawn from the preceding definitions that the ultimate aim of a project is to add value to the organization.

One of the solutions to assure the strategic alignment of projects was introduced in the late of the 20th century through the field of Information Technology, a new concept called Benefits Realization Management (Bradley, 2008). The emergence of this management tool was due to the need of new appraisal techniques for IT projects. This is because of the non-monetary value of IT projects is vague to measure and therefore decision on which IT project to invest in is not always accurate. Since initiation, the concept gained popularity across the project management field and it became a trend in researches (Breese, 2012). The concept of BRM has expanded in application in project management. Bradley (2008) pointed that Benefits Realization Management has become an imbedded part of project management. Breese et al (2015) stated that the term Benefits Management was developed as counteract to the organization failure in implementing projects that deliver the desired value. Serra & Kunk (2015) added that one management tool created to close the gap between organization strategy and execution is Benefits Realization Management (BRM). The authors demonstrated in the below figure how realizing benefits and disbenefits generated by introducing project output can support achieving a business strategy.

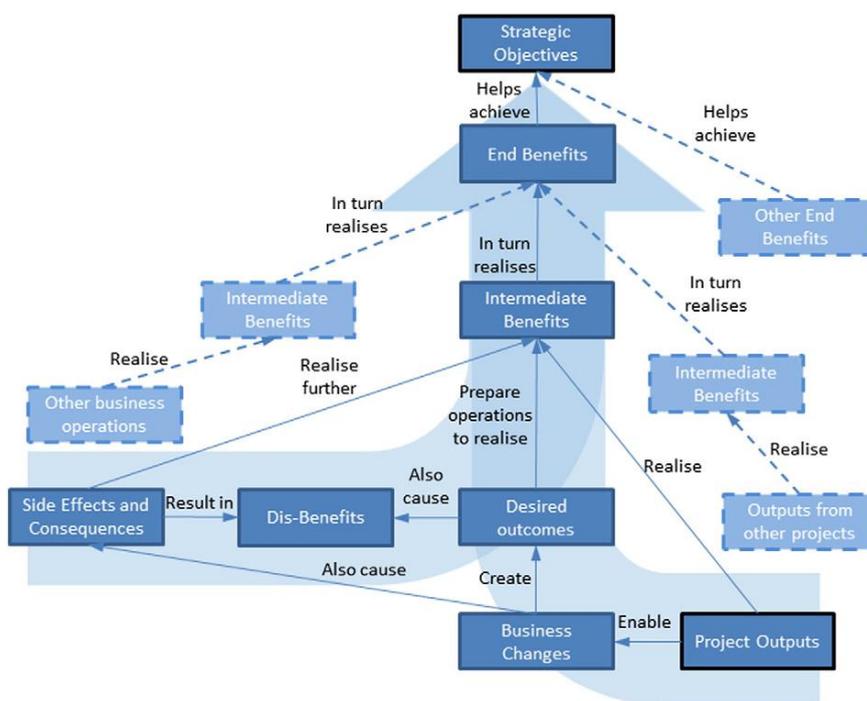


Figure 1. Chain of benefits produced by a project (by Serra & Kunk, 2015)

Benefits Realization Management is a framework of processes set to realize project's created benefits and to align projects with the organization strategic goals (PMI, 2016). UK Infrastructure and Projects Authority (2017) explained Benefits Management as set of processes extends from earlier than project initiation till beyond project closure to identify and realize benefits resulted from a project or a program. Serra (2013) added further that Benefits Realization Management is a group of practices applied across projects, program and portfolios to assure consistency between the organization strategy and operations. It is evident from the definitions that BRM is a business and project management tool that supports strategic decision making process in organizations, aligns the projects selection to business strategies, maintains the project implementation aligned with expectations and measures the delivered benefits and created value of projects till closure and beyond. In all, it assures that the selected project creates the anticipated value.

The terminologies of benefit and value are quite close in meaning and it is important to understand the sequence of these terms in this context. As per PMI definition, benefit is the project delivered value as perceived by stakeholders (PMI, 2016). Thomas & Mullaly (2009) defined value as meeting the organization and customers expectations. Zwikael & Smyrk (2012) defined benefit as a "flow of value" generated by realizing a project outcome. Bradley (2008) elaborated that benefit is the project value perceived positive by the stakeholder and vice versa for disbenefits. Project outcome according to the authors is the result of a project introducing an output whether it is service or product.

Even though the concept of Benefits Realization Management existed for quite long, this discipline of management is still not mature enough in practice, argued Breese (2012). The author continued that the ambiguity is still in measuring benefits in complex projects after closure. Chih & Zwikael (2015) elaborated that in order to realize the generated benefits, the

targeted project benefits should be measurable, realizable and bounded with a date, have certain values to achieve and be comprehensive.

2.2. Benefits Realization Practices

The empirical association between BRM and project success was first examined by Serra & Kunk (2015). In this recent study of Serra & Kunk (2015), BRM practices were divided in four groups which are planning, review, realization and strategy. The four groups go on par with the project life cycle before initiation till operation. The four groups contained 13 practices covering the whole life cycle of a project. The same dimensions were used in Breese et al. (2015) and Musawir et al. (2017) studies. Badewi (2016) used 3 benefits management practices in his study which are developing a business case and producing regular audit reports, and delegating the benefits realization responsibility. Several other studies outlined similar benefits management practices and this study utilized the possible benefits realization practices found in literature building on the practices used in Serra & Kunk (2015) study as it has been found to be the most comprehensive. The used benefits practices groups or factors are as follow:

2.2.1. Strategy

The organization should adopt a strategy for governing and enabling benefits realization practices across the organization. Serra & Kunk (2015) emphasized that forming a strategy across the organization and throughout the projects will help to better define measurable success criteria agreed by the different stakeholders. Breese (2012) stated the existence of a strategy for benefits realization management helps to align the project execution with organization strategy.

2.2.2. Planning

The planning practices are mainly about developing a coherent business case which includes clear outcomes, strategic objectives and measurable values. Zwikael and Smyrk (2011) stated that benefits measurement parameters should be outlined and agreed before project initiation to facilitate better project appraisal after closure. The business case should be a mean of communicating the organization expectation from senior management and stakeholders to the execution team.

2.2.3. Review and Monitor

Davis (2017) stated that during the project course, it is important to keep stakeholders engaged and align their perception of project success to enhance the organizational project success rates. Another practice under this group is the delegating the responsibility of realizing the benefits to the benefit owner (Zwikael & Smyrk, 2011). This is because during the implementation phase of the project, it is the norm for project managers to get bounded with focusing on delivering the project within budget, schedule and quality and therefore, it is essential to create the position of the benefits owner in a project.

2.2.4. Realization

Breese (2012) stated that measuring the benefits produced by a project is the most challenging task of these practices. The author added, the measurement of these values is not straight forward and requires to invest heavily in harvesting these benefits. The realization of benefits would facilitate better project appraisal after completion and would enhance organization's decision making process on future projects. The following table summarizes the benefits realization practices extracted from literature. These practices and factors will be used in creating the research model.

Factor	Dimension	Source
Planning	BRP 1: The project has clearly defined outcomes (outcome: impact of a project output)	Serra & Kunk (2015) Breese et al (2015) Musawir et al. (2017)
	BRP 2: The project has clear measurable values to be delivered	
	BRP 3: The project's strategic objectives are clearly defined	
	BRP 4: There is an approved business case listing all of the project's expected outputs, outcomes and benefits.	
Review	BRP 5: There is a regular monitoring of the project outputs and outcomes to ensure their alignment with the plan	
	BRP 6: Stakeholders are continuously engaged and kept informed of the project review results	
	BRP 7: The project outcomes are aligned with the planned in the business case	
	BRP 8: A member is given accountability for measuring each of the planned outcomes in the approved business case.	
Realization	BRP 9: Part of the project's scope is to integrate the project outputs into the regular business operations (i.e provide support, staff training etc.)	Serra & Kunk (2015) Breese et al (2015) Musawir et al. (2017)
	BRP 10: The outcomes are monitored after closure to ensure achievement of the benefits outlined in the business case.	
	BRP 11: The organization has a structured plan to integrate of project outputs into the regular business operations	
Strategy	BRP 12: Benefits management strategy is applied across the organization.	
	BRP 13: Benefits management strategy is applied for the organization's projects	

Table 1. Benefits Realization Management practices

Figure 2 summarizes the benefits realization practices application within the life cycle of a project to achieve the anticipated benefits and increase the organization value. The figure was created based on the researcher understanding developed from literature. The figure shows the project life cycle starting from the organization strategic objectives and vision to project operation and appraisal. At the end of the life cycle, the delivered benefits of the project

should ultimately increase the value of the organization. The figure shows that the benefits realization practices start from the pre-initiation phase before even creating the business case at the portfolio level and end by realizing the benefits. The given timeline to realize the benefits can be quite long depending on the complexity and type of the project. Breese (2012) stated that for realizing benefits it may take years till the project outcomes are mature enough to clearly appraise and evaluate the benefits.

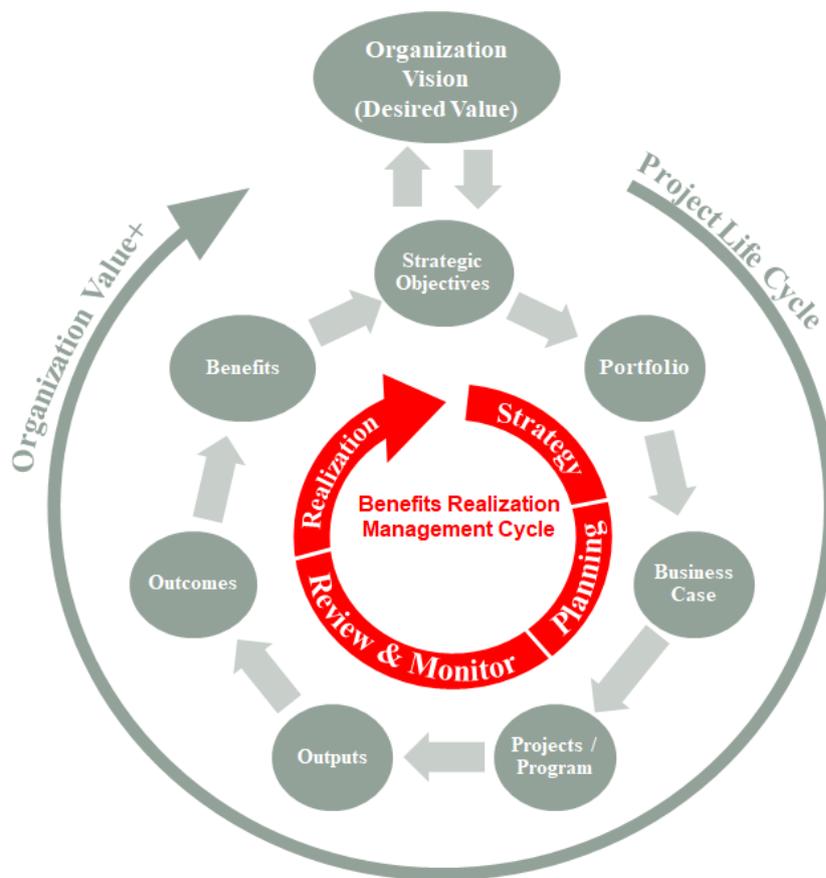


Figure 2. Life cycle of BRM practices in accordance to project life cycle (by Author)

It is evident from literature that the application of benefits management practices support the projects to achieve its anticipated value. As delivering value for organizations is considered one of the most essential aims of projects (Serra & Kunk, 2015) and value is considered a organizational project success criteria (Ika, 2009) then this leads to the first hypothesis of the research:

H1: There is a significant relationship between Benefits Realization Practices and organizational projects success.

The term “organizational project” was used to differentiate between the projects undertaken by firms to fulfill the requirements of a contract with other parties for certain fees, for instance a contractor building a facility for a client, and the projects established by the firm itself to achieve strategic objectives and add value. Such organizational projects were classified in three categories as follows:

- Business development projects for making new investments, increasing rate of return, cost cu ect.
- Administrative projects work to enhance performance, change management structure, renovate workplace etc.
- Provision of public service such as building infrastructure facilities of transportation, power supply, education etc.

2.3. Project Success Criteria

Project Success has no consistent definition through literature. That was the statement of Baccarini (1999) who conducted a structured review of project success. Even with recent studies, Albert, Balve & Spang (2017), exploration for success definition through literature determined that there is no such standard definition for project success as the used criteria varies from one project to another even if it is for two similar projects in the same field. Baccarini (1999) stated that one of the primary reasons for not having an agreed definition for project success is because that success is perceived differently among stakeholders and due to the number of stakeholders in complex projects, it is difficult to sustain a success formula unless that all of the stakeholders agreed to it. The author further stated that for a project to be called successful is dependent on several criteria and these criteria are influenced by the project stakeholders’ perceptions. He added that a project can be successful even though the project team failed to deliver the product efficiently. It is because the product has met the expectations and had a wider positive impact than anticipated. Davis (2017) agreed that

project failure is attributed to the unsettled definition of success criteria between the different stakeholder groups. Koops et al (2015) verified these findings and stated that project success is dependent on the interests and perspectives of stakeholder. Muller and Jugdev (2012) further illustrated that identifying success of a project is simultaneously objective and subjective, and judged through pre-set criteria. Koops et al (2015) further clarified that there is a unique definition and measures of success for each project determined through pre-defined criteria and measured through that perspective. Hussein, Ahmad & Zidane (2015) have also mentioned that one of the common challenges in measuring project success is the noncompliance during project execution with the pre-defined success criteria set by the organization.

Despite that researchers have set different interpretations for project success, it is agreed in literature that one of the oldest success criteria is the ability to accomplish the project with achieving the three constraints which are budget, time and scope, and this is by far known as the project iron triangle (Muller & Turner 2007). Albert, Balve & Spang (2017) also confirmed that historically Barne's Iron Triangle is considered the oldest project success identification criteria which constrained project success in three dimensions of time, cost and quality. Hussein, Ahmad & Zidane (2015) stated that the mainstream for defining project success is to tribute success to project management performance which is constrained with satisfying schedule, cost and scope objectives.

Baccarini (1999) explained project success from two perspectives which are project management success and product success. The author identified project management success by the project team ability to finish the project within the triangle of cost, time and scope specifications. However for product success it is more related to the project capability to satisfy the stakeholders and achieve the business strategy. The below figure demonstrates Baccarani (1999) project success model. Collins and Baccarini (2004) built their research on

Baccarini (1999) findings and provided empirical evidence on this success model which is shown in the below figure.

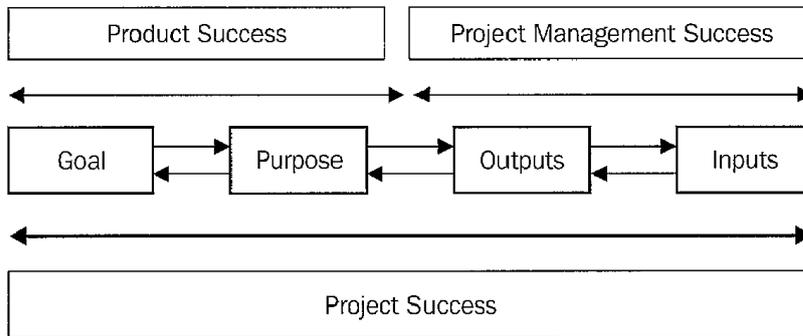


Figure 3. Baccarani (1999) project success model

Ika (2009) demonstrated that project management success and project success have clear separate identifications with different criteria. The author further illustrated that the success or failure of project management may or may not lead to project success or failure.

Research Focus	Period 1 1960s–1980s	Period 2 1980s–2000s	Period 3 21st Century
Success criteria	“Iron triangle” (time, cost, quality)	Iron triangle Client satisfaction Benefits to organization (org) End-user’s satisfaction Benefits to stakeholders Benefits to project personnel	Iron triangle Strategic objective of client organizations and business success End-user’s satisfaction Benefits to stakeholders Benefits to project personnel and symbolic and rhetoric evaluations of success and failure
Success factors	Anecdotic lists	CSF lists and frameworks	More inclusive CSF frameworks and symbolic and rhetoric success factors
Emphasis	Project management success	Project/product success	Project/product, portfolio, and program success and narratives of success and failure

Table 2. Holistic review of success definition / criteria (by Ika, 2009)

Ika (2009) study showed that the definition of success through its variations became more oriented towards delivering the value rather than being bounded by the iron triangle. Badewi (2016) stated that even that the focus of organizations is now directed to the delivery of value perceived positive for stakeholders including the end customer, during implementation the focus is about delivering the project output within budget, schedule and quality. This is because the complexity of projects limit project managers concentration on this iron triangle.

Muller and Turner (2007), confirmed Badewi (20016) finding and stated that the focus of project managers on this triangle compromises over realizing the benefits sought from the project. Jugdev & Muller (2005) added that during the project implementation the focus the project management team should not be seized by delivering the project according to the iron triangle only but should also extend to delivering the anticipated benefits and values from the project. Maylor et al (2006) goes along with these findings and further stated that the terminology of projectification, which implies focusing on the iron triangle when implementing projects for organizations, have negative implications on organizations ability to realize the benefits. This lead for the second hypothesis of the research which is:

H2: Individuals who are involved in the project during the implementation phase will have less perception of benefits realization practices

It is essential to integrate the practices of portfolio and program management in the daily work processes as this will lead project management teams to develop better understanding of the preferred organizational project success criteria. Shenhar & Dvir, (2007) confirmed that project managers concentration on Barn's triangle would eventually outweigh the other success criteria related to business success and stakeholders satisfaction.

Baccarini & Collins (2004), Jugdev & Muller (2005) and Ika (2009) stated that over the past years project success definition spanned over the product life cycle instead of being limited to the implementation phase only. The implementation phase which is bounded by delivering the project within budget and schedule according to requirements. Project success criteria should span over the triple constraints time, cost and scope to contain project realized benefits and their contribution to the organization vision (Infrastructure and Projects Authority, 2017). Based on this, there should be no significant difference between the scores of success criteria of iron triangle and project value. This concludes the third proposition of the paper:

H3: Project success measurement is not dominated by the iron triangle constraints any more.

Project success will be assessed in two criteria groups or two approaches which are project performance and value creation. Success from the aspect of project performance is underpinned by satisfying the project’s schedule, budget and scope. Project success from the other perspective is to deliver the value or benefits anticipated by the organization and concerned stakeholders. The following table demonstrates the success criteria items and groups that will be used in creating the research model.

Factor	Dimension	Source
Project Management Performance	Succ 1: Budget goals are met	Koops et al (2015), Badewi (2016), Davis (2017)
	Succ 2: Schedule goals are met	
	Succ 3: The required outputs are delivered	
Value Creation	Succ 4: The planned outcomes in the business case are successfully realized	Ika (2009), Serra & Kunk 2015
	Succ 5: The project’s targeted strategic objectives are met	
	Succ 6: The project has satisfactorily fulfilled the business case	Zwikael & Smyrk (2012)
	Succ 7: The project's investment objectives are successfully realized	Badewi (2016) Zwikael & Smyrk (2012). Joslin & Muller (2016)

Table 3. Project success criteria

2.4. Conceptual Framework

The research model or conceptual framework was developed to test the main research hypothesis which is to test the relationship significance between benefits management and project success. The research model of Serra& Kunk (2015) was adopted to examine the impact of benefits realization practices on project success for this study. The cause-effect relationship between these two variables will be demonstrated in Chapter 4 of the research by analyzing the obtained data from respondents and will be further discussed in Chapter 5. The benefits realization independent variable includes 4 practice groups which will be called

factors. These 4 factors include 13 items which are called dimensions. On the other hand, the dependent variable project success is comprised of 2 groups of success criteria which will be called the success factors in data analysis. These 2 success factors include 7 success criteria which will be called in analysis, success dimensions.

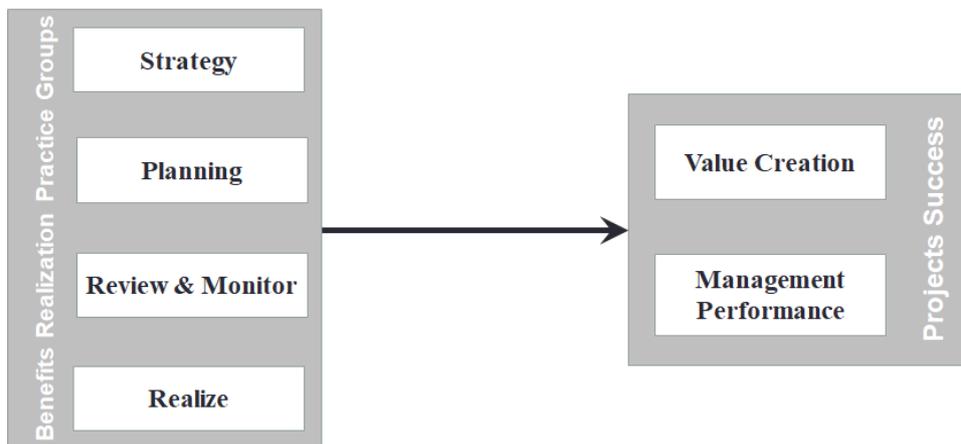


Figure 4. Conceptual Framework

2.5. Summary

This chapter discussed the previous studies undertaken in the field of benefits management and project success. It examined the findings of these researches to contain the contradicting opinions, underlying principles, historical background and the variables and factors used in analysis. Several hypotheses were determined for further analysis within UAE context as follows:

- Hypothesis 1 (H1): There is a significant relationship between Benefits Realization Practices and organizational project success.
- Hypothesis 2 (H2): Individuals who are involved in the project implementation phase will have less perception of benefits realization practices
- Hypothesis 3 (H3): Project success measurement is dominated the by iron triangle any more

Chapter 3: Research Methodology

3.1. Introduction

This chapter demonstrates the approach adopted to satisfy the research aims, objectives and questions. It illustrates the methodological framework used to define the aims and objectives, create the hypothesis, define the variables, collect the survey data, analyze the data and interpret the results of surveys.

Research in social and behavioral science is exploratory and interpretative in nature despite the different methodological approaches used such as qualitative, quantitative or mixed approach. In quantitative research approach, which the study follows, the aim is to conclude with hypothetical statements or verify hypothesis by using a sample of reliable data that can be considered as a representation of reality (Barnham, 2015). As for this paper it also follows qualitative research approach by exploring previous literature and studies on the subject of interest or researches. Molina-Ziron (2016) stated that it became common in researches to use the qualitative approach to do holistic review of relevant studies prior to undertaking a quantitative study. This is mainly for the purpose of adding value to the study by benchmarking previous findings that could be integrated in the research for interpretation. Barnham (2015) added that modern science of statistics has aided the development of quantitative researches via enabling researchers to investigate the association between the different perceptions of the surveyed sample of population and establish the underlying relationship between several dimensions. Statistical tools such as SPSS, which encompasses all of the research required data statistical analysis processes, shall be used to determine the connection between the study topic variables and factors. This paper intends to examine the field the benefits realization management, determine the key practices and demonstrate its influence over organizational project success by emphasizing that generating the required benefits and value and meeting the strategic objectives sought from the project is major

success criteria. Therefore, the variables of benefits realization practices and organizational project success were the key to explore in this research.

3.2. Research Design

The main research approach is quantitative and it also includes exploring previous studies in the field through literature review. The choice of the study topic was based on the review of several studies conducted on the subjects of project success, benefits realization management, portfolio management, organizations and regulators critical success factors, decision making process etc. The gap in research was detected and the identification of the research topic was followed by in depth analysis of previous literature as shown in Chapter 2 of the paper. Then the research hypotheses and conceptual framework were determined. The contribution of this research is to reflect the importance of using benefits realization practices as part of project management techniques to meet the project pre-defined strategic objectives which is considered part of the project success criteria for organizations. As similar researches were conducted worldwide, there is a lack of researches in the field of Benefits Realization Management in United Arab Emirates according to the literature review undertaken through this research. The main source of literature collection was the British University of Dubai electronic library which enriches researchers with numerous articles and electronic books. Another source of articles was Google Scholar and Research Gate which often provides electronic copy of articles based on the authors' approval. The literature review was concluded with the conceptual framework of the study and with the underlying factors and dimensions of the research variables.

A structured survey of four sections, found in **Appendix 1**, was designed and distributed to explore the connection between the variables of organizational project success and benefits realization practices and draw conclusion against the findings of previous studies. The

mechanism of designing and distributing the survey, and analyzing the gathered data is described further in the below sections.

3.3. Questionnaire Design

The survey questions were formulated based on the factors and dimensions of the variables derived from previous researches conducted in the field as demonstrated in the literature review chapter. The research model is designed to test the research hypothesis and therefore the survey was structured to better contain the respondents perception on the dimensions. A major challenge in the questionnaire design was to enable the respondents to understand the purpose of the research while filling out the survey to capture their actual views on the subject.

The first section of the survey found in **Appendix 1** includes an introduction defining several key terminologies such as project output, benefit, value and organizational project. The second section of the survey, which consists of seven items, covers demographic data such as years of experience, budget of organizational project worked on, designation in the project, type of organization worked with during the project etc. The purpose of the second section is to have confidence that the random sample is diverse and fit for the purpose. In addition, sample categorization questions such as type of organization will be utilized for further analysis using One Way ANOVA. The third section includes statements appraising respondents' perception of the contribution of several benefits realization practices to organizational project success. The fourth section asks respondents to measure their agreement on seven dimensions believed to determine project success.

Close-ended questions were used for sections two and three and for most of the questions in section one. The scale used to measure the respondents perception on the statements found in sections three and four is Likert scale. Likert scale is a five-point ordinal or categorical scale

varies from “Strongly Agree” to “Strongly Disagree” and developed by Rensis Likert. Likert scale is used to quantify qualitative data by scaling the responses from one to five assuming an equal distance between each two successive points on the scale.

The overall survey comprises 27 items divided in three sections in addition to one introductory section. The questionnaire was created via Google Forms which is a free platform for creating surveys. It empowers researchers to choose from various forms of questions and responses and create a website link for the survey.

3.4. Data Collection Approach

3.4.1. Pilot run

The first version of questionnaire was distributed to four professionals in order to obtain their feedback on the survey. The pilot run was also used to assure the consistency of the questions and to eliminate any gaps or ambiguity. Umbach (2005) stated that a pre-test has myriad benefits as it allows the surveyor to evaluate the questions and minimize the measurement errors which is the main cause of receiving fluctuating and irrelevant answers from respondents. The surveyed were asked to demonstrate their developed understanding on the survey objective and on the underlying ideology of the questions. It is essential that the purpose of the survey is clearly delivered to the respondents so they can reflect their experience in the available choices from “Strongly Agree” to “Strongly Disagree”. As a result of the pilot run, the structure of the survey and the order of the questions were slightly altered and the questions wording were further simplified. In addition, some definition clauses were added to the survey introduction to differentiate between the several terminologies that seems to be close in meaning such as project output and project outcome.

3.4.2. Sampling Approach

A random sampling technique was employed to collect responses from staff working in various engineering organizations across United Arab Emirates. The survey was distributed to

two government authorities in addition to several real estate developers owned by government investment arms or various shareholders. The survey was also distributed to multinational engineering consultancy firms and contractors in the country. The sample quality was checked through the questions in the first section of the survey which require general information from respondents such as have they worked for the project owner, total experience years, type of organization they have worked for etc.

The emergence of web based survey programs has made it easier to expand the reach of the survey especially that it can spread through electronic mails that became a vital part of communicate in engineering profession. Moreover, professional networks such as LinkedIn were a useful tool for sending survey requests. The survey request was circulated to 156 individuals as a website link using Google Mail, Microsoft Exchange and LinkedIn. The respondents received the survey link accompanied with introductory paragraph illustrating the research rationale and objectives the survey. A confidentiality statement was disclosed assuring anonymity and that the collected data will be solely used for research purposes. There was a regular follow up with the individuals who received the survey and eventually 72 were collected. The collected data from the surveyed were stored in Google Forms and imported in the form of Excel Sheets.

3.5. Data Analysis Approach

Six statistical analyses were employed to process the collected data. These analytical techniques mentioned in sections 3.5.1 to 3.5.6 were facilitated through the use of excel sheets and Statistical Package for Social Science (SPSS) software. The excel sheets were used to convert the data in a form suitable for SPSS and to generate some of the descriptive analyses and charts while SPSS tool was used to work out the rest of the statistical analyses. Each of the used analyses is clarified as follows:

3.5.1. Descriptive Statistics

This type of analysis was utilized to provide a measure of answers frequencies to each of the survey questions. It also provided a measure of the mean, standard deviation etc. The representative sample characteristics according to the classifications found in the informative questions, the second section of the survey, were illustrated in tables and charts using these analyses.

3.5.2. Reliability / Internal Consistency Test

Reliability analysis is a measure of internal consistency between a set of dimensions within the same variable. The reliability coefficient gives an indication of the level homogeneity between the dimensions or questions ” (Saunders, Lewis and Thornhill, 2009) in the variables of “benefits realization practices” and “project success.

3.5.3. Pearson Correlation

The correlation test indicates if there is a relationship between the different dimensions, factors and variables. It measures the strength of a relationship as the closer the Pearson Correlation Coefficient is to 1 the stronger is the association between these two items. The positive coefficient indicates a directly proportional relationship and if the coefficient is negative then it is inversely proportional relationship (Saunders, Lewis and Thornhill, 2009). An absolute value for a correlation coefficient of 0.36 and above indicates that there is a significant relationship between the factors while a value less than 0.36 is considered weak and negligible (Taylor, 1990). On the other hand, Denscombe (2010) stated that the majority of researchers consider a correlation factor 0.3 and above acceptable at which 0.3 is considered a reasonably weak correlation and beyond 0.7 is considered significantly strong correlation.

3.5.4. Regression Analysis

The regression test evaluates the relationship between the previously identified items to be correlated. The regression test usage will be bounded to the relationships required to be tested in the research hypotheses. Regression test measures the responsiveness of the dependent factor to change in the independent factor. The regression test assesses the model goodness of fit to draw conclusions and generalize the results (Saunders, Lewis and Thornhill, 2009).

As the relationship is only between two factors or variables, simple linear regression was employed for this test. The simple regression line is the best fit line that can explain the relationship between two factors or variables. The coefficient of determination R-Squared (R^2) indicates how close the regression fitted line from the collected data. The value of R-squared varies between 0 and 1. The closer the R-squared value to 1 the more the model can explain variability in respondents' answers and vice versa (Saunders, Lewis and Thornhill, 2009).

3.5.5. One Way ANOVA

The One Way Analysis of Variance (ANOVA) is used to determine if there is a significant difference between two or more groups (Denscombe, 2010). However, if there are more than two groups, the test does not tell which two groups in particular are different but just indicates difference between groups in general. This test was used in this study to investigate the discrepancies in perception on the contribution of benefits realization practices to organizational project success between the different categories.

In order to utilize One Way ANOVA technique, the factor should be ordinal assuming a uniform distance between two classes of respondents and the subject of test should be a continuous scaled variable to avoid run errors (IBM, 2017). Analysis of variance was employed by using independent categorical groups which are the types of organization the respondents used to work with during the organizational project implementation. The subject

of test was the difference or the similarity in the way these groups perceive the influence of benefits realization practices over organizational project success.

3.5.6. Tukey Test.

The One Way ANOVA test was succeeded by Tukey Honest Significant Difference test which is one of HSD post-hoc multiple comparison techniques to determine which means or groups are significantly different at significance level (sig) of 0.05 (Mathews, 2010). This test was run in conjunction with One Way ANOVA test to verify its results.

3.5.7. Hypotheses testing

The research three hypotheses were tested using the different types of analysis as follows:

- H1: Regression analysis
- H2: One Way ANOVA, Tukey's HSD and descriptive statistics
- H3: Descriptive statistics

Chapter 4: Results Analysis

This chapter details the survey analysis results in systematic and exhaustive manner. The results are demonstrated in tables and figures with interpretation on the outcomes in writing. Comprehensive analyses on the collected data via the distributed survey were collated going on par with the outlined research methodology. Descriptive analysis, correlation test, regression analysis, and One Way ANOVA were employed to test the research hypotheses and investigate the various research model parameters. Further details on the descriptive analysis are shown in **Appendix 2**.

4.1. Descriptive Analysis

4.1.1. Demographic and Employment Data

The characteristics of the representative sample are discussed in this section. The survey was distributed to a sample size of 162 individuals; however, only 72 (44%) respondents filled the survey. Baruch (1999) stated that the response rate to surveys of academic studies undertaken in the past ranged between 35.9% and 75.3% and that's within one standard deviation from the mean. Nulty (2008) added that the average response rate of online questionnaires in higher education (33%) is lower than the average of paper based surveys (55%). In addition, Root & Blismas (2018) stated that that minimum acceptable response rate in construction management industry is 20%. Based on these findings, the response of this research survey is deemed to be acceptable.

The purpose of the general information questions is to check the quality of the sample and the respondents competency. It is also to demonstrate the diversity of the sample, so it is not only representing one sided view. Another driver is the interests in testing the difference in opinion between the different types of organizations.

The below figure shows the distribution of respondents by project type including provision of public service projects such as public infrastructure projects (65%), administrative projects for improving internal governance as an example (14%), business development projects like revenue generating projects (21%). It is demonstrated that the majority of the projects that respondents have worked on are infrastructure projects.

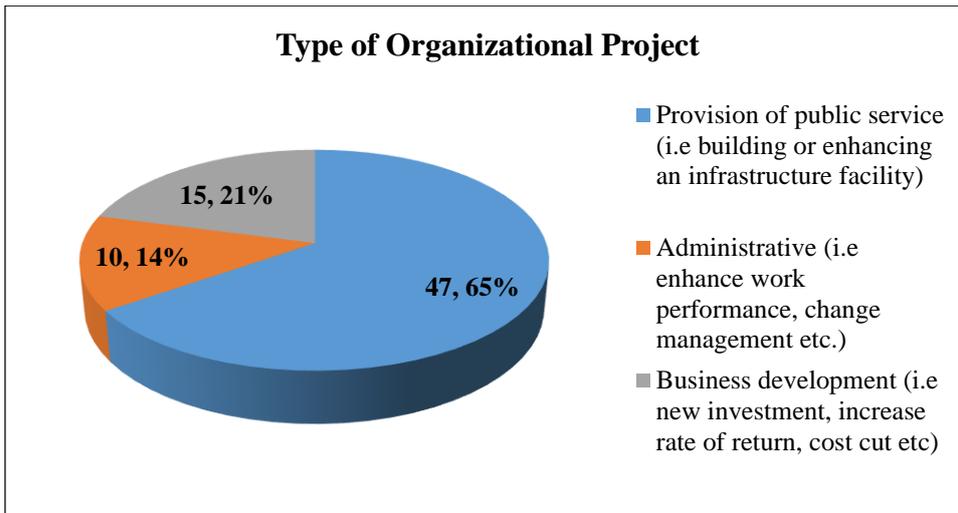


Figure 5. Distribution of the respondents by type of organizational project

The following figure illustrates the distribution of respondents among several organization types which are government authority, government owned developer, private developer and consultants or contractors. Approximately 47% of the respondents were working with government authorities, 37% with public or private developers and 28% with consultants or contractors.

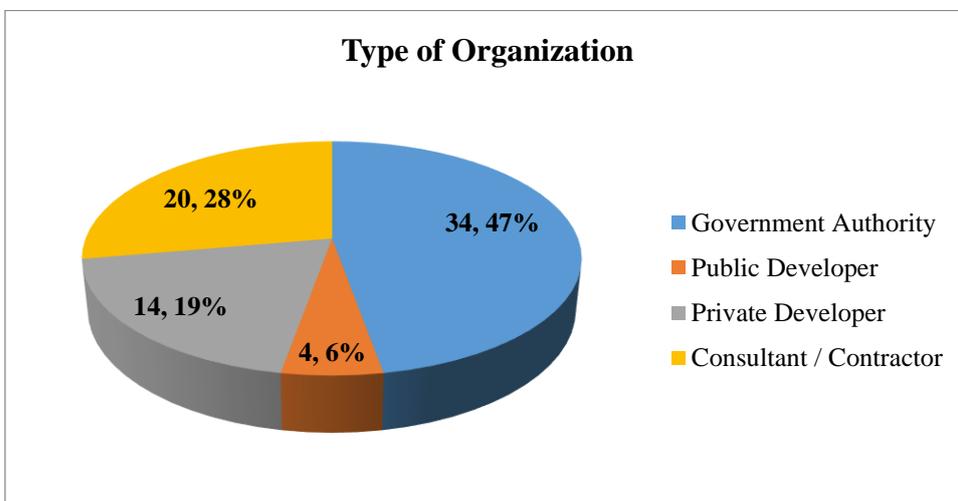


Figure 6. Distribution of the respondents according to Organization Type

The following figure represent the budget of the organizational projects the respondents worked one which varies from less than 100 million Dirhams to more than a billion Dirhams. The majority of the respondents were involved in project exceeding the billion figure (54%), 17% of the surveyed worked on the projects worth between 500 million to 1 billion dirham. The rest of the sample worked on projects worth less than 100 million dirhams.

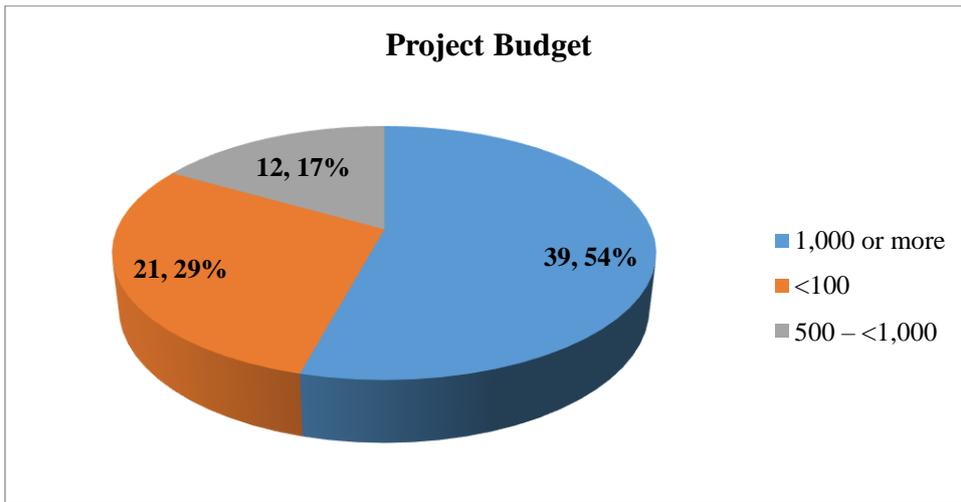


Figure 7. Distribution of the respondents based on the worked project budget

The following pie chart highlights that the majority of the sample held managerial positions, approximately 79%. This is an indicator that the surveyed have developed knowledge in the field of project management. It is also essential to contain the opinion of respondents from the technical level to make the sample representative.

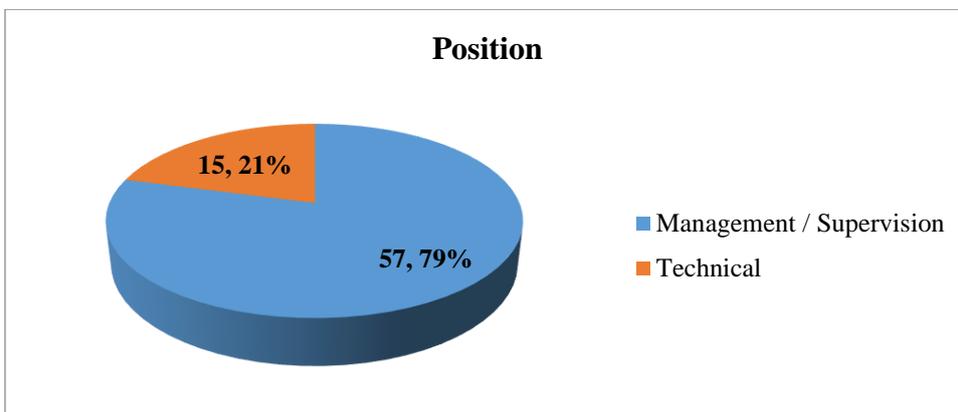


Figure 8. Distribution of the respondents in reference to their designation at work

The following chart illustrates the respondents overall years of experience. None of the surveyed was in graduate or entry level and the vast majority of them (60%) have work

experience for more than 13 years. The sample shows a good distribution of experience ranging from 2 years to 20 years and above.

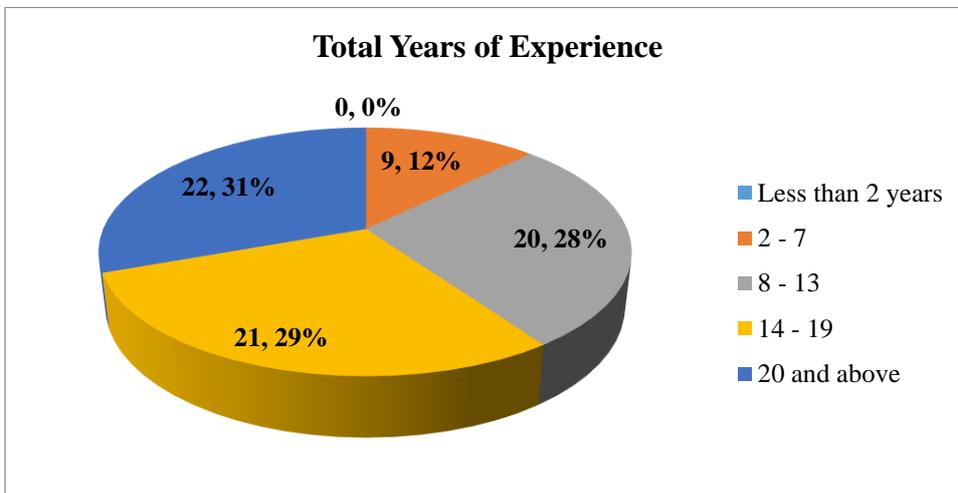


Figure 9. Distribution of the respondents by total years of experience

The following figure shows the percentage of respondents who worked for the client or the project owner organization during the project course. The figure demonstrates that the majority of the surveyed (69%) were part of the project owner team.

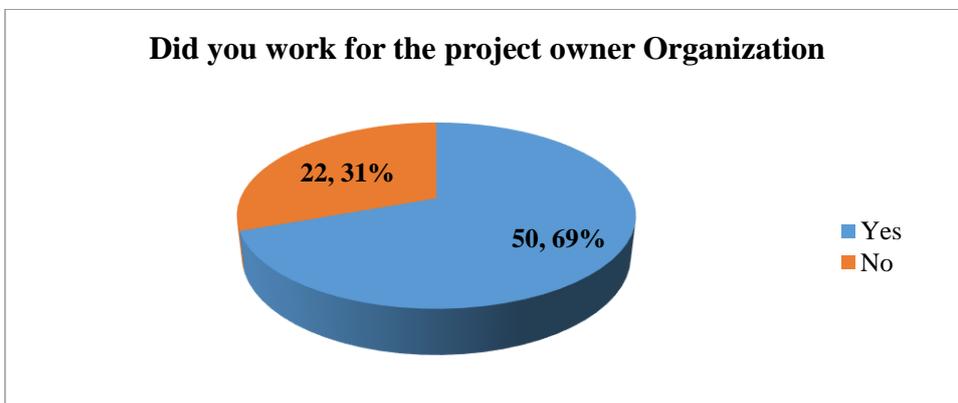


Figure 10. Percentage of respondents who worked with the project owner

The below chart represent the percentage of respondents who answered “yes” to the previous question. It shows the number of experience years the surveyed have with the project owner organization. The majority of respondents (54%) had 2-7 years of experience with the organization. 36% of the respondents were seniors in the organization with 8 to 20 years and above of experience.

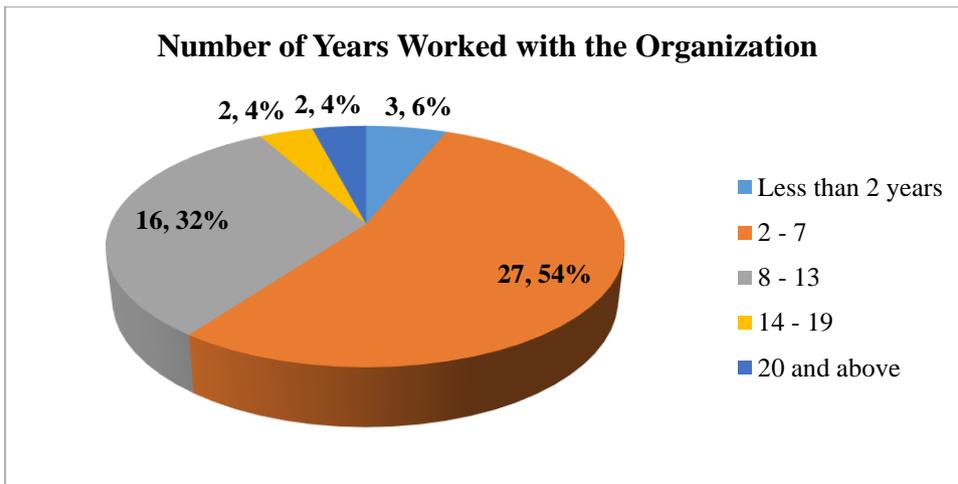


Figure 11. Number of years worked with the organization

4.1.2. Benefits Realization Practices

The 13 identified benefits realization practices in this paper were analyzed to demonstrate the respondents' opinion. The question was to evaluate the respondents' extent of agreement on the contribution of each of the 13 practices towards organizational project success. The frequency, central of tendency and the normality of distribution were investigated as parametric statistics assumes normal distribution of data. Normal distribution curve assumes symmetrical distribution of data around the mean and skewness is a measure of symmetry, so the closer its value to 0 the less error margin in the analysis results (Saunders, Lewis and Thornhill, 2009). It is also mentioned that another metric to test normality is the standard deviation which measures how dispersed are the data from the mean.

The following bar chart shows the score for each of the benefits realization practices. Each of the practices in the below chart has a total score of 72 points. Each point has a different weight according to Likert scale from "Strongly Agree" with weight of 5 to "Strongly Disagree" with a weight of 1.

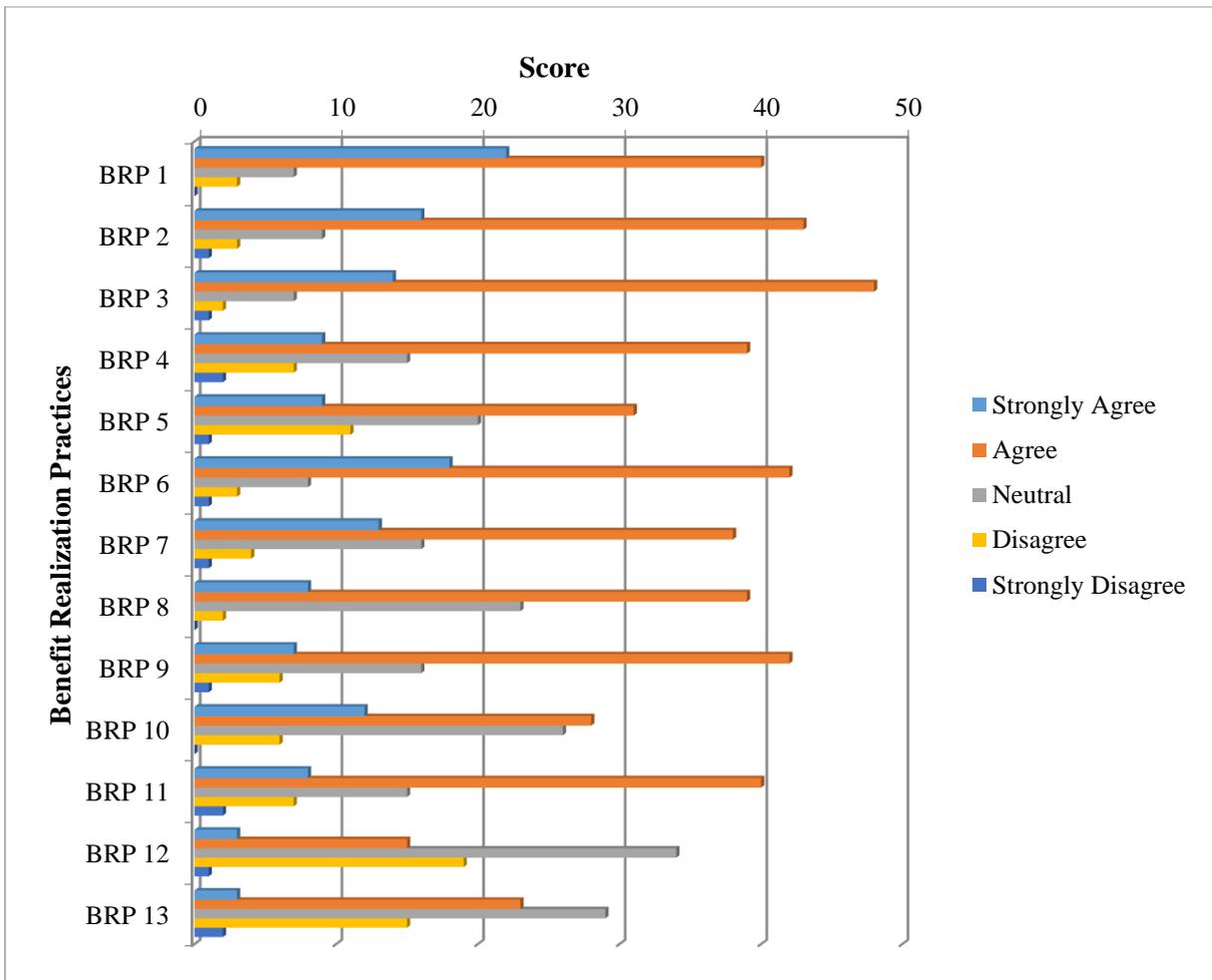


Figure 12. Benefits realization practices responses frequencies

The following table details the frequency scores shown in the above bar chart for benefits realization practice. It also highlights the final score of each item accounting for the weight of Likert Scale, for instance “Strongly Agree” worth 5 points and “Strongly Disagree” worth 1 point. The results show that BRP 1 “the project has clearly defined outcomes” scored the highest with 297 points. BRP 6, which implies the importance of stakeholders coordination and follow up, scored the second with 289 points. Practices 3 and 2 which are “the project strategic objectives are clearly defined” and “the project has measurable values” scored third and fourth respectively. The lowest score went for the strategy practices BRP 12 and 13. If benefits realization practices were clustered in the groups of benefits realization factors of planning, review, realization and strategy, planning factor would be the highest with an average weighted score of 3.93 and strategy factor would be the lowest 3.07.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total Score
BRP 1	22	40	7	3	0	297
Valid Percent	30.6%	55.6%	9.7%	4.2%	0.0%	-
Cumulative Percent	30.6%	86.1%	95.8%	100.0%	100.0%	-
BRP 2	16	43	9	3	1	286
Valid Percent	22.2%	59.7%	12.5%	4.2%	1.4%	-
Cumulative Percent	22.2%	81.9%	94.4%	98.6%	100.0%	-
BRP 3	14	48	7	2	1	288
Valid Percent	19.4%	66.7%	9.7%	2.8%	1.4%	-
Cumulative Percent	19.4%	86.1%	95.8%	98.6%	100.0%	--
BRP 4	9	39	15	7	2	262
Valid Percent	12.5%	54.2%	20.8%	9.7%	2.8%	-
Cumulative Percent	12.5%	66.7%	87.5%	97.2%	100.0%	-
BRP 5	9	31	20	11	1	252
Valid Percent	12.5%	43.1%	27.8%	15.3%	1.4%	-
Cumulative Percent	12.5%	55.6%	83.3%	98.6%	100.0%	-
BRP 6	18	42	8	3	1	289
Valid Percent	25.0%	58.3%	11.1%	4.2%	1.4%	-
Cumulative Percent	25.0%	83.3%	94.4%	98.6%	100.0%	-
BRP 7	13	38	16	4	1	274
Valid Percent	18.1%	52.8%	22.2%	5.6%	1.4%	-
Cumulative Percent	18.1%	70.8%	93.1%	98.6%	100.0%	-
BRP 8	8	39	23	2	0	269
Valid Percent	11.1%	54.2%	31.9%	2.8%	0.0%	-
Cumulative Percent	11.1%	65.3%	97.2%	100.0%	100.0%	-
BRP 9	7	42	16	6	1	264
Valid Percent	9.7%	58.3%	22.2%	8.3%	1.4%	-
Cumulative Percent	9.7%	68.1%	90.3%	98.6%	100.0%	-
BRP 10	12	28	26	6	0	262
Valid Percent	16.7%	38.9%	36.1%	8.3%	0.0%	-
Cumulative Percent	16.7%	55.6%	91.7%	100.0%	100.0%	-

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total Score
BRP 11	8	40	15	7	2	261
Valid Percent	11.1%	55.6%	20.8%	9.7%	2.8%	-
Cumulative Percent	11.1%	66.7%	87.5%	97.2%	100.0%	-
BRP 12	3	15	34	19	1	216
Valid Percent	4.2%	20.8%	47.2%	26.4%	1.4%	-
Cumulative Percent	4.2%	25.0%	72.2%	98.6%	100.0%	-
BRP 13	3	23	29	15	2	226
Valid Percent	4.2%	31.9%	40.3%	20.8%	2.8%	-
Cumulative Percent	4.2%	36.1%	76.4%	97.2%	100.0%	-

Table 4. Frequency analysis of benefits realization practices survey score

The below table demonstrates central tendency analysis results such as standard deviation and skewness for each benefits realization practices. This is mainly to investigate the normality of distribution. The table shows standard deviation varies between 0.692 and 0.949 and skewness between -1.118 and -0.037. It is demonstrated that skewness of distribution is close to “0” in most cases except benefits realization practices 2, 3 and 6 which slightly exceed “1”.

Factor	Dimension	N		Mean	Std. Deviation	Skewness	Std. Error of Skewness
		Valid	Missing				
Plan	BRP1	72	0	4.13	0.749	-0.829	0.283
	BRP2	72	0	3.97	0.804	-1.118	0.283
	BRP3	72	0	4.00	0.732	-1.332	0.283
	BRP4	72	0	3.64	0.924	-0.862	0.283
Review	BRP5	72	0	3.50	0.949	-0.355	0.283
	BRP6	72	0	4.01	0.813	-1.156	0.283
	BRP7	72	0	3.81	0.850	-0.745	0.283
	BRP8	72	0	3.74	0.692	-0.121	0.283
Realize	BRP9	72	0	3.67	0.822	-0.869	0.283
	BRP10	72	0	3.64	0.861	-0.037	0.283
	BRP11	72	0	3.63	0.911	-0.901	0.283
Strategy	BRP12	72	0	3.00	0.839	0.294	0.283
	BRP13	72	0	3.14	0.893	-0.158	0.283

Table 5. Measures of central tendencies for benefits realization practices survey score

4.1.3. Project Success

The survey score for the 7 criteria of project success was analyzed to highlight the respondents' opinion on project success. The question was to evaluate the perception of the critical project success criteria. The success criteria were divided in two groups which are management team performance success and product value achievement criteria. As per the procedures followed for benefits realization practices, frequency, central of tendency and the normality of distribution were analyzed.

The following bar chart demonstrates the score for each of the project success criteria. Each of the practices in the below chart has a total score of 72 points. Each point has a different weight according to Likert scale from “Strongly Agree” with weight of 5 to “Strongly Disagree” with a weight of 1.

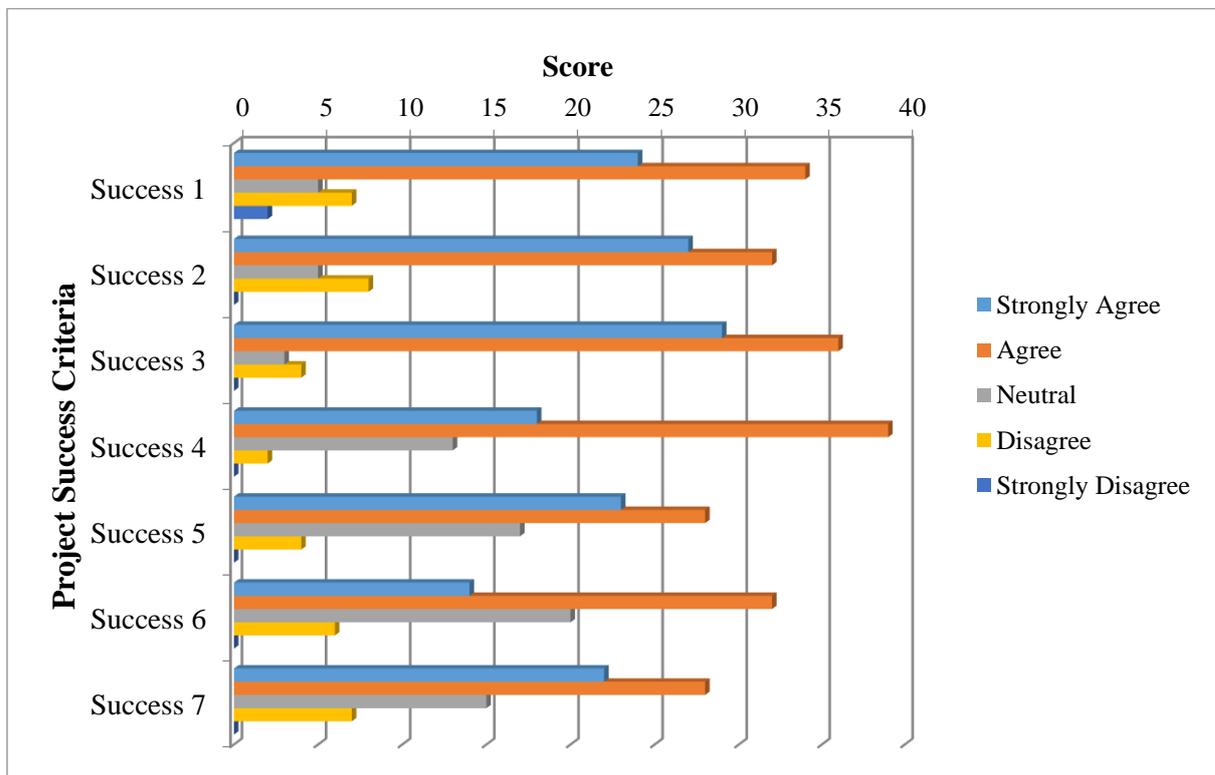


Figure 13. Project success criteria responses frequencies

The following table details the frequency of scores shown in the previous figure for project success criteria. The table shows that the agreement ratio, “Strongly Agree” and “Agree”, for success criteria 1, 2 and 3 concerned with project management performance is higher than

what it is for success criteria grouped under the project value factor. The agreement ratio for delivery of project outputs within budget and schedule being critical success criteria varies between 81% and 90%, while the other success criteria group of project value, the agreement ratio is from 69% to 79%. However, looking at it from other perspective, the cumulative percentages exceeds 90% at score no.3 “Neutral” for project value success group which is higher than the project team performance success group which at the same score is less than or around 90%.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Succ1	24	34	5	7	2
Valid Percent	33.3%	47.2%	6.9%	9.7%	2.8%
Cumulative Percent	33.3%	80.6%	87.5%	97.2%	100.0%
Succ2	27	32	5	8	0
Valid Percent	37.5%	44.4%	6.9%	11.1%	0.0%
Cumulative Percent	37.5%	81.9%	88.9%	100.0%	100.0%
Succ3	29	36	3	4	0
Valid Percent	40.3%	50.0%	4.2%	5.6%	0.0%
Cumulative Percent	40.3%	90.3%	94.4%	100.0%	100.0%
Succ4	18	39	13	2	0
Valid Percent	25.0%	54.2%	18.1%	2.8%	0.0%
Cumulative Percent	25.0%	79.2%	97.2%	100.0%	100.0%
Succ5	23	28	17	4	0
Valid Percent	31.9%	38.9%	23.6%	5.6%	0.0%
Cumulative Percent	31.9%	70.8%	94.4%	100.0%	100.0%
Succ6	14	32	20	6	0
Valid Percent	19.4%	44.4%	27.8%	8.3%	0.0%
Cumulative Percent	19.4%	63.9%	91.7%	100.0%	100.0%
Succ7	22	28	15	7	0
Valid Percent	30.6%	38.9%	20.8%	9.7%	0.0%
Cumulative Percent	30.6%	69.4%	90.3%	100.0%	100.0%

Table 6. Frequency analysis of benefits realization practices survey score

The below tables presents the score of each dimension and factor of the project success variable. The results included the total score of each criteria and the weighted average which is simply the total score divided by 72. This table is used to test the first research hypothesis (H3) which states that the traditional iron triangle project success criteria of time, cost and quality which are attributed to project management performance is not significantly different in its influence on project success determination from product success criteria. The table shows a score of 4.11 for the traditional success criteria which is slightly higher, by 5%, than the project value success criteria which are attributed to product success. The results do not show significant difference therefore Hypothesis 3 proposition is tenable.

Global Factor	Factor	Dimension	Total Score	Weighted Average	
Project Success	Iron Triangle - Management team performance attributes	Within budget	287	3.99	4.11
		Schedule maintained	294	4.08	
		Scope/Quality met	306	4.25	
	Project value - Product success attributes	Outcomes realized	289	4.01	3.91
		Strategic objectives met	286	3.97	
		Business case satisfied	270	3.75	
		Investment objectives realized	281	3.90	

Table 7. Comparison project success dimension scores

The below table demonstrates central tendency analysis results such as standard deviation and skewness for each benefits realization practices. The normal distribution indicators such closeness of skewness to “0” can be extracted from the below table. The skewness is close to “0” across the 7 items except for success criteria 1 and 2 which is slightly higher than 1.0.

Factor	Dimension	N		Mean	Std. Deviation	Skewness	Std. Error of Skewness
		Valid	Missing				
Management Team Performance	Succ1	72	0	3.99	1.028	-1.173	0.283
	Succ2	72	0	4.08	0.946	-0.992	0.283
	Succ3	72	0	4.25	0.783	-1.201	0.283
Project Value	Succ4	72	0	4.01	0.741	-0.449	0.283
	Succ5	72	0	3.97	0.888	-0.442	0.283
	Succ6	72	0	3.75	0.868	-0.282	0.283
	Succ7	72	0	3.90	0.952	-0.507	0.283

Table 8. Measures of central tendencies for project success criteria survey score

4.2. Reliability / Internal Consistency Analysis

A reliability coefficient Cronbach's alpha of 0.7 or more shows decent consistency between the dimensions of a variable. The generated results for both project success dependent variable and benefits realization practices independent variable shown in the below table demonstrates high inter-consistency values greater than 0.85. Therefore, the data are tenable to be carried on for the next step in analysis.

	N of Items	Cronbach's Alpha
Benefits Realization Practices	13	0.883
Project Success	7	0.895

Table 9. Internal consistency analysis results

4.3. Correlation Test

The bivariate correlation test is an indicator of relationship existence between the independent and dependent factors. The below table shows the correlation matrix and detects a directly proportional significant relationship between the independent and dependent factors as each dependent factor shows at least a correlation value with one independent factor greater than 0.3 which implies that there is a relationship between the independent and dependent variables. The most significant relationship is demonstrated in the below table is between the independent realization factor and dependent organizational project success variable. A moderate correlation is detected between the independent variable or global independent factor which is benefits realization practices and the dependent organizational project success variable. The correlation test as demonstrated in Chapter 3 does not show the cause and effect relationship as it only shows that there is a link between the factors and variables.

Factor		1	2	3	4	5	6	7
1	Planning practices factor (IndPln)	1						
2	Review practices factor (IndRev)	.657**	1					
3	Realize practices factor (IndReal)	.400**	.588**	1				
4	Strategy practices factor (IndStr)	.385**	.463**	.615**	1			

Factor		1	2	3	4	5	6	7
5	Benefits realization practices variable (IndGlob)	.811**	.874**	.781**	.714**	1		
6	Management team performance (DepPer)	0.204	0.116	.443**	.358**	.325**	1	
7	Project value achievement (DepVal)	.264*	0.150	.387**	.348**	.341**	.634**	1
8	Project success variable (DepGlob)	.262*	0.149	.454**	.389**	.369**	.878**	.927**

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed).*

Table 10. Benefits realization factors and project success factors correlation matrix

4.4. Regression Analysis

The preceding correlation matrix showed a positive relationship between the dependent factors and at least one of the independent factors. In addition, moderate association was found between the independent and dependent variables and therefore the data can be carried to the regression analysis step to investigate the cause and effect relationship between the independent and dependent variables. The undertaken bivariate regression analysis shall address the research hypotheses as follows.

4.4.1. Benefits Realization Practices and Organizational Project Success Regression Test (H1)

Hypothesis 1 (H1) of the research stated that the perception of organizational project success will be significantly impacted by introducing benefits realization practices. The benefits realization practices independent variable encompassed 13 practices (dimension) within 4 practice groups (factors) which are plan, review, realize and strategy. These practices are meant to be applied during the project life cycle from initiation to operation. On the other hand, the project success dependent variable consisted of 7 success criteria (dimensions) within 2 groups (factors) which are management team performance and project value.

The regression test will measure the elasticity of project success in response to the independent variable benefits realization practices. The test will determine the most likely prediction in project success variance using the independent variable as the predictor.

The below table shows the regression model summary generated by SPSS. The R-square and adjusted R-square values are 0.136 and 0.124 respectively which are in close proximity. This ascertains the regression model goodness of fit. The R-square value indicates that around 13% of variance in project success can be explained by the perception of benefits realization practices.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.369 ^a	0.136	0.124	4.57608

Table 11. Regression model summary: benefits realization practices (global independent factor) and Project Success (global dependent factor)

The following table shows F-ratio 11.03 at significance level of 0.001 which indicates that the model predicts the variance in project success well.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	231.042	1	231.042	11.033	.001 ^b
	Residual	1465.833	70	20.940		
	Total	1696.875	71			

Table 12. ANOVA summary: benefits realization practices (global independent factor) and Project Success (global dependent factor)

The below table shows regression coefficient (B) of 0.257 which indicates that it is more likely for project success rate to increase if benefits realization practices were perceived to be more important.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.666	3.740		4.189	0.000
	BRP	0.257	0.077	0.369	3.322	0.001

Table 13. Regression coefficients: benefits realization practices (global independent factor) and Project Success (global dependent factor)

4.5. One Way ANOVA and Tukey Test

This analytical technique was used to determine if there are discrepancies in the influence of benefits realization measures on project success based on organization type. The first step is shown in the below table which shows the homogeneity of variances test and demonstrates

that the significance level is greater than 0.05 which concludes that the One Way ANOVA test is tenable.

		Levene Statistic	df1	df2	Sig.
Benefits Realization Practices influence on Project Success	Based on Mean	1.498	3	68	0.223
	Based on Median	1.566	3	68	0.206
	Based on Median and with adjusted df	1.566	3	61.458	0.207
	Based on trimmed mean	1.545	3	68	0.211

Table 14. Homogeneity of variances test

The following table shows the results of the One Way ANOVA test. The table shows F-ratio of 3.05 and significance of 0.036. This means that there is a significant difference in the perception of benefits realization measures according to the type of organization the respondents worked for.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	415.853	3	138.618	3.054	0.034
Within Groups	3086.758	68	45.393		
Total	3502.611	71			

Table 15. One Way ANOVA test results

The following table shows Tukey Honest Significant Difference (HSD) test which is complimentary to the One Way ANOVA test. The test is used to demonstrate where the discrepancies between groups perception are significant. The results suggest that the difference is significant from government authority to consultant or contractor.

Organization Type		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Government Authority	Public Developer	2.61765	3.56139	0.883	-6.7620	11.9973

Organization Type		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	Private Developer	2.68908	2.13951	0.593	-2.9458	8.3239
	Consultant / Contractor	5.71765*	1.89863	0.019	0.7172	10.7181
Public Developer	Government Authority	-2.61765	3.56139	0.883	-11.9973	6.7620
	Private Developer	0.07143	3.81979	1.000	-9.9888	10.1317
	Consultant / Contractor	3.10000	3.69026	0.835	-6.6191	12.8191
Private Developer	Government Authority	-2.68908	2.13951	0.593	-8.3239	2.9458
	Public Developer	-0.07143	3.81979	1.000	-10.1317	9.9888
	Consultant / Contractor	3.02857	2.34778	0.572	-3.1548	9.2120
Consultant / Contractor	Government Authority	-5.71765*	1.89863	0.019	-10.7181	-0.7172
	Public Developer	-3.10000	3.69026	0.835	-12.8191	6.6191
	Private Developer	-3.02857	2.34778	0.572	-9.2120	3.1548

Table 16. Post-hoc Tukey's Honest Significant Difference test results (1)

The second table of Tukey's test results clarifies the outputs of the first table above and indicates that government authorities and developers have higher perception of benefits realization practices than consultants and contractors.

Organization Type	N	Subset for alpha = 0.05	
		1	
Consultant / Contractor	20	44.4000	
Private Developer	14	47.4286	
Public Developer	4	47.5000	
Government Authority	34	50.1176	
Sig.		0.240	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 9.979.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Table 17. Post-hoc Tukey's Honest Significant Difference test results (2)

According to hypothesis 2 (H2) of the research the respondents who were involved in the implementation phase of the project will have less perception on benefits realization practices influence over organizational project success. The below table demonstrates that the majority

of the respondent who answered “No” were working with either consultants or contractors. Around 75% of the respondent from consultancy and contracting firms were not part of the client team. On contrary, the majority of the respondent from other organizations were part of the client team. Therefore, the One Way ANOVA and Tukey’s HSD tests results support the second hypothesis of the research.

Organization Type	Frequency	Respondents did not work with Project Owner Team	
		N	%
Government Authority	34	4	12%
Public Developer	4	0	0%
Private Developer	14	3	21%
Consultant / Contractor	20	15	75%
Total	72	22	

Table 18. Respondents who were not part of the client team by organization type

4.6. Results Summary

This chapter provided a holistic view on the undertaken analysis including descriptive analysis, correlation test, regression analysis and One Way ANOVA analysis. A deep insight was provided on the demographic data of respondents. The collected data frequencies and distribution normality were presented. The data reliability tests showed high level of internal consistency greater than 0.85. The third research hypothesis (H3) was supported in the descriptive analysis conducted for the project success variable. The first research hypotheses (H1), was tenable by the regression analysis results. The One Way ANOVA test demonstrated that the different perceptions over benefits realization practices influence can be attributed to the involvement of the respondents across the project life cycle. If the involvement of the respondents was only in the implementation phase then less perception benefits management should be expected. The involvement of respondents was investigated through type of organization the respondents worked with. These findings supported the second hypothesis (H2) of the research.

The next chapter moves on to benchmark the findings of this chapter with previous studies and researches conducted on the subject to cover the various aspects and provide justifications.

Chapter 5: Discussion of Results

5.1. Introduction

This chapter discusses the findings of the research hypotheses test results and compare them to previous researches findings from literature. The hypotheses test results H1, H2 and H3 are generally compliant with the literature review and the conceptual framework developed for this study. The research can generalize the results in United Arab Emirates context as the data collection process occurred in the country.

5.2. Project Success Criteria

The overall score of each project success criterion (dimension) and group (factor) was calculated. Then the average weight score was generated to compare the means. The results showed that the traditional success criteria comprising the iron triangle are slightly higher than the product value success criteria in their contribution to project success. According to Badewi (2016), despite the orientation of project success being driven towards value, benefits, strategic objectives and vision, the iron triangle is still considered a significant measure of success. However, the results showed that the score for the two criteria groups of success are within close proximate which support the research hypothesis (H3) which states that the iron triangle is not a dominating measure of success any more. This result matches with previous studies such as Jugdev & Muller (2005) who confirmed that project success criteria crossed the border of the iron triangle in the past period to recognize other success criteria of significance.

Across history of literature on project success, several authors have classified success criteria in different categories to deviate from iron triangle constraints of cost, time and output. Baccarini (1999) introduced product success and set it apart it from the iron triangle which is referred to as project management team success. The author clarified that the term project success cannot be constrained with the traditional project success measures and spanned

project success to include stakeholders' satisfaction and organization success. Ika (2009) stated that emergence of new project success criteria beyond the iron triangle through history is an indicator on the growing understanding on the underlying principles of success perceptions.

Figure 14 attained from Albert, Balve & Spang (2017) demonstrates how project success is interpreted on the short and long term of a project life cycle where at first the focus is on assessing success based on the traditional measures of Barns' iron triangle. Then the concentration transfers to measuring the output impact stakeholders and business success. After then, the appraisal of these projects will eventually lead to better decision making process. Todorović (2015) emphasized that building knowledge from previous projects will enrich the organization at the strategic level and enhance the decision making process on future projects. Albert, Balve & Spang (2017) elaborated that, in all, the importance of project management efficiency as project success criteria diminishes while progressing in the project life cycle.

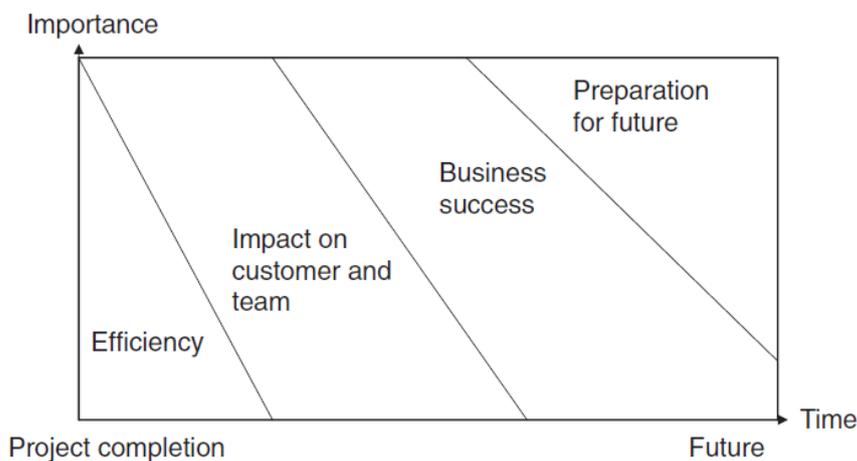


Figure 14. Importance of project success success criteria over time (Shenhar and Dvir, 2007 in Albert, Balve & Spang, 2017)

5.3. Benefits Realization Practices Influence on Organizational Project Success

The regression test between the independent variable of benefits realization practices and dependent variable of project success was found to be significant in the previous chapter and

support the research first hypothesis (H1). These results are in agreement with the findings of previous studies such as Serra & Kunk (2015), Badewi (2015) and Badewi (2016). As delivering benefits and creating value evolved as essential project success criteria (Ika, 2009), BRM is sought to enhance projects and organization success. Serra & Kunk (2015) determined that Benefits Realization Management has a positive impact on project success as it contributes to the creation of value and delivery of benefits that enhances organization success. Badewi (2016) study findings indicate that integrating benefits management practices with project management practices increases the project success potential. Cooke-Davies (2002) stated that benefits management plays a vital role in delivering project success because deriving benefits from projects requires holistic framework that combines strategic, execution and operation authorities of the organization. The author added that project success leads to corporate success as it generates value for the organization and benefits management is tool to enhance this link.

Figure 15 demonstrates conceptual framework of benefits delivery developed by Cooke-Davies (2002) within the context of program, project and operations management. The underlying principles of this chart are in line with the process chart developed for this study highlighted in **Figure 2**.

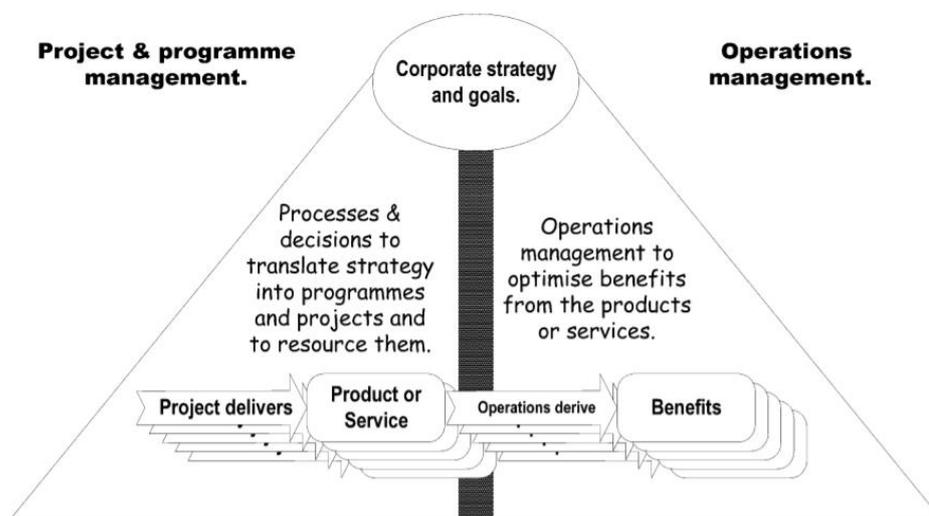


Figure 15. The collaborative approach towards the delivery of benefits (Cooke-Davies, 2002)

Even though the empirical association between the two variables was proven through this study and in literature, there are still number of issues with benefits realization management to be looked after. Todorović et al. (2015) stated that one the major challenges is performing appraisal for projects after closure due to the lack of proper documentation and appraisal framework. Bradley (2008) added that this concern was one of the drivers for the development of benefits management concept. However, Mossalam & Arafa (2016) indicated that current application of benefits realization practices is immature on the project execution level and there is a need to develop a practical framework to activate the concept of benefits realization. Chih & Zwikael (2015) addressed the problem and outlined several measures to be adopted as guidelines for developing effective benefits management framework. It is evident from literature that there is a clear potential for improvements in the field of benefits management.

5.4. Influence of benefits realization practices on Organizational Project Success Perceptions Discrepancies

The One Way ANOVA complimented by Tukey's test confirmed that there are discrepancies in perception of the independent variable influence on organizational project success between the organization types, in particular government authority to consultant or contractor. Descriptive analysis demonstrated that the difference in perception of benefits realization practices between the organizations can be attributed to the uneven distribution of respondents who were not part of the project owner organization. The analysis showed that the majority of the respondents coming from consultancy and contracting firms were not part of the project owner (client) team. This is the mainstream case as these firms which are usually project takers and not generators (clients) with exception on their generated projects such administrative and development projects like information technology, human resources, offices development, management change etc. On the contrary, government authorities are

usually clients or in other words project owners and initiators. Project initiators are the parties which went through the whole project life cycle from initiation to operation, whilst the service providers which are usually contractors and consultants are only involved in the project implementation. Benefits realization practices span along the whole project life cycle and not only at implementation phase as been illustrated in **Figure 2**. Therefore the team working with the project owner would be more familiar with the benefits realization practices, in particular the ones adopted before and after execution. Koops et al. (2017) stated in her study on public projects managers perception of project success that the iron triangle project success criteria did not make it to the top 3 criteria in determining project success.

Another reason is that on the execution level project managers are overwhelmed with the ideology of delivering the project on time and within budget marginalizing other critical aspects that lead to project and organization success (Maylor et al. 2006). Several other studies confirmed that during execution, the team is often consumed with delivering the scope according to specifications of time and budget due to pressure which distracts the team from benefits realization (Badewi 2016; Muller & Turner, 2007; Jugdev & Muller 2005). Generalizing the culture of benefits realization within an organization can minimize the gap between the project anticipated success criteria by the organization and emphasized success criteria during project execution.

Davis (2017) concluded in his study that there is a gap in the perceptions of success between stakeholders, senior management and project implementation team. Hussein, Ahmad & Zidane (2015) further elaborated that the misalignment between strategy and execution do form a significant constraint in determining project success. Davis (2017) concluded that the alignment of perceptions across the project different stakeholders can be possible only through coordination and collaboration with the different project stakeholders.

5.5. Summary

This chapter discussed the hypothesis testing results conveyed in the previous chapter. The discussion concluded consistency between the literature review and data analysis findings. The three research hypotheses analysis results are in agreement with findings from previous studies. The significant relationship between benefits realization practices and organizational project success demonstrated the importance of these practices for organizations to achieve project success. The outlined objectives of the study supported the interpretation of the results and the fulfillment of the study aim.

Chapter 6: Conclusion and Recommendations

6.1. Conclusion

In literature, it was evident that there was limited number of studies undertaken to test the empirical relationship between Benefits Realization Management practices and project success. On the contrary, there were several researches conducted in the field of Benefits Management framework. The majority of these researches were conducted in the west and very limited found in the Middle East especially in United Arab Emirates.

The rationale of the research was to investigate how benefits realization practices can support organizations in aligning projects with their strategic objectives and create more value from their projects. The aim of the research was examine the association between benefits realization practices and organizational project success. Several objectives were established to support the findings of research which are:

- Identify the underlying principles of realization management practices.
- Investigate the relation between organizations strategic objectives, value creation, benefits realization practices and project success.
- Examine the discrepancies in perceptions of project success and the key success criteria.
- Explore the key challenges facing implementing benefits realization management.
- Study the impact of BRM on project success in literature

This exploratory study adopted quantitative research methodology in addition to using qualitative approach in literature review and results discussion. The quantitative approach included data collection and analysis and hypotheses assessment using parametric tests. The data was collected through website link using digital platforms (Google Forms) for questionnaire design and data collection. The data was processed through the use of excel

sheets and statistically analyzed via SPSS utilizing the analytical techniques of descriptive statistics, One Way ANOVA and bivariate simple regression to test the following hypotheses:

- Hypothesis 1 (H1): There is a significant relationship between benefits realization practices and organizational project success.
- Hypothesis 2 (H2): Individuals who were involved in project implementation phase will have less perception of benefits realization practices
- Hypothesis 3 (H3): Project success measurement is not dominated by the iron triangle constraints any more

The data analysis supported the research propositions which are in line with the literature review. The analyses results were generally compliant with several previous studies conducted in the field and below is a summary of these findings on each proposition:

6.1.1. H1: There is a significant relationship between benefits realization practices and organizational project success.

The simple regression test was conducted to examine the cause and effect relationship between the two variables of benefit realization practice. The study concluded that these practices positively impact project success. This was explained in literature from two aspects:

- Benefits Realization Practices support the organization to extract the anticipated benefits from projects.
- Benefits Realization Practices can influence the perception of stakeholders over project success. This is due to the fact that success is perceived, so may vary from one stakeholder to another. BRP in its role helps to align the project with stakeholders expectation.

6.1.2. H2: Individuals who were involved in the project implementation phase will have less perception of benefits realization practices

The One Way ANOVA test demonstrated that the consultants and contractors group have less perception on benefits realization practices than developers and significantly less than government authorities. Analysis the group of consultants and contractors demonstrated that around 75% of them were not part of the client team. This indicates that they were hired by clients to undertake the project and therefore they were only included in the implementation phase of the project. In various studies from literature, there is an agreement that during project implementation, project managers are consumed with the iron triangle dilemma which is to submit the project scope on time and within budget to avoid consequences. Meylor et al. (2006) stated that when the management team is constrained with the iron triangle, the realization of benefits will be less attainable.

6.1.3. H3: Project success measurement is not dominated by the iron triangle constraints any more

Several studies such as Ika (2009), demonstrated that the definition of project success across history crossed the border of the iron triangle and became more oriented towards product success, business success and value creation. Nevertheless, it was also agreed that it is regular for project managers during implementation to be bounded with meeting the iron triangle constraints of scope, time and budget.

The author of this study argued that there will not be significant difference between the organizational projects success criteria groups scores since it was verified through literature that delivery of value and meeting stakeholders expectations and organization strategic objectives has become the main focus for organizational projects. The comparison of the weighted average scores between the project success two groups showed approximately 5% difference between the project success criteria attributed to the iron triangle and project success criteria of attributed value creation.

6.2. Recommendations for Further Studies

Throughout the research, multiple challenges and areas for improvements were detected. The following research subjects are recommended for future studies in United Arab Emirates:

- Benefits realization management contribution to organizations governance success;
- Benefits realization management critical success factors;
- Development of practical framework for applying benefits realization management in organizations;
- Study case on one of the major projects within the framework of benefits realization management;
- Level of BRM maturity in organizations and well established private firms as a mediating variable for explaining the relationship between benefits realization practices and organizational project success.

6.3. Study Implications

6.3.1. Implications to Research

The aim of the research is to establish the empirical relationship between benefits realization practices and organizational projects success in United Arab Emirates. The study explored the opportunities and challenges in implementing the concept of Benefits Realization Management.

The study identified the gap in literature and the huge potential for further studies and improvements. The study recommended number of potential topics that can be explored in further researches in the field Benefits Management. There were also number of studies explored in benefits management which were not mentioned in the recommendation for future studies section of this research but can be reflected in United Arab Emirates context.

6.3.2. Implications to Practice

The research results highlighted the benefits of implementing the benefits realization practices. The research literature review and findings also provided number of practical implications and areas of improvements to be considered in organizations management practices on the portfolio, program and project levels. This section of the chapter summarizes these implications as follows:

- BRM consists of practices from portfolio, program and project management in addition to number of practices under one umbrella to boost the culture benefits realization and value creation. Therefore, the implementation of it in organizations helps to spread the culture of benefits achievement and value enhancement. Fostering the culture of benefits realization is empowered through organizational strategies. Thus, it helps to overcome the current norm among project management which is to focus on the delivery of project within the iron triangle success measures of cost, time and quality output.
- Identification of project success is subject to stakeholders' expectations and perceptions. Therefore, it is important to uniform the success criteria among stakeholder prior to project commencement to assure the delivery of the expected value.
- The identification of measurable benefits of a project and delegating the accountability of benefits realization to a person with structured review process is essential to enable realization of the project benefits in the post-project closure phase.
- The improvement of the project appraisal process through benefits management practices supports the senior management of organizations in reevaluating their priorities.

- Organizations should develop effective mechanism to apply benefits realization practices efficiently. Normalizing this concept on the portfolio and program levels without robust methodology to apply it during project execution and after project closure is a waste of all of the efforts spared in managing and realizing the benefits.

6.4. Research Limitation

The research was able to address the study hypotheses; however, several point outlined below impeded the research ability to generalize the results to the whole population as it is the regular case for most of the previous studies:

- The sample size of 72 respondents is relatively small in comparison to previous studies that tested empirical relation between variables.
- There was significant difference in distribution of respondents between the different types of organization groups.
- The study followed the quantitative approach in survey and data analysis which implies close ended questions, so there is no flexibility for respondents to express personal opinions or choose different answers.

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Appendices

Appendix 1: Survey / Questionnaire

Appendix 2: Data Frequency Analysis – SPSS

Appendix 3: Reliability Analysis – SPSS

Appendix 1. Survey Questions

Survey: Influence of Benefits Realization Practices on Organizational Projects Success in UAE

Terms to understand before completing the questionnaire:

- Project Output: The direct deliverable of a project whether it is a product or a service
- Project Outcome: The indirect deliverable of a project which is the changes associated with the introduction of a project output
- Organizational project: A project initiated to add value to the organization and to achieve a strategy or set of strategic objectives.
- Benefits Realization Management: A group of processes and practices which span over a project life cycle established to assure that the project meets the pre-defined strategic objectives and outcomes mentioned in the business case. The Benefits Management practices were structured to close the gap between strategy and execution results to create value for the organization.
- Benefit: The value created as consequence of a project or group of projects outcomes.

1. General Information

Please choose the type of organizational projects you have worked on

- Business development (i.e new investment, increase rate of return, cost cut etc)
- Administrative (i.e enhance work performance, change management etc.)
- Provision of public service (i.e building or enhancing an infrastructure facility)
- Others – Please Specify:.....

Type of organization you worked for during the project execution

- Government Authority
- Public Developer
- Private Developer
- Consultant / Contractor

Project Budget (value in million US Dollar)

- < 100
- 100 – < 500
- 500 – <1,000
- 1,000 or more

Your position during the course of the project

- Management / Supervision
- Technical
- Others – Please Specify:

Total years of experience

- Less than 2 years
- 2 - 7
- 8 - 13
- 14 - 19
- 20 and above

The organization you have worked for during the project execution is the project owner

- Yes
- No

If “Yes”, No. of years worked with the organization (project owner)

- Less than 2 years
- 2 - 7
- 8 - 13
- 14 - 19
- 20 and above

2. Please rate how much you agree with the following statements...

The following benefits realization practices influence project success:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The project has clearly defined outcomes	<input type="checkbox"/>				
The project has clear measurable values to be delivered	<input type="checkbox"/>				
The project's strategic objectives are clearly defined	<input type="checkbox"/>				
There is an approved business case listing all of the project's expected outputs, outcomes and benefits.	<input type="checkbox"/>				
A member is given accountability for measuring each of the planned outcomes.	<input type="checkbox"/>				
There is a regular monitoring of the project outputs and outcomes to ensure their alignment with the plan	<input type="checkbox"/>				
Stakeholders are continuously engaged and kept informed of the project review results	<input type="checkbox"/>				
The project outcomes are aligned with the planned in the business case	<input type="checkbox"/>				
Part of the project's scope is to integrate the project outputs into the regular business operations (i.e provide support, training etc. to familiarize staff with the changes imposed by the project)	<input type="checkbox"/>				
The outcomes are monitored after closure to ensure achievement of the benefits outlined in the business case.	<input type="checkbox"/>				
The organization has a structured plan to integrate project outputs into the regular business operations	<input type="checkbox"/>				
Benefits management strategy is applied across the organization.	<input type="checkbox"/>				
Benefits management strategy is applied for the organization's projects	<input type="checkbox"/>				

Project success is achieved when...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Budget goals are met	<input type="checkbox"/>				
Schedule goals are met	<input type="checkbox"/>				
The required outputs are delivered	<input type="checkbox"/>				
The planned outcomes in the business case are successfully realized.	<input type="checkbox"/>				
The project's targeted organization strategic objectives are successfully met.	<input type="checkbox"/>				
The project has satisfactorily fulfilled the business case	<input type="checkbox"/>				
The project achieves its investment objectives	<input type="checkbox"/>				

Appendix 2. Data Frequency Analysis

Benefits realization practices frequency analysis

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BRP1	72	2	5	4.13	0.749	0.562	-0.829	0.283	1.013	0.559
BRP2	72	1	5	3.97	0.804	0.647	-1.118	0.283	2.334	0.559
BRP3	72	1	5	4.00	0.732	0.535	-1.332	0.283	4.039	0.559
BRP4	72	1	5	3.64	0.924	0.854	-0.862	0.283	0.687	0.559
BRP5	72	1	5	3.50	0.949	0.901	-0.355	0.283	-0.424	0.559
BRP6	72	1	5	4.01	0.813	0.662	-1.156	0.283	2.375	0.559
BRP7	72	1	5	3.81	0.850	0.722	-0.745	0.283	0.916	0.559
BRP8	72	2	5	3.74	0.692	0.479	-0.121	0.283	-0.086	0.559
BRP9	72	1	5	3.67	0.822	0.676	-0.869	0.283	0.982	0.559
BRP10	72	2	5	3.64	0.861	0.741	-0.037	0.283	-0.639	0.559
BRP11	72	1	5	3.63	0.911	0.829	-0.901	0.283	0.780	0.559
BRP12	72	1	5	3.00	0.839	0.704	0.294	0.283	-0.102	0.559
BRP13	72	1	5	3.14	0.893	0.797	-0.158	0.283	-0.341	0.559
Valid N	72									

Project success criteria frequency analysis

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Succ1	72	1	5	3.99	1.028	1.056	-1.173	0.283	0.964	0.559
Succ2	72	2	5	4.08	0.946	0.894	-0.992	0.283	0.254	0.559

	N	Mini mum	Maxi mum	Mean	Std. Deviation	Varian ce	Skewness		Kurtosis	
	Stat istic	Stati stic	Statis tic	Statis tic	Statistic	Statisti c	Stati stic	Std. Error	Statis tic	Std. Error
Succ3	72	2	5	4.25	0.783	0.613	- 1.20 1	0.283	1.734	0.559
Succ4	72	2	5	4.01	0.741	0.549	- 0.44 9	0.283	0.105	0.559
Succ5	72	2	5	3.97	0.888	0.788	- 0.44 2	0.283	- 0.629	0.559
Succ6	72	2	5	3.75	0.868	0.754	- 0.28 2	0.283	- 0.515	0.559
Succ7	72	2	5	3.90	0.952	0.906	- 0.50 7	0.283	- 0.636	0.559
Valid N	72									

Appendix 3. Reliability Analysis

Benefits realization practices internal consistency assessment

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BRP1	43.74	42.479	0.644	0.871
BRP2	43.89	42.241	0.616	0.872
BRP3	43.86	43.248	0.577	0.875
BRP4	44.22	41.781	0.561	0.875
BRP5	44.36	40.121	0.691	0.868
BRP6	43.85	42.695	0.562	0.875
BRP7	44.06	42.532	0.548	0.876
BRP8	44.13	44.111	0.516	0.877
BRP9	44.19	46.046	0.234	0.891
BRP10	44.22	42.175	0.574	0.874
BRP11	44.24	40.605	0.681	0.868
BRP12	44.86	42.347	0.575	0.874
BRP13	44.72	41.387	0.622	0.872

Project success criteria internal consistency assessment

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Succ1	23.97	17.689	0.596	0.894
Succ2	23.88	17.942	0.632	0.888
Succ3	23.71	18.266	0.750	0.875
Succ4	23.94	18.476	0.765	0.875
Succ5	23.99	17.986	0.681	0.882
Succ6	24.21	17.350	0.801	0.868
Succ7	24.06	17.349	0.712	0.878