The effects of Organisational Ambidexterity and New Public Management on Public Sector Service Quality through Service Innovation

تأثير البراعة التنظيمية والإدارة العامة الجديدة على الإبتكار في الخدمة وجودة الخدمات المقدمة من قبل القطاع الحكومي

by

SEEMA SAADY ALKAABI

A thesis submitted in fulfilment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT

at

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Thesis Supervisor
Professor Stephen Wilkins

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Abstract

Public sector organisations in the Sultanate of Oman are still perceived to lag behind the private sector and are facing intense pressure to deliver the needed quality service. This sector is inflexible and lacks the dynamism to serve at its full extent. Moreover, the bureaucratic structure of the public sector hinders any initiative to improve, meet the demand for better products and services and operate without necessarily increasing its expenditures and disbursements. Hence, the need to reduce bureaucracy may give rise to the increasing demand for service innovation to attain service quality and enhance performance.

Actual research and empirical studies testing service quality through service innovation combining organisational ambidexterity and new public management (NPM) within the context of the public sector in the Middle-East remains a gap in literature. This is because the government structure in the Middle East is fundamentally stemmed from highly bureaucratic institutions where decentralisation is highly questionable and can be subjected to numerous challenges. This research examines the influence of organisational ambidexterity and NPM on service quality through service innovation.

The study follows a positivistic philosophy and focused on a deductive quantitative method. The survey questionnaire is based on pre-validated scales from literature and one self-developed scale for NPM as there is no such scale that has been found in literature. Non-probability sampling was used to recruit participants. One hundred and fifty-seven questionnaires were collected from twenty-two government service organisations using a self-administered online survey questionnaire that was completed by managers.

By means of structural equation modelling, it was found that exploration, exploitation and NPM relate positively and significantly to service innovation. Also, the findings illustrate that exploitation and service innovation have a positive and significant correlation on service quality. However, this relationship was not significant with exploration and NPM. Furthermore, the post hoc analysis revealed that service innovation fully mediates the relationship between exploration, NPM and service quality. However, service innovation partly mediates the relationship between exploitation and service quality.

This research has three main theoretical and empirical contributions. First, it contributes to the development of a measurement scale of NPM that relates specifically to the services provided by the government organisations those might be achieved through innovation. The services offered in the public service organisations can be achieved via innovation, although limited evidence exists about the ways to measure public performance. Specifically, it provides empirical support of the NPM-service innovation and NPM-service quality relationships. Second, this research advanced the understanding of the organisational ambidexterity theory by empirically testing the influence of both exploration and exploitation on service quality through service innovation in the public sector context. Several studies state that organisational ambidexterity applies to private organisations (e.g. industry and firm-level) to create positive outcomes for service quality. The thesis extends the previous literature on the organisational ambidexterity concept as this thesis focused on organisational level mainly operational and functional service unit in public service organisation. Third, this study contributes to the innovation literature by providing theoretical insight and empirical evidence that service innovation is important for public sector organisations. This research is one of a limited number of researches that have studied service innovation in the public sector organisation. The findings contribute to previous research literature about the mediating role of service innovation in government organisations.

Overall, this thesis offers a new conceptualisation about the mediation role of service innovation in the relationship between organisational ambidexterity and NPM in the public sector to improve service quality. The thesis findings provide evidence to highlight the importance of ensuring that the customer gets the quality services they demand the organisation to convert their efforts to reflect organisation performance. Previous studies state that service innovation offers a perspective that facilitates the development of new services and refinement of existing services to improve the quality of service. A comparison of previous literature and thesis findings confirm that the delivery of quality service needs customer-oriented practices to improve the service quality domain in public service organisations.

الملخص

لا يزال يُنظر إلى مؤسسات القطاع العام في سلطنة عمان على أنها متأخرة عن ركب القطاع الخاص وتواجه ضغوطًا شديدة لتقديم الخدمات المطلوبة بجودة عالية ، ويعتبر هذا القطاع على انه غير مرن ويفتقر إلى الديناميكية في تقديم الخدمة بكامل طاقته، وعلاوة على ذلك ، فإن الهيكل البيروقراطي للقطاع العام يعيق أي مبادرة تهدف الى التحسين والتطوير وتلبية الطلب على منتجات وخدمات أفضل ، والعمل دون الحاجة بالضرورة إلى زيادة نفقاته ومصروفاته. ومن ثم ، فإن الحاجة إلى الحد من البيروقراطية قد تؤدي إلى زيادة الطلب على ابتكار الخدمة لتحقيق جودة الخدمة وتحسين الأداء.

ولا تزال الأبحاث الفعلية والدراسات التجريبية التي تختبر جودة الخدمة من خلال الابتكار في الخدمة التي تجمع بين البراعة التنظيمية والإدارة العامة الجديدة في سياق القطاع العام في الشرق الأوسط فجوة في الأدبيات. وذلك لأن الهيكل الحكومي في الشرق الأوسط ينبثق بشكل أساسي من مؤسسات بيروقراطية للغاية حيث تكون اللامركزية موضع شك كبير ويمكن أن تتعرض لتحديات عديدة، ويدرس هذا البحث تأثير البراعة التنظيمية والإدارة العامة الجديدة على جودة الخدمة من خلال الابتكار في الخدمة.

اتبعت هذه الدراسة الفلسفة الايجابية وركزت على المنهج الكمي الاستنتاجي، كما اعتمد استبيان المسح على مقاييس تم التحقق من صحتها مسبقًا من الأدبيات ومقياس واحد تم تطويره ذاتيًا لـلإدارة العامة الجديدة حيث لا يوجد مثل هذا المقياس ولم يتم العثور عليه في الأدبيات، وتم استخدام العينات الغير الاحتمالية لجلب المشاركين. تم جمع مائة وسبعة وخمسين استبيانًا من اثنتين وعشرين مؤسسة خدمية حكومية باستخدام استبيان مسح إلكتروني عبر الإنترنت تم إكماله بواسطة المدراء.

ومن خلال وسائل نمذجة المعادلة الهيكلية ، وجد أن الاستكشاف والاستغلال والإدارة العامة الجديدة ترتبط بشكل إيجابي وكبير بالابتكار في الخدمة، كما توضح النتائج أيضا أن الاستغلال والابتكار في الخدمة لهما علاقة إيجابية وهامة بجودة الخدمة. في حين ، لم تكن هذه العلاقة ايجابية مع الاستكشاف والإدارة العامة الجديدة. وكشف التحليل اللاحق أن الابتكار في الخدمة يتوسط بشكل كامل العلاقة بين الاستكشاف والإدارة

العامة الجديدة وجودة الخدمة. في حين أن الابتكار في الخدمة يتوسط جزئيًا العلاقة بين الاستغلال وجودة الخدمة.

يحتوي هذا البحث على ثلاث مساهمات نظرية وتجريبية رئيسية. أولاً ، يساهم في تطوير مقياس قياس الإدارة العامة الجديدة الذي يتعلق تحديداً بالخدمات التي تقدمها المؤسسات الحكومية والتي يمكن تحقيقها من خلال الابتكار. ويمكن تحقيق الخدمات المقدمة في مؤسسات الخدمة العامة من خلال الابتكار ، على الرغم من وجود أدلة محدودة حول طرق قياس الأداء العام. على وجه التحديد ،هذه الدراسة توفر دعمًا تجريبيًا للعلاقة بين للابتكار في الخدمة والإدارة العامة الجديدة وايضاً جودة الخدمة والإدارة العامة الجديدة. ثانيًا ، طور هذا البحث فهم نظرية البراعة التنظيمية من خلال الاختبار التجريبي لتأثير كل من الاستكشاف والاستغلال على جودة الخدمة من خلال الابتكار في الخدمة في سياق القطاع العام. وتشير العديد من الدراسات إلى أن البراعة التنظيمية تنطبق على المنظمات الخاصة (على سبيل المثال على مستوى الصناعة والشركات) لخلق نتائج إيجابية لجودة الخدمة. وتمتد الأطروحة إلى الأدبيات السابقة حول مفهوم البراعة التنظيمية وركزت على المستوى المؤسسي وتحديداً على وحدة الخدمات التشغيلية والوظيفية في القطاع الخدمي العام. ثالثًا ، تساهم هذه الدراسة في أدبيات الابتكار من خلال توفير رؤية نظرية ودليل تجريبي على أن الابتكار في الخدمة مهم لمؤسسات القطاع العام. ويعتبر هذا البحث على انه هو واحد من عدد محدود من الأبحاث التي درست الابتكار في الخدمة في مؤسسات القطاع العام، وتساهم النتائج في الأدبيات البحثية السابقة حول الدور الوسيط للابتكار في الخدمة في المؤسسات الحكومية.

وبشكل عام ، تقدم هذه الأطروحة تصورًا جديدًا حول دور الابتكار في الخدمة والوساطة التي تلعبه في العلاقة بين البراعة التنظيمية والإدارة العامة الجديدة في القطاع العام لتحسين جودة الخدمات. وتقدم نتائج الأطروحة دليلاً لإبراز أهمية ضمان حصول العميل على الخدمات عالية الجودة التي يطلبها من المؤسسة وتحويل جهودهم لتعكس أداء المؤسسة. وتشير الدراسات السابقة إلى أن الابتكار في الخدمة يقدم منظورًا يسهل تطوير خدمات جديدة وتحسين الخدمات الحالية لتحسين جودة الخدمات. كما تؤكد مقارنة الأدبيات السابقة ونتائج الأطروحة أن تقديم خدمة عالية الجودة يحتاج إلى ممارسات موجهة نحو العملاء لتحسين مجال جودة الخدمات في مؤسسات الخدمات العامة.

Contents

List of Figures

List of Tables

Glossary

Term	Definition
Administrative innovation	Take serious consideration on new practices and approaches that motivates and rewards members of the organisation, device strategy and structure of tasks and units, and modify the organisation's management processes.
Assimilation perspective	Generally patterned on theories and models related to innovations made on traditional products and consequently applied to services.
Assurance	Is the organisation's ability to minimise the customer's worries and discomfort by ensuring that whatever their claims will be responded and solved through the utmost service provision extended to them
Balanced ambidexterity	There should be no overemphasis of exploitation over exploitation to ensure that quality of service is provided to the customers.
Business-like management tools	Tools and techniques applied to develop strategic plans and strategies; measures to implement management system considering quality management; and methods to effectively serve the customers.
Contextual ambidexterity	Employs bottom-top approach or a process through employee involvement in a daily work context. In this model, exploration and exploitation are not separated as contrasted to the structural ambidexterity model and it specifically features the ability to create an environment of supportive work context for the employees.
Decentralisation	The ability of different organisations whether private or public to decentralise its operations intended for making economic and ideal decisions; instituting decentralisations related to management of staffs and the workforce; establishing decentralisation of financial decisions; Decentralisation of staffing decisions; and establishment of autonomy to agencies or corporatisation.
Demarcation perspective	Emphasise that innovation on services practically differs in the nature and character from product innovation.
Diffusion of innovation	The act of distributing or spreading innovation concepts and ideas for information and application to the different business settings while adoption of innovation encompasses the processes undertaken to accept and implement new processes, ideas and concepts.
Effectiveness	To improve quality of services

Efficiency	To reduce costs. How the resources are utilised efficiently; the management's action in the public sector to implement downsizing; the magnitude of instituting bureaucracy reduction internal to the organisation; the strength to eliminate practices on accepting red tape; and efforts to achieve positive outcomes.
Empathy	The ability of the organisation through its workforce in showcasing extra care and in understanding the specific needs of the customers by catering to the individual needs and concerns.
Exploitation	Improvement, fine-tuning, refinement, expanding existing competencies, products or services, technologies, and business perspective that are knowledge-based activities including implementation and execution, production, selection, efficiency, problem-solving and others.
Exploration	Various activities that include experimentation of new ideas and alternatives, new searches, discovery, risk-taking, flexibility and innovation.
Incentivisation	Adopting a method of reward and payment based on performance or the so called "Performance-related pay".
Incremental innovation	Points out on customer-led strategies that concentrates on manifest needs and is regarded as the most common type of innovation.
Innovation	Key source of economic growth, business change, and service provided to public which can potentially create a competitive advantage.
Network type mechanisms	The emphasis on working together of public organisations, setting up of special purpose bodies, setting up of cross-cutting work/project group, cross-cutting policy arrangement or program, consulting civil society organisations or interest groups and cooperating and collaborating with different public sector actors.
New public management	NPM can be classified into two-level phenomenon; higher level and mundane level. At the higher level, it emphasises private sector management style and approach such as techniques, concepts and values in order to improve public sector performance. At the mundane level, it is a set of concepts and practices.
One-stop-shop	The different service activities of different government agencies under only one roof.
Organisational ambidexterity	The ability of the organisation to apply both exploration and exploitation to improve the organisation's performance

Post-NPM	How organisations and public sector organisations should innovate which is contrary to the question of why organisations should innovate. In other words, it is an attempt by political executives to reassert control over administrators to address concerns about organisational fragmentation and lack of inter-
Process innovation	Emphasis on internal focus contrary to the external focus of product and service innovation. Its main aim is to increase effectiveness and efficiency of the operational processes inside the organisation to facilitate the production and to deliver the good and service to the consumers.
Radical innovation	Takes into greater consideration changes that requires major or revolutionary changes that stem from fundamental changes of the new service.
Reliability	Encompasses how the company through its customer service delivers the service reliably through timely delivery, error-free delivery and having reliable service for the first time.
Responsiveness	Another important dimension of service quality which basically deals on the promptness of service and response to customer claims and queries and the willingness to help when needed.
Service innovation	The introduction of new services to the existing or new clients and offer of existing services to new clients.
Service innovation exploitation	It is to refine and to improve existing service quality and efficiency in meeting the needs and demands of customers or markets.
Service quality	Measures the firm's actual service delivery against customer's expectation and where perception of quality determines the degree of customer satisfaction whether it meets or exceeds their expectations.
SERVQUAL model	Specifically measures the quality of service provided by companies and firms.
Structural ambidexterity	This considers exploration and exploitation as two different constructs divided into structures, units, and sub-units. The aim of this model is to ensure overall consistency in the application of ambidexterity whereby the management follows the top-down approach.
Synthesis perspective	It asserts that theories on service innovation should be generalised to consider innovations made in both the manufacturing and service sector without limiting to technological innovations only.
Technological innovation	Primarily driven by increasing operational flexibility, lowering production costs and reducing delivery time or periods. This also means that, technological process innovations mainly cater to the

	modification of the firm's operational processes and systems which are closely associated with information technology especially in service organisations
Total quality management	Initiative focusing on processes of continuous improvement.

List of Abbreviations

Abbreviation	*Explanation*
AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
CEE	Central and Eastern Europe
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
CMIN	Chi-square
CMIN/DF	Normed chi-square
EFA	Exploratory Factor Analysis
GCC	Gulf Cooperation Council
ML	Maximum Likelihood
MTMs	Market-Type Mechanism
NPM	New Public Management
NTMs	Network-type Mechanisms
OECD	The Organisation for Economic Co-operation and Development
PGFI	Parsimony Adjusted Goodness-of Fit Index
PNFI	Parsimony Normed Fit Index
Post-NPM	Post-New public Management
PRP	Performance-Related Pay
RFI	Relative Fit Index
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Sciences
TLI	Tucker-Lewis Index
TQM	Total Quality Management
TMT	Top Management Team
TRC	The Research Council
UAE	United Arab Emirates
USA	United States of America

Chapter 1: Introduction

1.1 Introduction and Research Context

In the global scene, public sector organisations have been at the forefront of performance related issues and have been continuously compared with the private sector's performance (Boyne 2002; Karan 2010). Various strategies and techniques have been employed to ensure the quality of service and performance expected in publicorganisations but there is still lack of evidence about how the public sector performs (Sadikoglu & Olcay 2014; Van Thiel & Leeuw 2002). In fact, public sector organisations are still perceived to lag behind the private sector and are facing intense pressure to deliver the needed quality service, as they are struggling to make decisions on how to reduce costs, improve performance and work efficiency (Al-Belushi et al. 2017; Damanpour 1991; Demircioglu & Audretsch 2017; Hood 1991; Sok & O'Cass, 2015; Wu et al. 2013). This sector is inflexible and less responsive to the changing needs of citizens as well as lacks the dynamism to serve at its full extent (Agarwal & Selen 2009; Dunleavy et al. 2006). According to various authors, the inflexibility of the public sector can be attributed to the lack of pursuit to innovate their services to attain service quality and enhanced performance (Damanpour et al. 2009; Demircioglu & Audretsch 2017; De Vries et al. 2016). Moreover, the bureaucratic structure of the public sector hinders any initiative to improve (Boyne 2002), meet the demand for better products and services and operate without necessarily increasing its expenditures and disbursements (Al-Belushi et al. 2017; Demircioglu & Audretsch 2017). Hence, the need to reduce bureaucracy may give rise to the increasing demand for service innovation to facilitate enhanced service quality and performance (UNCTAD 2014).

The growing trend of studying the performance of the public sector extends to different parts of the world from United States of America (USA), Western countries to even the Arab Region (Dixon et al. 2018;). One of the countries that experienced the changes in response to the global economic change is the Sultanate of Oman. Oman transitioned itself from an oil-dominated income generator into a diversified country considering tourism and the fishing industry as part of their flagship (SCP 2018). Technological change prompts the country into new forms of media, new digital era, new services both in the public and government sector that eventually introduced the 24/7 operation (PAIPED 2014). However; like the challenges faced globally by many countries, Oman's public sector organisations also struggles to serve the country's citizens and fulfil their expectations (KPMG 2018). The citizens expect that the good services they have received from the private sector would also be the same in the public sector. This in turn urged many public service organisations to innovate to equate to the fast-rising innovative strategies employed in the private industries. Efforts have been made in response to the challenge of innovativeness in Oman through The Research Council (TRC), the government arm that recently developed the National Innovation Strategy which aimed to foster the culture and industry of innovation with the hope to transform the businesses into a knowledge-based economy (The Research Council 2017). The initiative proposed integration between government organisations and, as a platform to promote innovation in the public sector, in its development stage (Al-Busaidy & Weerakkody 2009).

Considering the private sector as the frontrunner of innovation and business growth, Al- Busaidy and Weerakkody (2009) concluded that the public sector should adopt the customer-centred approach in providing services to its citizens, by providing user friendly and easy access services, innovative solutions of information and communication technology and internet development. This creates a balance between service innovation, service quality and performance of service offering by the public service organisations to the citizens and intended users. Efforts of the government to engage in service innovation is achievable according to the Global Competitiveness Report issued by the World Economic Forum where Oman is ranked 76th out of 128 countries in year 2015 from 103rd rank in 2014 and it has further climbed to 69th in 2018 (Schwab 2017). Furthermore, according to the Global Innovation Index 2018, Oman has stepped up by eight positions to rank 69 out of 127 countries (Cornell University, INSEAD, & WIPO 2018).

On the other hand, service innovation can fully be attained in either developing new service or improving the existing service and in further advancing service quality (Berry et al. 2006). This has led to the promotion of organisational ambidexterity in public sector organisations emphasising exploration and exploitation and its significant impact on service innovation and service quality (Sok & O'Cass 2015). Organisational ambidexterity is the ability to explore and exploit resources simultaneously (March 1991). Many studies were undertaken on organisational ambidexterity but it is mostly applied in the private sector with positive results on service quality but very few related studies were applied to the public sector (Cannaerts 2016; Choi & Chandler 2015; Demircioglu & Audretsch 2017; Smith & Umans 2015). As such, the need to apply such relevant study to the public sector is considered timely and rational to enhance knowledge-based services in an organisationally ambidextrous approach (Palm & Lilja 2017).

While innovation is one of the challenges faced by the public sector, public reform is another agenda in a larger scale where the objective is to also improve the public sector services and performance. Kinder (2012, p. 1), claims that "as local public service organisations enter the age of austerity, performance driven by innovation and learning, will be an important feature of any NPM paradigm". In fact, much research has centred on the concept New Public Management (NPM) to address these reforms agenda (Andrews & Van de Walle 2013; Damanpour et al. 2009; Dan & Pollitt 2015; Hood 1991; Osborne et al. 2015; Pollitt 1995; Salge & Vera 2012). Pollitt and Bouckaert (2004), as cited in Hajnal and Rosta

(2015), posit that NPM can be classified into two-level phenomenon; higher level and mundane level. At the higher level, it emphasises private sector management style and approach such as techniques, concepts and values in order to improve public sector performance. At the mundane level, it is a set of concepts and practices. Although limited studies establish the link between NPM and service innovation, attempts to establish their relationship is still unclear in the public sector (Demircioglu & Audretsch 2017; De Vries et al. 2016). Hajnal and Rosta (2015, p. 3) claim that "Authors only use the secondary and indicator / data levels, which mean they enumerate the main constitutive dimensions of NPM and post-NPM". Building on this, it seems that no study, however, has empirically tested the effect of NPM on services innovation in the public sector. Also, more studies in different cultural contexts are needed to specify the effect of NPM (e.g. budget changes) on service innovation in the public sector (Demircioglu & Audretsch 2017; De Vries et al. 2016).

Hence, conducting a study that links organisational ambidexterity, NPM, service innovation and service quality is endeavoured in this research study. It also attempts to explore and bring together different constructs that possibly link to service quality in the public sector. There have been many studies that have examined the effect of organisational ambidexterity (Benner & Tushman 2003; Birkinshaw & Gupta 2013; Gieske et al. 2019; O'Reilly & Tushman 2013; Rosing & Zacher 2017; Smith & Umans 2015) and NPM on organisational performance (Andrews & Van de Walle 2013; Brinkerhoff & Brinkerhoff 2015; Dan & Pollitt 2015; Demircioglu & Audretsch 2017; Ferlie 2017), Yet, actual research and empirical studies on service innovation combining organisational ambidexterity and NPM within the context of the public sector in the Middle-East remains a gap in literature. This is because the government structure in the Middle East is fundamentally stemmed from highly bureaucratic institutions where decentralisation is highly questionable and can be subjected to numerous challenges. Further, it is still hard to find evidence of any empirical studies conducted to determine the successes or failures of the combined constructs in the context of the public sector.

1.2 Purpose of Research

Linking together organisational ambidexterity and NPM, this research study is an attempt to explore how to improve service quality through service innovation in the public sector. It proposes a conceptual model to empirically examine the influence of organisational ambidexterity and NPM on public sector service quality directly and indirectly through service innovation. It also investigates the different explorative and exploitative activities as well as NPM that relates to service innovation in the public sector. This will provide more understanding on the nature of the relationship between organisational ambidexterity and NPM on service quality through the mediating role of services innovation within the context of Middle-East. Thus, the findings will show whether the relationships would apparently improve the services provided to the customers.

1.3 Research Objectives

The aim of this research is to investigate the relationships between different constructs namely: organisational ambidexterity, NPM, service innovation, and service quality. Specifically, it will address the following sub-objectives:

1- To develop and propose a conceptual model that will improve the quality of service provided to customer by the public sector.

2- To develop a scale to measure the adoption of NPM techniques in the public sector operations.

3- To investigate the contributions of organisational ambidexterity and NPM on service innovation.

4- To assess the role of service innovation as a mediator in the relationship between:

   a. Organisational ambidexterity and service quality.

   b. NPM and service quality.

1.4 Research Questions

Based on the research objectives, the following research questions were formulated:

1- To what extent does organisational ambidexterity (exploration & exploitation) influence service innovation in the public sector?

2- To what extent does NPM influence service innovation in the public sector?

3- Does service innovation mediate the relationship between organisational ambidexterity (exploration & exploitation) and service quality?

4- Does service innovation mediate the relationship between NPM and service quality?

5- To what extent does service innovation influence service quality in the public sector?

1.5 Research Strategy

This research aims to identify public sector employees' perception of the factors that currently influence innovative services and service quality in the public sector. To best carry out this research, it will employ a quantitative survey-based method. This study will survey approximately 150 operating units (150 employees that are the head/manager of an operational/functional service unit or a senior member in the operational/functional service unit) within the public service organisations in Oman. This will include ministries that provide service to the customer; for example, Ministry of Housing, Ministry of Education, Ministry of Health, Ministry of Tourism, Ministry of Manpower, Muscat Municipality, Ministry of Commerce and Industry, Ministry of Higher Education etc. Within a ministry, there may be five or more main operation units; for example, one operating unit could be involved with processing applications and the other could be responsible for issuing permits. The survey questionnaire is based on pre-validated scales from literature and one self-developed scale for NPM as there is no such scale that has been found in literature. The non-probability (or non-random sampling) sampling technique will be used for data collection and Structural Equation Modelling (SEM) will be used to analyse data. To confirm and improve validity and reliability, the researcher will conduct a pilot study with around 40 respondents.

Chapter 2: Literature Review

2.1 Introduction

The last 15 years have seen an increasing focus on innovation in the public sector (Borins 2001; Damanpour et al. 2009). Innovation is considered as a key source of economic growth, business change, and service provided to public which can potentially create a competitive advantage (Borins 2001; Gunday et al. 2011). The reason for the organisations to adopt innovation is because they want to cope with the rapid changes in the business environments, technological knowledge, managerial knowledge, or it is because top management wants to enhance the competencies and achieve performance goals (Damanpour et al. 2009). However, innovation field is exceptionally wide. The concept of 'diffusion' and 'adoption' of innovation differs in context (Damanpour 1991). Diffusion of innovation is the act of distributing or spreading innovation concepts and ideas for information and application to the different business settings while adoption of innovation encompasses the processes undertaken to accept and implement new processes, ideas and concepts. Furthermore, authors have made distinction between the different types of innovation. Damanpour et al. (2009, p. 1) claimed that "innovation types have different attributes, determinants, and effects". This study will focus on the adoption of service innovation in the public sector. Most of the research study focuses on the development and implementation of innovation in the introductory phases (Van Acker & Bouckaert 2017).

Much research has already been conducted about innovation in the public sector that focuses on the antecedents of innovation but very limited studies pay attention on the actual service innovation outcomes in public sector performance (De Vries et al. 2016). Moreover, little research has been conducted on enabling capabilities to innovate as well as to optimise innovation in the public sector (Cannaerts et al. 2016; Hartley 2005; Moore 2005; Piening

2013; Smith & Umans 2015) although innovation has become an important agenda. Issues arise particularly as to where innovation should be stemmed from considering that innovation may consider exploration of new ideas or exploitation of existing resources that lead to the application of ambidexterity to the proposed innovation agenda not only in private sector but also in the public sector.

Furthermore, the public organisation can be affected by change factors which include increasing demand of customer acquiring quality public service, harnessing and developing of information technology, changing of workforce's preferences, and increasing global competition (Borins 2001). This necessitated the public sector to be agile and dynamic so that it can respond to the changes and needs of customer and businesses (Agarwal & Selen 2009; Dunleavy et al. 2006). With the increasing pressures, the public service organisations need to advance service innovation in order to improve quality of public service and to enhance performance (Damanpour et al. 2009; Demircioglu & Audretsch 2017; De Vries et al. 2016; Kitsios & Kamariotou 2019) and meet demand for better products and services, without increasing public expenditure (Al-Belushi et al. 2017; Demircioglu & Audretsch 2017). There is a need to emphasis on cutting direct costs, i.e. to 'do more with less' (Hood 1991). In response to this situation, public sector has worked on increasing its productivity through the adoption of NPM practices that emphasise efficiency (i.e. reduce costs) and effectiveness (improving quality of services), and recognise customer's needs and demands (Demircioglu & Audretsch 2017). NPM continues to gain much attention in public sector organisations with increasing application of both exploration and exploitation activities and it has become an openly choice of many managers, project managers, quality circle groups and other participants in the public sector.

The following section will discuss in greater detail the four principals constructs of this study which are organisational ambidexterity, NPM, service innovation and service quality.

2.2 Organisational Ambidexterity

Fundamentally stemmed from the seminal study of March (1991), ambidexterity is the ability of the organisation to apply both exploration and exploitation to improve an organisation's performance. Similarly, different authors have also defined organisational ambidexterity as the organisation's ability to resolve tensions through creating a balance of exploration and exploitation activities throughout the organisations (Birkinshaw & Gupta 2013; Duncan 1976; Gieske et al. 2016; March 1991; Tushman & O'Reilly 1996). Exploration and exploitation are two different constructs in terms of application, values and goals whereby exploration emphasised the creation of new ideas leading to innovation while exploitation is the improvement of the existing resources or maximising the utilisation of scarce resources (March 1991).

Organisational ambidexterity presupposes that for an organisation to achieve success and a favourable performance outcome, it should create a balance between exploration and exploitation and if only one is used it would provide negative consequences on productivity and performance (Boukamel & Emery 2017). Benner and Tushman (2003) for instance exclaimed that organisations who have laid more emphasis on exploitation while undermining exploration suffer from inertia and equilibrium. Conversely, overemphasis on exploration over exploitation causes organisations to overspend on experimentation or exploration costs but with lesser financial benefits (March 1991). This is the reason why March (1991) strongly suggested that organisations should utilise exploration and exploitation activities equally to improve an organisation’s performance. To improve organisational results, the exploration exploitation balance should be attained (Umans 2013).

Benner and Tushman (2003) supported the promotion of ambidexterity concept but however stressed that, there is complexity in the application of exploration and exploitation together because it requires trade-off to be implemented such as it requires a complete adaptation of culture, strategies, processes and structures of the organisation. On the other hand, Andriopoulos and Lewis (2009) in their case study of five ambidextrous firms argued that equal application of organisational ambidexterity does not always produce favourable outcomes. The authors revealed that simultaneous use of exploration and exploitation activities creates tension (nested paradoxes). They further classified tension into three classifications that include “strategic intent (profit-breakthrough), customer orientation (tight-loose coupling) and personal drivers (discipline-passion)” (Andriopoulos & Lewis 2009, p. 2). Many studies have laid their foundation about the ability of organisational ambidexterity to improve innovation and performance (Junni et al. 2013). However, Geerts et al. (2010) demonstrate that firms appear to emphasise exploitation that involves the creation of customer value and advance the efficiency of delivering services. Exploration in this case takes ad hoc approach to generate radical innovations.

Concrete evidence that measures the success rate of applying ambidexterity is still vague due to the complexity in addressing the main paradox of simultaneous exploration and exploitation. Resolving the paradox has led to the development of two types of ambidexterity which are known as the structural and contextual ambidexterity. Structural ambidexterity model considers exploration and exploitation as two different constructs divided into structures, units, and sub-units (O'Reilly & Tushman 2013). The aim of this model is to ensure overall consistency in the application of ambidexterity whereby the management follows the top-down approach. Distinction between the two concepts is emphasised where each of the concept is evidenced with separate structure, processes, and culture (O'Reilly & Tushman 2004). Many authors believe that maintaining structural ambidexterity leads to increased efficiency in exploration and exploitation (Junni et al. 2013), as extant literatures proved that the success of structural ambidexterity is mainly dependent on the integration of different structures emanating from the higher level of management (O'Reilly & Tushman 2004). Contextual ambidexterity is opposed to structural ambidexterity as it employs bottom-top approach or a process through employee involvement in a daily work context (Gibson & Birkinshaw 2004).

Research studies have ironed out the strategies and techniques to ensure the simultaneous application of exploration and exploitation activities and at the same time to reduce the tension at the organisational level (Raisch & Birkinshaw 2008). For example, a business unit can be transformed into becoming ambidextrous when organisation develop at least two subdivisions or functions with different activities or interests (Benner & Tushman 2003). Research that promotes contextual ambidexterity has established a strong case of cultural characteristics in contrast with the structural characteristics, although they are in the same emphasis which is bound by organisational mechanisms. This is demonstrated by Gibson and Birkinshaw (2004) in their study through an example emphasising the application of both exploration and exploitation activities in business unit context thereby enabling employees to perform both activities. They further believed from the findings that the application of exploration and exploitation can further be extended into organisational contexts and in many public organisations into the macro-level.

2.2.1 Ambidexterity as a New Concept in Public Service Organisations

The concept of ambidexterity is still new in the public sector and thus, innovation is far from realisation (Cannaerts et al. 2016; Palm & Lilja, 2017; Smith & Umans 2015). However, because of the changes in environmental conditions and the demands of citizens, it has become the forefront of development agenda of public sector organisations leading to the conduct of many studies to shed light on the public sector innovation concept (Christensen & Lægreid 2011; Gieske et al. 2016). For example, public sector innovation has been currently studied by De Vries et al. (2016) which was also previously investigated by many researches emphasising the drivers and barriers of innovation in the public sector (Raipa & Giedraityte 2014; Wynen et al. 2014). The results from these studies argued that public sector innovation is faced with many barriers including but not limited by red tape, legal frameworks, procedural constraints, organisational structure, and organisational culture. This means that public organisations are largely driven by bureaucratic management system that hinders the possibilities to innovate.

In the context of the public sector, exploration activities are the generation, application and diffusion processes of radical innovation while exploitation activities are referred to as the processes involved in service improvement and service delivery (Cannaerts al. 2016; O'Reilly & Tushman 2013). Organisational ambidexterity is yet to be tested in public sector organisations which is part of the aim of this research. According to various theorists, implementation of organisational ambidexterity differs between public sector and the private sector and these differences are attributed to the different dimensions including organisational structure, missions and goals, processes and motivations, and culture (Boyne 2002; Rainey 2011). DiMaggio and Powell (1991), and Meyer and Hammerschmid (2006), as cited in Boukamel and Emery (2017) article, argue that to be innovative is to fully support exploration so as not to be confronted with barriers that caused by soft factors such as organisational culture, and hard factors such as organisational structure and legal frameworks. Hence, for public service organisations to improve efficiency and to encourage innovation, the sector's structure should consider not only exploitation of existing resources but also exploration of new ideas by taking measures to lessen bureaucratic functions such as formalisation, centralisation and specialisation because these elements are unfavourable to exploration.

Other theorists included the human trait dimension in adopting organisational ambidexterity that takes into consideration the utilisation of both hands with equal skills that creates a balance between exploration and exploitation to stimulate the positive working environment in organisations. The sense of being ambidextrous as perceived by many organisations in both private and public organisations provided them the opportunity to exploit existing resources while exploring new ideas and concepts to improve their quality of services (Duncan 1976; Lubatkin et al. 2006; March 1991; Sok & O'Cass 2015; Tushman & O’Reilly 1996). The concept of the New Public Management (NPM), which will be discussed later in this study, rest on the assumption that the organisation’s task environment is experiencing conflicts and that the need for trade-off is important in order to develop a long-term solution to implement ambidexterity while reducing the incidents of trade-offs (Boukamel & Emery 2017). In various researches, the studies in the private sector have resulted into some degree of success that leads to the demand of the same studies in public sector organisations wherein during these periods, very rare studies on public organisations have been observed (Cao et al. 2009; Lubatkin et al. 2006; Umans 2012). Tracing back on the study of March (1991), ambidexterity has been remembered as a period of innovation where innovative capability makes the organisation to become ambidextrous. It has been affirmed by Hartley (2005) in his study where he pointed out the innovative capability of the ambidextrous public sector organisations not only limits to understanding the antecedents of innovation but also determines the positive outcomes of these organisations to be service-oriented with emphasis on service quality.

However, leadership plays an important role to ensure the success of any effort to be ambidextrous and many managers and leaders in different organisations decided and acted within the bounds of ambidexterity that has led to the inclusion of leadership as variables of ambidexterity (Gibson and Birkenshaw 2004; Smith & Tushman 2005; Smith. & Umans 2015; Tushman et al. 2011; Tushman & O'Reilly 1996). There is a consensus from scholars that the top management teams (TMTs) play a significant role to resolve conflicts that emerge to balance the exploration and exploration to attain organisational ambidexterity (Smith & Tushman 2005). According to O'Riley and Tushman (2013), the management of the tensions for the balance between exploration and exploitation needs dominant leadership to resolve the pressure from various organisational structures. Umans et al. (2018) demonstrate that the shared leadership in top management teams has a positive correlation with organisational ambidexterity for service organisations. They also found that team work plays an important role to resolve the tensions and pressures between exploration and exploitation in public context organisations because of the joint abilities from team effort to exert influence. The management team has a functional responsibility to maintain the balance between exploration and exploitation. The same study of Umans et al. (2018) illustrate that including reward and performance-oriented management control system helps to facilitate the ability of the leaders to attain organisational ambidexterity, which contributes to research that explores rising leadership structures in the organisations. Moreover, Ferlie et al. (1996) point out, as cited in Boyne (2002) article, that public service organisation managers should strive to emulate the successful methods applied in the private sector such as total quality management, management by objectives, PRP and decentralised management. The phenomenon represents one of the NPM attributes applicable to service organisations.

Tushman & O'Reilly (1996) contend that leadership should have the capacity to compete by improving orientation/fit based on strategy, culture, structure as well as processes to test leadership viability. Simultaneously, the test of leadership is evaluated by the ability to prepare for evolution from discontinuous environmental change. Thus, this need management and organisational skills to compete in the market that emphasises more incremental innovation, efficiency and cost while enhancing the development of new products and services by focusing on flexibility, radical innovation and speed. From a conceptual perspective, adopting one of the skill sets is easy; however, emphasising one of the skill sets results in short-term and not the long-term success. The public managers should be flexible and adaptable to focus on both the long-term and the short-term skill sets to achieve organisational ambidexterity. The metaphor juggler represents this public service manager because they are talented in manipulating multiple tasks simultaneously. Additionally, Umans (2013) demonstrates that the leadership styles and top managers' traits have a positive correlation to attain organisational ambidexterity. However, Birkinshaw & Gupta (2013, p.13) argues that "it is therefore not the existence of management per se that is important but the quality of management that is key. Some organisations enable their managers to make smart choices, while others hinder and frustrate them".

2.2.2 Exploration

Understanding the concept and definition of ambidexterity, March (1991) first popularised the ambidexterity model that highlights the concept of exploration and exploitation in organisational learning. Since 1991, many researchers tried to expand the perspective into many literatures that examined the differences, similarities, applications and terminologies. In his definition, exploration encompasses various activities that include experimentation of new ideas and alternatives, new searches, discovery, risk-taking, flexibility and innovation (March 1991). Various authors acknowledged the distinct characteristics and disparity between exploration and exploitation. However, they strongly suggest that they are complementary to each other to achieve excellence in business (Gibson & Birkinshaw 2004; He & Wong 2004). Accordingly, exploration encompasses activities that directly relates to diversification, organisational diversity and variation. Moreover, emphasis lies on experimentation of new ideas or knowledge, internationalisation, product diversification, risk taking, and variation in organisational forms.

Distinguishing clearly between exploration and exploitation is still subject to many debates. However; authors like Smith & Tushman (2005) have contributed their definitions based on their study findings where they described exploration as the outright change of the company's current knowledge and skills into new marketing expertise, new skills related to technicality, or external relationships. In the context of this study, the exploration activity is considered as the independent variable in relation to service innovation and service quality.

2.2.3 Exploitation

Exploitation as defined by March (1991) is the improvement, fine-tuning, refinement, expanding existing competencies, products or services, and business perspective that are knowledge-based activities including implementation and execution, production, selection, efficiency, problem-solving and others. Similar definitions stated that exploitation takes into major consideration experience, variance reduction and organisational focus (Gupta et al. 2006). Some researchers pointed out their confusion with defining exploitation by validating whether exploitation considers involving knowledge development and current knowledge refinement (Gupta et al. 2006; He & Wong 2004). Exploitation is also directly associated with company's current knowledge base. Exploitation is a different concept but should be viewed as a continuum that will pave the way to the combination of exploration and exploitation. This concept is supported by scholars who have simultaneously used exploration and exploitation in studying inter-organisational alliances that combine existing knowledge application with production and marketing alliances and acquire at the same time new knowledge development through research and development alliances (Park et al. 2002; Rothaermel & Deeds 2004).

Like exploration, this study utilises exploitation as its independent variable and its possible link into service innovation and service quality.

2.3 New Public Management (NPM)

Government systems have been going through changes in the management of public services in different countries during the 1980s. As a result, there were noticeable reforms that led to the emergence of NPM, which the objective was cut budgets and to improve the efficiency and effectiveness of public sector (Dan 2015; Dan & Pollitt 2015; Ferlie 2017; Hood 1991; Hyndman & Lapsley 2016; Pollitt 1995; Van Thiel & Leeuw 2002). Pollitt and Bouckaert (2004), as quoted in Hajnal and Rosta (2015, p. 4), define NPM as "a two-level phenomenon. At the higher level, it is a general theory or doctrine that the public sector can be improved by the importation of business concepts, techniques, and values. Then, at the more mundane level, NPM is a bundle of specific concepts and practices". NPM definition can also be taken from Lapsley (2009, p. 1), that investigates the impact and effectiveness of NPM, as he states that "it is an influential set of management techniques drawing on private sector performance criteria and practices". However, term "New Public Management" (NPM) is not a new concept to reckon with but has not been widely known for its applicability in the public sector organisations in different countries and settings. Many studies practically provided vast literatures discussing NPM and its impacts on public administration but there is still lack of solid foundation on how NPM functions in the public sector and in defining the truest sense of the concept (Hajnal 2005; Hajnal & Rosta 2015; Hood 1991; Pollitt & Dan 2013).

NPM has been variously characterised by different scholars. Different characteristics of NPM have been stressed by different scholars. For instance, in Hood's (1991, p. 2) seminal study, he developed seven elements of NPM that were implemented in Australia, UK, New Zealand and even in OECD countries in order to achieve the objective of modernisation.

However, it varies in application in different countries. These elements include: "1) Hands-on-professional management, 2) explicit standards and measures of performance, 3) greater emphasis on output controls, 4) shift to disaggregation of units in the public sector, 5) shift to greater competition in public sector, 6) stress on private sector styles of management practice, 7) stress on greater discipline and parsimony in resource use".

Conversely, Pollitt (1995, p. 3), in his seminal study, argued that while there are other elements of NPM, the eight elements that he has identified are better means of modernising and reforming the services of the public sector which he further called the "shopping basket" for the government. The elements consist of : "1) Cost cutting, 2) Disaggregating traditional organisation into separate agencies, 3) decentralisation of management authority, 4) separation of the function of providing public services from that of purchasing them, 5) introducing market and quasi market-type mechanism (MTMs), 6) performance management, 7) shifting the basis of public employment from permanency and standard national pay and conditions towards term contracts, performance-related pay (PRP) and local determination of pay and conditions, 8) increase emphasis on service 'quality', standard setting and 'customer responsiveness'. However, these characteristics are not always integrated to fit all countries, the mix of these reforms may vary from one country to another.

In contrast, Gruening (2001, p. 2) does not mention about the elements of NPM but rather prefers to call it as characteristics of NPM that specify the following: "Budget cuts, vouchers, accountability for performance, performance auditing, privatisation, customers (one-stop-shop, case management), decentralisation, strategic planning and management, separation of provision and production, competition, performance measurement, changed management style, contracting out, freedom to manage (flexibility), improved accounting, personnel management (incentives), user charges, separation of politics and administration, improved financial management, more use of information technology".

According to Dunleavy et al. (2006), there are three important characteristics of NPM: disaggregation, competition, and incentivisation. While Lægreid et al. (2011) claims that, NPM doctrines emphasise on the incentives and PRP that would encourage the public servants to be risk takers which in turn will enhance their ability to be self-motivated and to become open to experiments and thus will become more innovative. Furthermore, Hajnal and Rosta (2015, p. 9) conducted a study reviewing and examining literature that conceptualised NPM. By accumulating other's conceptualisation, the authors argued that NPM model contains main dimensions that comprised of the following: "efficiency, business-like management tools, MTMs, decentralisation, incentivisation". Each definition of the dimensions can be summarised as follows:

- Efficiency: how the resources are utilised efficiently; the management's action in the public sector to implement downsizing; the magnitude of instituting bureaucracy reduction internal to the organisation; the strength to eliminate practices on accepting red tape; and efforts to achieve positive outcomes.
- Business-like management tools: tools and techniques applied to develop strategic plans and strategies; measures to implement management system considering quality management; and methods to effectively serve the customers.
- Decentralisation: the ability of different organisations whether private or public to decentralise its operations intended for making economic and ideal decisions; instituting decentralisations related to management of staffs and the workforce; establishing decentralisation of financial decisions; Decentralisation of staffing decisions; and establishment of autonomy to agencies or corporatisation.
- Incentivisation: Adopting a method of reward and payment based on performance or the so called "Performance-related pay".

- MTMs: privatisation, contracting out and outsourcing, vouchers and public–private partner ships.

The balance between demands of the customers and the citizens require retention while considering the reforms in public service organisations (Brysland & Curry 2001). Pollitt and Dan (2013) claim that one of the NPM concept focuses on considering the consumers of service as customer. The NPM reforms provide more power to the public service users, who are now considered as customers instead of citizens. The reforms illustrate the societal values that have become more customer-oriented (Ferlie 2017). Kakouris and Meliou (2011) demonstrate that NPM possess a guide for customer-orientation or the customer responsiveness by Pollit (1995). According to Bissessar (2003) as cited in Kakouris and Melio (2011) article, illustrates that civil society plays a significant role in attaining NPM reforms. Previously, the civil society utilised the services available; however, the emergence of NPM shifted the dynamics of orientation to customer or client perspectives.

2.3.1 New Approach to Management in the Public Sector (Historical Development)

Tracing back to the historical development of innovation in the public sector, literature characterised the modern history of public management into three different periods (Boukamel & Emery 2017). These periods set the trend in the public sector development which are typical or ideal. The first period started in 1970 known as the bureaucratic period wherein public sector organisations do not consider innovation in their agenda. Anchored in the Weberian model, these organisations operate with stability and predictability and there is evident lack of competitive pressures to undertake innovation. It is followed by the second period during the first decade of the 21st century whereby the need of the public sector organisation to innovate has become a gradual consideration of importance by scholars and public sector managers recognise the fact that innovation should not only be happening in the private sector but also in public sector. Related to these innovations are changes in management system, adopting the concept of innovation management, research and development processes and NPM as one of the reforms agenda. Since the inception of innovativeness initiatives, it has become apparent reality that many academicians, public managers, politicians and scholars have embraced the importance of innovation in the public sector as a growing and urgent need (Borins 2001; Sørensen 2017; Gieske et al. 2016). As a result, public sector organisations recognised the need to exercise innovative capabilities alongside with operational capabilities.

According to Boyne (2002) the decision-making process in the public service organisations uses a formal approach with limited flexibility and takes less risks compared to the private service organisations. The bureaucratic model was subject to many criticisms (Boyne 2002; Ferlie 2017; Homburg 2004) that lead to development of new paradigm with the intention to redefine the role of public management. The concept of NPM evolved to demonstrate government reinvention. As introduced in 1980, NPM has been accepted by many nations at different levels with the proposition that the model previously used, the bureaucratic model was not efficient and did not address the issue on service quality provisions at the higher level (Pollitt & Bouckaert 2004). NPM is a major reform agenda that has been adopted from the private sector which intensifies goals and values through dealing with performance, efficiency and audit/cost orientation built upon practices of managers of the private sector (Diefenbach 2009; Hood 1991). Innovation has been clearly given emphasis as a reform agenda by all means to meet new public goals which is translated into innovative bureaucracies for better provision of service being produced at lower cost (Borins 1995). Building from the premise that classical bureaucratic model contributed less to public managers and the needed change was expected, NPM was further utilised to provide public managers the accountability and greater responsibility to apply and enhance innovation efficiency (Arundel et al. 2015) as well as to effectively manage them. Yet, Hartley et al. (2013), as cited in Arundel et al. 2015 article, contend that NPM limit the foundation of inter-organisational sharing of knowledge and deter some forms of innovations. Smith and Umans (2015) argue that public managers play a significant role to drive and foster change in public service organisations.

The diffusion of NPM concept considers innovation as the primary objective of public sector organisations. Innovation in the public sector can further be explained by factors that give the opportunity to manage change that are grounded by the pull factors (Sørensen 2017). This is demonstrated by the utilisation of ICT in ensuring quality service performance. Other factors are push factors that identify new constraints that enforce public sector organisation to face intense pressures to change like the push factors implemented by different authors (Osborne & Brown 2011) that has been proven to pave the way for the innovation in the public sector as enumerated in succeeding paragraphs as cited in Boukamel and Emery (2017) article:

- Controlling measures like budget cuts and downsizing activities during the period of implementation.
- Increasing expectations by the citizens with regard to how public sector organisation should provide quality services, responsiveness, customer orientation and other related functions.
- The demand or need of customising services in relation to obsolescence of the one size fits all model.
- The lack of attractiveness of the public sector organisation to prospective workers.
- The perceived lack of accountability and transparency coupled with lack of institutional legitimacy.

- The demand to implement advances on ICT and data management with its modern methods and tools.
- Deal with the increasing irregularities that may not be solved without inter-organisational, national and international cooperation such as crimes, migration, taxation, ecology and others.

Even then, during this period the organisations used the conventional methods in trying to implement the NPM model as it is done in top-down management approach. Consultants play a significant role in developing the initiatives to innovate alongside with managers and other actors of the change initiatives. Deyle (1994) for instance stressed that solving problems related to public policy as well as enhancements and trainings provided to professionals in the public service should follow the conventional system or prescription by administrators, managers, planners and all those integral to the development and utilisation of innovations in the public policy. In other words, innovation management should be in accordance with standard processes. Example of this innovation model which follows the standardised framework is the Total Quality Management (TQM) initiative focusing on processes of continuous improvement.

Innovations in the public sector has further progressed into innovative organisations where it is often called by many scholars as the current period (De Vries et al. 2016). The focus is on the innovation dimensions namely why and how public service organisation should undertake innovation. The why of innovation emphasised on performance and efficiency that highlights why organisations should innovate that promotes diversity. This is the transition from NPM to post-NPM where innovation served as the key point for achievement of other objective like political adaptation (Sørensen 2017), and state legitimacy. In others words, post-NPM takes into consideration on how public sector organisations should innovate which is contrary to the question of why organisations should innovate. Post-NPM will be discussed later in this chapter.

2.3.2 The Emergence of NPM in Developed World

The concept and application of NPM evolved in developed countries particularly in United States and United Kingdom in the late 1970s and early 1980s when the economic recession affected both countries (Boyne 2002; Gruening 2001; Hood 1991; Pollitt 1995). Consequently, New Zealand and Australia governments felt the need to implement the same concept and had reached to the different countries internationally (Boston 2000; Lapsley 2009; Pollitt 1995). According to Ferlie (2017), different countries experienced key changes in public service management in the ten-year duration from the 1980s with Sweden, New Zealand, and United Kingdom registering extreme shifts in service organisation. The changes represent the NPM reforms and involve a radical change in the form of contracting out, privatisation and marketisation of services, dominant management of performance as well as manageralisation in public organisations.

Further, Hood (1991) stressed that NPM model evolves from two totally different perspectives where one of the perspectives is called new institutional economics comprising of the public choice theory, transaction cost theory, and principal-agent theory. The other perspective centres on the adoption of private sector management techniques useful in the public sector organisations. The new institutional economics perspective stress on a group of administrative reform doctrines that emphasises the idea of competition, user choice, incentives and transparency. While the other perspective emphasises on a group of administrative reform doctrines that stress the idea of portability of professional management knowledge and promotes ‘free to manage’ for public sector managers to achieve better results and to improve organisational performance. These two models have their own dominance and it differs from one country to another. For example, in New Zealand the administrative reform is centred at the public choice, transaction cost and principle-agent theories, while in UK and Australia the administrative reform is centred at the business type management technique.

Major structural changes were already observed in public sector organisations in the Western world in 1980s (Dan 2015; Ferlie 2017; Pollitt & Bouckaert 2004; Wettenhall 2003). Frederickson (1996) regarded these changes in relation to the introduction of the NPM concept where it emphasised the organisation's ability to be more creative, innovative and apply sensitive management. The urgency in the adoption of the NPM ideas evolved because of the previous failures in public administration of the past on entrepreneurial and innovation activities that intensified the purpose of implementing NPM (Frederickson 1996). Furthermore, NPM perspective has changed the previously adapted centralised government structure into decentralised management wherein public sector organisations operates according to the predetermined goals and objectives over the rules and procedures in order to promote higher efficiency and flexibility in the process of implementation (Christensen & Lægreid 2011). This adoption of the NPM has provided government managers and administrators greater benefits although the assumption of such benefits is not expressly demonstrated (Dan & Pollitt 2015; Pollitt & Bouckaert 2004).

2.3.3 The Emergence of NPM in the Arab Region

The recent economic downturn of oil prices in the second half of 2014 by Gulf Cooperation Council (GCC) countries contributed to the serious challenges facing countries like Saudi Arabia, Kuwait and Qatar that prompted them to devise new ways to sustain the economy by not depending on oil which they called a market-based reform dealing on privatisation, public-private partnerships, and outsourcing (Biygautane et al. 2017). The study of Biygautane et al. (2017) claimed that these countries should initiate administrative change because it helps to address the increasing fiscal constraints although they agree that it will be confronted with challenges brought by political, cultural, economic and administrative barriers while in the process of implementation. Conclusion has been formulated to specifically address the cultural factors that are perceived to be the major consideration in implementing new wave of market-based reforms and the political to institute the basic transformation especially in these three countries where the society and administration are interlinked.

The GCC states were just created during the last 50 years which includes Oman, Qatar, Bahrain, United Arab Emirates (UAE), Saudi Arabia, and Kuwait but have progressed sustainably in the modernisation of its private and public sector that even Western countries have not done in many years. Such growth is attributed specifically to the oil revenue generation that allows these countries to manage the development at fast pace. According to Khodr and Reiche (2012) dependence on oil revenues by these countries enabled them to import human capital from different nations, hire international consulting firms to manage government and private projects, developments and infrastructure comparable to the western world. However; with the unexpected oil prices dilemma, the governments of these countries have suffered the growing inflation rates and the decrease of national income while having expenditures with increasing inflation rates that forces the government to cut costs and freeze hiring lucrative jobs in the public sector. Also, the private sector has to face the challenge of business survival especially the construction and oil industry where major clients are the government sector. However; these countries are facing problems with cultural barriers, lack of efficient administrative system, tribal-based decisions, lack of local human capital and others (Awortwi 2004; Manning 2001).

The issue of NPM became clearer when a study by Mansour (2017) titled, "Has the United Arab Emirates federal government succeeded to transform its federal bureaucracy into a new public management system?' where the objective of the study is to develop an analytical framework that will be anchored on the conceptual foundations and the key pillars of NPM concept. Specifically, this study utilised NPM tools and techniques both micro and macro level tools to cater to the two groups. The macro group will be comprised of the public-private partnership, contracting out and privatisation while the micro group will consist of business management toolbox such as the e-government and the market-driven policies, TQM, and other related techniques to institute transformation and reforms in public sector management. However; for this particular study the author argued that it is suitable for the country to apply micro tools of NPM in order not to intervene with the patron client legacy that underpins the political legitimacy which is also believed to be an influence of the type of reforms to be selected as well as the employment of the NPM tools. Breaking the tradition of the patron-client relationship has been a main hindrance to any efforts to the adoption of the new public management which is also true with other GCC states.

Hence, the adoption of NPM in UAE has started at a slower pace to manage the transition from the bureaucratic state towards modern administrative public sector without necessarily eliminating the ruled-ruler relationship. For instance, the government utilised NPM tools such as contracting out policies and public-private policies with repercussions to companies especially the service sector where the impacts of utilisation do not affect negatively on employment. The use of public-private partnerships by the government depends primarily on the forces that reshape the rules and laws of certain country.

2.3.4 Benefits of NPM

Lapsley (2009) identified the benefits of utilising NPM and consider this concept as a system to public management wherein public sector organisations widely adopted with the aim of transforming, modernising, and reforming the public sector. For example, Dan and Pollitt (2015), found the importance of NPM in transforming public sector organisations through applying private sector techniques and performance criteria. They further added that better services are likely to be achieved by millions of customer if NPM is internalised and applied by government organisations. Evidence showed that many public servants have benefited with the NPM in transforming the conventional system into NPM within which positive testimonies were expressed (Dan & Pollitt 2015; Ferlie 2017; Pollitt 1995) although others were pessimistic of the outcomes. As well as Van Thiel and Leeuw (2002) found that the reform of NPM in the public sector have adopted and implemented the techniques used in private sector for the measurement and improvement of performance like performance indicator. The performance indicators not only allow the politicians to measure and assess the performance of service organisation whether private or public based on policy adoption, they also improve the chances of accounting for performance in light of the administrative reforms.

The study of Dan and Pollitt (2015) titled, "NPM can work: an optimistic review of the impact of new public management reforms in central and eastern Europe", stressed that there are commendable advantages of NPM reforms like benchmarking but no detailed account of the positive effects of the NPM concept in CEE. This study has determined that NPM provides more negative results than positive because of the misconceptions and wrong implementation of NPM. Dunn et al. 2006, as cited in Dan and Pollitt (2015) article, claimed that this means that NPM as a system is considered effective when effectively implemented in suitable conditions and place. Similarly, Ferlie (2017) states that NPM has varying effects on the international front while some countries have not yet adopted the NPM reforms. The United Kingdom represents one of the extreme impact scenarios alongside New Zealand and Sweden while the United States embody a medium impact state based on NPM impact. Furthermore, Dan and Pollitt (2015) contend that while NPM can influence service organisations positively, inadequate administrative ability or unsuitable background/unfitting context deters the reforms.

Relatively, the study of Tõnisson (2005) was conducted to investigate why NPM does not work into Estonian local governments; the results revealed that the application of NPM in these local government organisations proved to be effective. However; while NPM is positively working, hindrances were determined that focuses on the theoretical underpinnings of the reform, implementation gap and social desirability bias. In addition, Dan and Pollitt (2015) ironed out that contrary to the many criticisms of the NPM concept, their study proved that NPM has produced remarkable success in the CEE states. Although many study findings have categorically experienced the failure on the application of NPM (Dunleavy et al. 2006; Simonet 2013), enough evidence supports the study that supports the successful employment of NPM in the study settings.

Emphasis also rests on totally different settings in the application of NPM between CEE and the Western countries where according to Nemec and De Vries (2012), NPM will not likely work in Eastern Europe and the former Soviet Union because of democratic fragility where the main consideration is on efficiency gains and public expenditure cutbacks as well as building democratic institutions and administrative capacities. Hence, Nemec and De Vries (2012) argued that NPM works depending on situation, conditions and settings and NPM will not deliver if it does not fit with the settings and situations. In relation to this study, the use of NPM is primarily anchored on the difference of the setting in Middle East and in Europe and Western countries and to determine its workability. NPM is neither universal nor homogeneous (Simonet 2013). Furthermore, Hajnal (2005) contends that awareness continues to grow that NPM principles are not applicable in some countries or should not be implemented. Hajnal continues to state the meaning of NPM reforms and their components based on cross-country universality and differences for significance. Dan (2015) conducted a review on the NPM literature in Central and Eastern Europe, particularity looking at reforms in Estonia, Hungary and Romania. The author found from the review that the influence of

NPM remains delicate and varied. While NPM produces a positive impact, it sometimes performs below expectations. As such, the primary research question seeks to investigate the factors that result in success and the elements that deter it. Furthermore, he suggests that recognising the fundamental mechanism plays a significant role to determine how the related contextual factors affect the performance of NPM practices. According to Dan (2015), the functionality of NPM practices depend on right and sufficient context and appropriate administrative capability in service organisations. Moreover, Boston (2000) argue that the public management experiences challenges in evaluation because of the sophistication that limits the directness of the solutions to the problems. Additionally, Boston contends that exploration of performance evaluations cannot generate much assistance for public management reforms that utilise different paths as is the case with Sweden, Denmark, Ireland, and Australia. In this case, several contextual variations exist to allow for international comparisons. Homburg (2004) supports this belief from the argument that the consequences of the heterogeneity and the challenges in light of the implementation process, decisions making takes place based on specific situations that can come up with different practices of new public management, this is from theoretical perspective. Furthermore, Simonet (2013) argues that reforms were not implemented in large scale and cites the example of the transportation industry in France that did not adopt the NPM model utilised in the United Kingdom.

Pollitt et al. (2007) contends that the book (New Public Management in Europe: Adaptation_and Alternatives) illustrate diversity exists while adopting and implementing NPM reforms in the European countries. In spite of the resemblances in the label, several variations exist in the NPM practices. Furthermore, difference exist among the European countries based on the adoption and implementation of NPM concepts. On the same note, the government select the NPM reforms from the toolbox and implement them to their political and administrative systems and context or adopt the practices in varying timeframes and direction. These variations make international comparisons challenging. Benchmark research reveals that while a similar concept is adopted in the different countries, the successful applications are not the same based on the activity measurements in countries such as Denmark, Austria, the United Kingdom, Sweden and the Netherlands. In conclusion, Pollitt et al. (2007) state that European countries have adopted the Anglo-America form of NPM reform to improve their implementation flexibility that reflect the national contextual factors because of the NPM's ambiguity and the strength of organisational and cultural patterns in the countries. They believe that "NPM is like a chameleon: it constantly changes its appearance to blend in with the local context. Such adaptability is possible, because NPM is not a coherent set of ideas and tools. The labels may be the same, but the underlying story differs all the time" (Pollitt et al. 2007, p 4). On the contrary, Bouckaert et al. (2011) contend that NPM in the context of a reform idea does not represent an appropriate method for countries undergoing transformational change. However, several policies connected to NPM practices should be adopted and implemented within the shortest time possible. For instance, approach of performance assessment like benchmarking fosters accountability and transparency. According to Van Thiel and Leeuw (2002), for politicians and administrators who seek to enhance good government's performance, policies that facilitate the measurements of output, outcome and assessment activities remains important.

Furthermore, one of the NPM argument basically focuses on two settings for innovative behaviour in Lægreid's et al. (2011) article. Firstly, 'Let public managers innovate', or 'let the managers manage' by granting mangers autonomy to handle their business in a new ways (Dan 2015; Pollitt & Dan 2013; Verhoest et al. 2007). Secondly, 'Make public managers innovate', or 'Make public managers manage' by putting decision-making and market-like pressure on them (Dan 2015; Pollitt & Dan 2013; Verhoest et al.

2007). Additional way to arouse innovation in addition to managerial autonomy is to apply pressure. This can be done inside the public sector by applying strict performance standards in performance contracts with the government, to which the organisation is held answerable and to which sanctions or rewards are linked. Sanctions and rewards purpose as drivers of innovation as a condition for performance, because public organisations and their managers are expected to be self-interested actors (Boorsma & Halachmi 1998). It would expect that service organisations whose results are controlled to a large extent ex post to be forced to be innovative if this is observed as helpful to the agency's complete performance. Moreover, in a context of 'letting' managers manage and innovate; the probabilities of service organisation innovating are higher. The rational argument from the service organisation point of view refers to having managerial decision-making competency build chances to be innovative, which in turn can be a source of trust in the eyes of the general public. Furthermore, by being innovative, public service organisation wish to surge their whole performance in reaction to the demands of result control.

Windrum (2008) strains, as cited in Lægreid's et al. (2011) article, the need for acceptable support mechanisms for innovations in public organisations, adequate funding being the main requirement here. Extra resources can be likely to be much more accessible in organisations with large budgets. Empirically size, in terms of both staff and budget, has been shown to have varied effects on innovations. Damanpour (1989), also cited in Lægreid's et al. (2011) article, found a positive connexion between staff size and innovation, but in his meta-analysis of cases non-significant relationship arises. In organisational innovativeness studies, organisational size is said to have a bad effect, because it increases the amount of communication channels and constrains the movement of innovative ideas as stated by Hull and Hage (1982) in Lægreid's et al. (2011) article. However, precise organisational cultures related to NPM thinking boost innovation in public service organisations. NPM changes generated the creation of single-purpose organisation with strong goals, an orientation towards service quality and a strong result-orientation as confirmed by Pollitt et al. (2004) in Lægreid's et al. (2011) article. The finding that public service organisation with service delivery errands show slightly higher levels of innovative culture and activity than agencies with other types of tasks might at first seem self- evident. After all, service delivery tasks require organisation to intermingle with demanding customers and make it easier to set performance-based control and efficiency targets.

2.3.5 Disadvantages and Weaknesses of NPM

According to many authors, the NPM concept has faced obsolescence in some countries and they argued that many unresolved issues and challenges related to the delivery of conventional public services of digitally knowledge-based information have made the public sector organisations to experience administrative challenges (Drechsler & Kattel 2009; De Vries & Nemec 2013; Dunleavy et al. 2006; Osborne et al. 2015). In other words, while NPM has made positive contributions, it has also created many issues and challenges to the administrative aspect of public sector's operation (Dunleavy et al. 2006; Howard 2015; Pollitt 1995). Furthermore, Dunleavy et al. (2006) supported the idea that NPM has become obsolete even in nations who have newly adopted the concept and declared to a larger extent that NPM is facing obsolescence. NPM has contributed to the increasing social problems while reducing trust in the bureaucracy and increasing complexity on institutional policy that makes it difficult for citizens to cope up with social issues and problems. Dunleavy et al. (2006) strongly argued that NPM can only make small improvement and effectiveness on the public sector. They also added that the concept will rarely be implemented by countries that strongly opposed its applicability just like for instance, in India and Japan. Moreover, Hajnal (2005) claims that NPM practices do not result in nor are they concerned with de-bureaucratisation of the governmental institutions. If according to the advocates of NPM the NPM justification represents the most significant aspect of the reform, then the effectiveness and efficiency of public organisations should be attained via de-bureaucratisation. However, de-bureaucratisation does not materialise from NPM reforms, which results in doubts about the NPM justification. By extension, and according to Hajnal, his study doesn't provide solid empirical basis for the conclusions; thus, he recommends a wider empirical study to enhance the scope is required to presents a viable conclusion.

Other criticisms also emerged from oppositions that NPM is not an exclusive solution for government reforms but serves only as one of the choices that can be selected for implementation of such reforms (Manning 2001; Turner 2002). Considering that the NPM concept was patterned after private sector management techniques, detractors of NPM insist that tendencies on effectiveness of the concept in the public sector organisations are questionable because of the complexities in terms of ethical, political, constitutional and social dimensions which were assumed to be different in the private sector settings. Savoie (2002) and Singh (2003) as cited in the study of Mongkol (2011) also argued that private and public sector totally differ in context so practices in private sector are difficult to apply in public sector organisations due to complexities in goals, complicated accountabilities, and bureaucratic structure of the entity under political environment. For instance, Cheung and Lee's (1995), also cited in the same study of Mongkol, pointed out the limitations of NPM application using private techniques in the public sector because of the differing degree of freedom between the private and public sector.

Another disadvantage of NPM is undermining of ethical standards which may cause increasing cases of corruption (Barberis 1998). Ormond and Loffler (2006) and Hughes (2003) as cited in Mongkol (2011), claim that increased managerial autonomy in the public sector for example may lead to non-clarity of accountabilities for public administrators thereby opening changes for corruption and increased management freedom would likely tempt managers to demonstrate unethical behaviours. One of the common examples is the administration of government contracts wherein execution of contracts is expected to improve accountability but most government contracts are kept secret such that transparency in practice seems questionable.

Therefore, considering all the drawbacks of NPM, post-NPM is not the first concept that announces the end of NPM. The scholars have further strained that the concept of NPM started with small collection of rich countries where the contextual economic condition and political environment are dissimilar and thus, more difficulties would likely happen. Polidano and Hulme (2001) also protected their study stressing that NPM application is delayed chiefly by swelling corruption and favouritism in developing countries. Lastly, NPM concept is a market-based approach using the marketing principles that will ultimately be applied into public management and policy. However, the public sector lacks the mechanisms and know-how to operate in market-based context (Sarker 2006).

At about the same time Hood (1991) recognised as characteristic for NPM as it developed in the UK elements such as hands-on management, performance measures, emphasis on output and controls that objectives are met, disaggregation and competition within the public sector, copying private sector management styles and input discipline (Hood 1991). According to Hood, NPM does not see the performance of the public sector as something hopeless, but instead as something to be better, which could be done if it would act likewise as the market sector does, i.e. if it would be more product as an alternative of function-oriented, if within it would become merit-based and careers would be prearranged on a professional instead of formal-legal basis, if management-objectives would become overriding over legal arrangements, if mobility would rise and flexible work contracts would swap seniority principles, if the bureaucratic ethos would vanish and the importance would be on the superiority of service delivery and e-government (Gualmini 2008; Špaček & Malý 2010).

A new administrative concept emerged in the late 1990s which became an umbrella term referred to as post-NPM (Christensen 2012) unfolding improvements that are meant at either weakening the negative consequences of NPM, for example, increased fragmentation or insufficient political control of civil servants, or even at substituting such earlier reforms. While the precise meaning of post-NPM remains contentious, this new reform trend is often seen to comprise basics such as coordination improvements, steering capacity enhancement of the political or politico-administrative centre, development of the network management capabilities of public managers, and the firming of the approachability and democratic answerability of public sector organisations (Christensen & Lægreid 2007; Lodge & Gill 2011).

2.3.6 NPM and post-NPM: What are the Differences?

Post-NPM, as opposed to NPM, is defined as "an attempt by political executives to reassert control over administrators to address concerns about organisational fragmentation and lack of inter-agency cooperation" (Howard 2015, p. 2). Howard (2015) stressed that the application of the post-NPM lies on the fact that the concept will rectify the areas that NPM was not able to wilfully address or some deficits in the outcome of NPM application. The author also claimed that post-NPM does not contradict NPM but is presumed to provide better government services in meeting public demands with reinforcing control mechanisms and management system. Accordingly, one example attributed to post-NPM application is the "One-stop-shop" activity that highlights the different service activities of different government agencies under only one roof. Hence, post-NPM supplements what NPM has not fully addressed. Very few literatures can provide concrete definitions to distinguish between

NPM and post-NPM doctrines so, the best way to differentiate between NPM and post-NPM is to provide description based on their individual characteristics as identified in the succeeding paragraphs.

NPM consists of four main dimensions, namely efficiency, business-like management tools, decentralisation and MTMs (Pollitt & Bouckaert 2004). As previously described, efficiency encompasses on how the resources are utilised efficiently, downsizing the public sector, reduction of internal bureaucracy, results achievement and elimination of red tape. Business-like management tools include customer service treatments, strategic planning, and total quality management application. Decentralisation that implements the concept of decentralising operations and delegations pertaining to staffing decisions, performance-related pay, incentivisation, and building autonomous agencies or corporatisation. MTMs outlining the strategy of contracting out and privatisation. On the other hand, post-NPM dimensions dealt primarily on the following functions such as centralisation and Network-type Mechanisms (NTMs). Centralisation involves decision making processes becoming more centralised, and subjecting different government organisations into merger agreements. NTMs emphasise cooperation and collaboration among public organisations, setting up of special purpose bodies, setting up cross-cutting work/project groups, cross-cutting policy arrangements or programs, consulting civil society organisations or interest groups, and cooperating and collaborating with different public sector actors (Hajnal & Rosta 2015).

Different authors have expressed different findings on the existence of NPM and post-NPM. Academicians are still in dilemma on identifying the remarkable difference between these two constructs. Gregory (2003) and Halligan (2007) differentiated NPM from post-NPM when they stipulated from their findings that post-NPM emerged because of the unmet expectations from NPM reforms and thus, it is rather viewed as a reaction to the complications and negative implications of the NPM implementation. They have found the importance of addressing the two types of challenges brought about with NPM application. Firstly, NPM has made public sector organisations loosen their control and centralised authority to govern their activities and entire operation which they believed increase the complexity of management and authority of the managers and executive politicians. The centralised system promoted by NPM failed in greater extent in improving the public sector performance that made a strong case for the introduction of the post-NPM. This was measured in the study of Gregory (2003) and Halligan (2007) to include integrating the activities of the respondent ministries, creating more control measures and stringent policies through imposition of constraints and limitations on decision related making activities on state-owned or controlled organisations and other government agencies. Moreover, measures were also employed to make central political capacity through application of more political advisors at ministry offices. The other challenge faced by NPM implementation is on the delivery of service quality as promised that can be directly attributed to inefficient service provision.

Conversely, the concept of post-NPM according to Halligan (2007) is more confined with cultural factors or culturally oriented than NPM doctrines. He cited the case of Australia wherein the country emphasised the value-based management perspective and the holistic approach of dealing with decision making. NPM specialised in developing own cultural perspective by every public sector organisation while post-NPM considers collective approach in integrating culture participated by many public institutions. Gregory (1999) stressed that post-NPM's objective is to develop a collective means whereby public sector organisations and civil servants will reach an agreement to be in the same boat in the aspect of managing and making decisions in public organisation operations. NPM has loosened the usually bureaucratic and autocratic view of managing public organisations when it started during the late 1970 and changed the perspective on government's vertical and horizontal ways of management which was also perceived as the simple way of dealing with government transactions. In other words, the direction of imposing NPM is to bring organisations into the state of autonomy which public sector organisations perceived to be a new concept to adopt. While post-NPM's goal is to negate the implementation of autonomy in many organisations by reinstating the old ways of management in the public sectors that is tightening control and management by centralising activities rather than decentralisation. This means that, post-NPM dealt more on structural horizontal dimensions, cultural integration and integration of the many activities in the context of organisational reforms. NPM emphasises disintegration while post-NPM is an agent of integration (Christensen & Lægreid 2011).

Furthermore, in the study of Hyndman and Lapsley (2016), they pointed out that NPM is still working simultaneously with the implementation of the post-NPM while other authors argued that NPM has died that leads to the emergence of the post-NPM (De Vries & Nemec 2013; Drechsler & Kattel 2009; Dunleavy et al. 2006; Osborne 2006). Other researchers also strongly disagreed by saying that adoption of post-NPM should precede NPM reforms (Goldfinch & Wallis 2010) and post-NPM will easily be applied if NPM has not been deeply established beforehand (Christensen & Lægreid 2011). An evidence with the study of Hajnal and Rosta (2015) in the use of NPM in UK public sector who were pioneers of the NPM concept, argued that external forces as suggested by literatures has compelled many countries to embrace post-NPM including but not limited to political, economic, socio-cultural, environmental, technological and industrial factors. NPM and post-NPM are two separate constructs that posits different application implications as elaborated by many theorists but many supported quite a number of literatures that declares the relationship between NPM and post-NPM with post-NPM supplementing the NPM concept. As a result, while some countries are in the midst of post-NPM application the other countries are still implementing the NPM reforms (De Vries & Nemec 2013). Building on the proposition that NPM is still in its infancy in Oman and is still relevant in the public sector today, this study prefers to use NPM rather than post-NPM as one of the independent variables applied in the research.

2.4 Innovation and its Types

Innovation has been at the centre of much debate in the private sector and much research has been conducted on how innovations are implemented in different capacities by businesses locally and globally. Wu et al. (2013) argues that innovation needs a comprehensive examination as there are great differences between private sector and public sector. Innovation as defined in many studies is built on the generation of creative ideas and it also encompasses the commercialisation of the ideas through which it will become a profitable activity (Potts & Kastelle 2010; Walker et al. 2010).

Osborne and brown (2011) state that the notion about innovation as a factor that enhances performance in public service organisations has encouraged the public sector to become innovative because of the pressure. While the importance of innovation has been realised, innovation research conducted presently focus on the developed countries like the United States, Canada, New Zealand and the United Kingdom among other nations in Europe. According to Wu et al. (2013), the knowledge on public management and service innovation in the developing nations remains limited because of the few studies conducted on that compare innovation in developing and developed nations. Similarly, the research on innovation in the context of transition economy and developed economies are few. Arundel and Huber (2013) contend that the complete comprehension on the development of innovation type, the implementation of innovation, the factors that deter or facilitate innovation needs data on a big number of public sector organisations or public sector innovations.

Jansen et al. (2006) argues that innovation is classified into different types or typology where each of the types is distinct from the other considering their different characteristics, environmental and organisational factors. On the contrary, Arundel and Huber (2013) point out that a universal type of innovation does not exists in the public sector. Additionally, they claim that several definitions describing the innovation types in the public sector, and that the shared theme is the novelty and the purpose to make something better via implementing new service or improving existing service and processes. In general, as emphasised by Damanpour (1991), adoption of innovation will promote the creation, development and implementation of new ideas and behaviours. Like for example, new ideas on service innovation includes the adoption and implementation of one-stop-shop and e-tax payments (Wu et al. 2013).

Previous research has suggested that the applicability of the different types of innovation varies within different levels such as the industry level and organisational level, hence; they are not in similar context (Daft 1978). Accordingly, Meeus and Edquist (2006), as quoted in Damanpour et al. (2009) study, argue that there are four types of innovation including; service innovations, process innovations, technological process innovations, and administrative process innovations. Service innovation refers to the changes and improvements offered through goods or services to customers or clients (Barras 1986). Service innovation differs from technological innovations primarily because service innovation does not involve tangible assets where technological innovation usually does. Heterogeneity is obvious on service innovation because unlike technological innovation where tangible assets play a vital role, human and organisational factors are more significant in service innovation (Carbonell et al. 2009; Sirilli & Evangelista 1998). Furthermore, Damanpour et al. (2009, p. 5) defines service innovations as “the introduction of new services to the existing or new clients and offer of existing services to new clients”. Similar to Damanpur’s definition, Windrum (2008, p. 8) defines service innovation as “the introduction of a new service product or an improvement in the quality of an existing service product”. Organisations focus on service innovation so that it meets customers/consumers need for new services. Researchers on innovation have not clearly distinguished between product and service innovation. This means that those services provided by organisations in the service sector have been conceptualised as similar to the firms in the manufacturing industry who offer products to its clientele (Sirilli & Evangelista 1998). This view is further supported by follow-up studies about inseparability of product and service innovation because identifiable characteristics such as, both are primarily market driven, external focus, and differentiation of organisation's output for their consumers (Damanpour & Gopalakrishnan 2001). Moreover, product and service innovation are both driven by customer's demands for new services in either new markets or existing markets or finding new markets with existing services (Matthews & Shulman 2005). However, one of the remarkable differences of product and service basically deals on higher extent of interaction of the organisation to customers or service users that potentially calls for service innovation.

Another type of innovation is process innovation that emphasised on internal focus contrary to the external focus of product and service innovation. Its main aim is to increase effectiveness and efficiency of the operational processes inside the organisation to facilitate the production and to deliver the goods and service to the customers (Abernathy & Utterback 1978). According to Daft (1978), the new processes can be linked to the technological process innovation of the organisations (i.e. technological core or technical system) or to the administrative process innovation (i.e. social system and administrative core).

Technological process innovation is another type of innovation that comprised of new elements introduced in the organisation's service operation in the case of the service industry and production system in the case of the production and manufacturing operations (Abernathy & Utterback 1978; Damanpour & Gopalakrishnan 2001). Unlike other previous innovations, this innovation is primarily driven by increasing operational flexibility, lowering production costs and reducing delivery time or periods (Boer & During 2001). This also means that, technological process innovations mainly cater to the modification of the organisation's operational processes and systems which are closely associated with information technology especially in service organisations (Barras 1990).

Lastly, the administrative innovations that take serious consideration on new practices and approaches that motivates and rewards members of the organisation, device strategy and structure of tasks and units, and modify the organisation's management processes (Daft, 1978). This type of innovation primarily differs from technological innovation wherein technological innovation relates directly to work or principal activities inside the organisation like changes in operating systems while administrative innovations concerns more administrative systems and processes (Damanpour & Evan 1984). Administrative process innovations cover managerial skills needed to successfully utilise organisation's resources effectively, administrative systems, changes in organisation's processes and structure, and knowledge-based approach for managing the work.

Assumptions are developed to consider service innovation considering that the industry selected is the service industry and the nature of organisational formation being a public organisation. To attain efficiency and effectiveness of the service, it seems ideal to adopt service innovation that will be become integral part of the framework of this study. This thesis emphasises the primary aspects of service innovation in public service organisations for this research and the efficacy/effectiveness on service delivery.

2.4.1 Service Innovation

In the past, there are many studies stressed on product innovation unlike service innovation. Storey et al (2016, p. 2) claims that "Because service innovation research represents a relatively new stream of inquiry, it is only in recent years that scholars have attempted to review the extant literature on service innovation". Yet, there are calls for more studies in service innovation. Wu et al. (2013) claim that several studies conducted until recently based on public service innovation utilised previous literature in the private sector. While currents studies have established theoretical predictions, which have not been supported by empirical evidence.

According to various authors, there is a varying degree of service innovation as it can be classified as totally new or discontinuous innovation for services or an incremental change or improvement with minor adaptations (Garcia & Calantone 2002; Griffin 1997). Incremental innovation points out on customer-led strategies that concentrates on manifest needs and is regarded as the most common type of innovation (Connor 1999). The emphasis of this type of innovation is to make minor changes on the existing service and the rate of change is incremental therefore relying on the current market service views. While radical innovation takes into greater consideration changes that requires major or revolutionary changes that stem from fundamental changes of the new service (Berry et al. 2006). In other words, incremental innovation are changes made to existing service or values while radical innovation undertakes totally new values and services derived from innovative ideas and concepts. Furthermore, according to Coombs and Miles (2000), service innovation can be divided into three main perspectives consisting of assimilation perspective, demarcation perspective and synthesis perspective. Assimilation perspective is generally patterned on theories and models related to innovations made on traditional products and consequently applied to services. Demarcation perspective on the other hand, emphasise that innovation on services practically differs in the nature and character from product innovation and synthesis perspective critically argued both assimilation and demarcation as it asserts that theories on service innovation should be generalised to consider innovations made in both the manufacturing and service sector without limiting to technological innovations only (Gallouj & Savona 2009).

According to Hartley 2005, as cited in Arundel (2017) article, the variations in service innovation for public sector range from vastly novel or transformative services to incremental changes. Similarly, the typology of service innovation may entail a single innovation or several types of innovation, which make them sophisticated for adoption and implementation. Furthermore, the service innovations in the public service may be established internally or by adopting services that are newly implemented in somewhere else. Hartley (2005) point out that service innovation dissemination to other public organisations plays a significant role in enhancing service quality and efficiency in the public sector. Nevertheless, innovation does not often cause improvements based on benefits. As an example, the new services in public sector creates several choices that the customer may not desire, knowledge that have no benefits to the prospective innovation, or reduce the performances because of the lack of interventions to resolve the mistakes and challenges during to the adoption and implementation of innovations. However, Damanpour et al. (2009) claim that the innovation of goods and products does not apply to the public sector because the public sector focuses more on the delivery of services and not product manufacturing.

2.4.2 Service Innovation in the Public Sector

The majority of research on innovation is limited to the private sector (Demircioglu & Audretsch 2017), but things started to change in the last three decades where interest in innovation in the public sector has seen to increase at considerable speed. This is supported by Bugge and Bloch (2016) who exclaimed that there is an increasing trend of public sector innovation which was perceived to be traditionally linked previously with the private sector thereby recognising the increasing demand on innovation in public organisations. Arundel at al. (2019) state that there is an increasing interest in policy for encouraging innovation in public sector to enhance the efficient utilisation of resources, foster public service quality, and resolve the societal problems such as climate change, congestion in urban area, pressures on demography, and socio-economic disparities. Several factors have been identified to describe innovation as it is characterised by management practices and strategies that promote the environment of innovativeness leading to the adoption of organisational innovation in the private sector (Roper et al. 2017). In the service industry, firms that serve the customers through varieties of services have felt the need to continuously offer something new that is contextualised by the practitioners and managers in service. Forces that stimulate innovativeness in organisations include factors such as human capital investment in trainings, organisational size, performance, location, and others which could be applicable in either private or public sector in organisational context (Demircioglu & Audretsch 2017). However; Pierce and Delbecq (1977) stressed that creativity and change as innovative activity can be applied to different organisations regardless of the context. Several studies have recognised the novelty of innovative ideas and creativity in the public sector context and try to reach an agreement to fully implement the concept of innovation (Damanpour 1991; Damanpour & Gopalakrishnan 2001; Damanpour & Schneider 2008; Wynen et al. 2014). According to Osborne and Flynn (1997), as cited in Wu et al. (2013) article, the three types of service innovations include total service innovation involves the delivery of new services to the new clients, expansionary innovation entails the supply of existing services to the new customers, and evolutionary innovation that includes the distribution of new services to the existing users. Furthermore, Bugge and Bloch (2016) argue that public service organisations can interpret the innovation approach in a different way compared to businesses based on the idea if change is an innovation or not. The perception of innovation from the perspective of public sector represents a new phenomenon that results in varying terminology interpretations. According to Arundel et al. (2019), innovation is defined in connection to organisational innovation in the Oslo Manual that depicts innovation as new or improved (novel) to the organisations although nothing is needed to make innovation novel in the market. In the context of the public sector, innovation is defined in way that entails a wide scope of innovations including the incremental improvements (Bugge & Bloch 2016) to transformative innovation that involve innovation that can change/replace the service and procedures (Osborne & Brown 2011). Osborne and Brown (2011) claimed that the significant White Paper (Innovation Nation), stressed that pubic service innovation plays an important role in resolving the economic and social problems of the 21st century.

Arundel et al. (2019) claim that the objectives and outcomes of innovation are two sides of the same coin, e.g. the objective of innovation to minimise the costs is paired with the impact of innovation on the costs. Likewise, the lack for drivers like funding and skills can be considered as a barriers to innovation. Damanpour and Schneider (2006), as cited in Arundel et al. (2019) article, argues that several factors affect the culture of innovation such as the governance approach and manager's characteristics like an entrepreneurial thinking, or according to Boyne et al. (2005), as cited in the same article, past innovation experience. Furthermore, Arundel et al. (2019) cites the Oslo Manual that encompasses the appropriate goals, barriers, outcomes and drivers of business innovation. Several of the factors apply to public sector, for example cost reduction, improvement of product quality, enhancement of safe work environment. The drivers for innovation relevant to the public sector involves meeting the regulations, citizen needs as well as addressing the social problems such as the limited resources (human and financial). The factors that are exceptional to the public sector includes the political discourse that drive innovation in light of the directives, new laws, policies and regulations in light of the emergency response and restructuring of the organisation. The barriers applicable to public sector includes limited management support and incentives for innovations, employee resistance, insufficient innovation culture and the risk uncertainties.

However, Osborne and Brown (2011) claim that inadequate organisational support can hinder innovation in the public sector innovation and confine innovation to little, incremental improvements. Additionally, Wu et al. (2013) argue that innovation the public sectors such as the China have significant variations compared to the other nations to warrant a contextual investigation. Besides, Arundel (2017) believe that a specific strategy to attain innovation success does not exist because the strategies vary from one context to another. Many scholars and practitioners have established the link between service innovation (Arundel et al. 2015; Osborne & Brown 2011; Walker 2014) and attainment of service quality in the public sector which makes innovation become an interesting topic in public sector organisations. Supporters of the concept of innovation in the public sector as emphasised in the study of Damanpour and Schneider (2008) believed that adoption of innovation in government organisations will improve the quality of service provision and increase problem-solving capacity in dealing with societal problems. Furthermore, Arundel et al. 2015 argue that the past twenty years has recorded a rising interest in policies about utilising innovation to improve public service quality and promote efficient service organisations that generate significant benefits from optimising the social welfare.

2.5 Service Quality, Concepts and Models

The concept of service quality has been studied by many researchers (O'Cass & Sok 2013; Parasuraman et al. 1988; Zeithaml et al. 1996; Zhou et al. 2008). However, the simplest definition of service quality can be traced back to Churchill and Surprenant's (1982) study that emanates from customer satisfaction theory where it measures the firm's actual service delivery against customer's expectation and where perception of quality determines the degree of customer satisfaction whether it meets or exceeds their expectations. Parasuraman et al. (1988), as cited in Wisniewski (2001) article, concluded that definition of service quality encompasses the disparities between the customer's perception of service and their expectations. When expectations exceed performance, perceive quality becomes less satisfactory to result in customer dissatisfaction. Although there is no single definition of service quality, considerable number of authors have reached into common understanding in defining the term and thus, define service quality as the overall evaluation by the customers on the quality of services provided to them (Parasuraman et al. 1988). Besides, Brysland and Curry (2001) conclude from the viewpoints of various authors that service quality involves the supply of something intangible to satisfy the customer and provide value to them.

Anchored on Churchill and Surprenant's (1982) definition of service quality, different models have emerged emphasising service quality and delivery and one of the earlier models adopted is the five dimensions (SERVQUAL) of service quality introduced by Parasuraman. Brysland and Curry (2001) claim that Parasuraman et al. (1981) developed the SERVQUAL technique because of the limited availability of the definitive research material on service quality measurement. The SERVQUAL model consist of five elements include tangibles, reliability, responsiveness, empathy and assurance (these elements are more elaborated in the next section). He popularised the SERVQUAL model that specifically measures the quality of service provided by companies and firms. Lehtinen and Lehtinen (1982) measures service quality according to the three dimensions comprising of physical quality, corporate quality and interactive quality. The importance of service quality is undeniable and Zeithaml et al. (1996) claimed that, service quality positively relates to customer satisfaction and is an important consideration in achieving and sustaining competitive advantage for companies. El Saghier and Nathan (2013) also positively affirm the importance of service quality by stating that service quality is the determinant factor in meeting organisational success and improved performance in the service sector and relates primarily with customer satisfaction and customer retention.

According to Bebko (2000), as cited in O'Cass and Sok (2013) article, achieving service quality is a source of competitive advantage, and customers emphasised how the firms provide quality of services as a means of maximising customers' lifetime value. Also, Zhou et al. (2008) reiterated that service quality is an indicator of differentiation advantage. According to Song et al. (2009) company's profitability is increased through delivering quality service to clientele which in turn provides direct effect on public service quality in terms of return on investment and return on sales. However, service quality is not measured in physical terms. In relation to this, the SERVQUAL model was widely introduced to measure quality services to companies (Parasuraman et al. 1988).

As Normann (2002) claimed, cited in Kinder (2012) article, that service quality permitted by learning and innovation, will be increasingly vital. In effect, this suggests embracing the resource-based view of business activity (containing learning and knowledge as serious factors). Other researchers, primarily Osborne and Brown (2005), also mentioned in Kinder (2012) article, hold the view of attention on knowledge management; as the dominant factor of public agencies and claims that performance improvement is an essential objective. On the contrary, Rosenberg and Freeman (1982) posit, also cited in Kinder (2012) article, that there is no linear deterministic connection between learning with innovation and then performance.

2.5.1 The Five Dimensions of Service Quality Model

Basically, anchored on the model introduced by Parasuraman et al. (1988) the SERVQUAL, the five dimensions are briefly defined and conceptualised. Fitzsimmons & Fitzsimmons (2001), as cited in Al-Azzam (2015), state that the tangibles dimension covers but is not limited to the equipment, facilities and materials of the organisation as well as communication materials and physical environment conditions that proves service provision tangibility. Also quoted in the same article of Al-Azzam (2015), Davis et al. (2003) also defined tangible dimension as the physical evidence of the service provision that reconciles with the earlier definition of Parasuraman et al. (1988) enumerating tangible dimension consisting of personnel, equipment and physical facilities, and written materials.

On the other hand, reliability encompasses how the company through its customer service delivers the service reliably through timely delivery, error-free delivery and having reliable service for the first time. Parasuraman et al. (1988) extended its definition to the essential role that reliability plays in traditional businesses settings and considers the importance of reliability in dealing with the following functions: accurate billing, accurate quotations, records accuracy and fulfilment of orders. Delivery of the services as promised is what it takes to be reliable. Studies have been conducted to test the influence of reliability in the banking sector and findings showed that reliability is more evident in accurately performing the services and the fulfilment of what was promised to the customers (Yang & Fang 2004).

Responsiveness is another important dimension of service quality which basically deals on the promptness of service and response to customer claims and queries and the willingness to help when needed (Parasuraman et al. 1988). Johnston (1997) extended the definition to include the rate of response to customers considering the speed and on how timely is the response that lessens the waiting periods and cues. This also extends to responses on customer complaints and other related activities.

The fourth dimension is empathy and as defined by Ananth et al. (2010) as the ability of the organisation through its workforce in showcasing extra care and in understanding the specific needs of the customers by catering to the individual needs and concerns. According to Fitzsimmons and Fitzsimmons (2001), as cited in Al-Azzam (2015) article, empathy should include important elements such as customer sensitivity, approachability and understandability of the customer's specific needs. Johnston (1997) similarly define empathy as the ability of the workforce to welcome customers and attend their needs with care.

The last dimension of service quality is assurance which according to Parasuraman et al. (1988) will emphasise on the organisation's ability to minimise the customer's worries and discomfort by ensuring that whatever their claims will be responded and solved through the utmost service provision extended to them. It also means that customers are promised to receive ideal and desired services that enable them to positively think of good service that will be provided to them and that any undesirable and discomforts are under the control or controllable situation by the organisation's management.

2.5.2 Service Quality in the Public Sector

Public sector organisations are regarded as an institution of service where citizens expect how the services be provided to them in a way that satisfies them and achieves their varying expectations. Brysland and Curry (2001) responded to the demand of the public sector organisations to innovate and change the present outlook in providing services to the citizens through the introduction of methods and models patterned after the implementation of SERVQUAL in the private sector.

Studies have been conducted on assessing service quality in the public sector (Brysland & Curry 2001; Wisniewski 2001) and different outcomes have emerged. For example, Brysland and Curry (2001) achieved success in applying the model SERVQUAL to assess service quality in the public sector. However, Gowan et al. (2001) in their own investigation on service quality found out that attainment of service quality in public organisation is difficult to maintain because of the complexity of the service provision. They further stressed that these organisations do not only attend to the expressed needs of the citizens but also to the inherent and unexpressed needs, allocating resources, setting priorities, and justifying the public on accounting public funds. Moreover; new introduction of systems and principles to public sector employees requires them to experience changes and transitions to achieve the goals of adopting new public management model (Caron & Giauque 2006). Related study by Anderson (1995) assesses the quality of service provided by public university clinic utilising fifteen questions patterned with SERVQUAL (Parasuraman et al. 1988), general findings revealed that the respondent's feedback using the SERVQUAL acknowledge their dissatisfaction with the services recently provided by the centre with all the five dimensions. This result implies that the model is a suitable tool to effectively assess and evaluate how the centre performs based on their functions and the utilities that the centre provided to the patients. Surprisingly, assurance posits the highest dissatisfaction rating. Wisniewski (2001) expanded the study into the public sector across Scottish Councils services and the outcome showed that the respondents are dissatisfied with the services on tangibles and reliability wherein they openly expressed that their expectations on these dimensions were not met.

Measuring quality of the services in the public sector is built primarily on operational efficiency and organisation's performance improvement (Anderson 1995). Based on this premise, public sector organisations are in continuous search for possible ways on how the quality of services be sustained with the help of available tools, extant literatures and studies that will provide clear understanding on how the services be offered with quality as its prime benefits to the citizens. In the study of Nor et al. (2010) they have stressed the importance of customer service in building public sector organisation's credibility and good reputation in the society. With the increasing numbers of citizen complaints related to poor services, poor facilities, long queues, and the reluctance of the employees to respond to immediate concerns from people have negatively affected the sector's image and the service quality that should be provided to all citizens. Moreover; services provided by public organisations are perceived to be slower compared to private institutions with the difficulty to measure the outcomes, lack of the enthusiasm to innovate and improve, and the dependence to laws and policies thereby making the public services to be tougher than expected (Teicher et al. 2002). Ilhaamie (2010) recognised the fact that public sector organisations do not give more emphasis on providing quality service to citizens and therefore suggested that service quality performance should be considered by public organisations as one of the major dimensions in attaining organisational performance considering that the public organisations themselves are service oriented and profit is not the main objective of its existence. This was fully supported by Arawati and Kandampully (2007) claiming that the public sector organisation's goals are to provide quality service to satisfy the country and its people such as developing socio-economic, responsive and timely services and facilitators of information to the general welfare of the general public.

A study of Hadiyati (2014) titled, "Service Quality and Performance of Public Sector: Study on Immigration Offices in Indonesia" primarily aimed at investigating the quality services provided by the public sector organisation as mentioned in relation to citizen or consumer satisfaction as well as assessing the performance of the organisation's delivery of services. Public service and measurement of quality was based on the Act No. 25, 2009 according to the law imposed in Indonesia where it emphasised clearly how the public sector organisations should meet the needs of the citizens in relation to satisfaction on service delivery, service performance and the public employees' relationship with the citizens. Different measures were used to assess the quality of service that includes but is not limited to the following: how certain the services will be provided to citizens, how service provision by public officials meet the needed or standard requirements; compliance with the service procedures; how the officers observed discipline in the provision of the service; how responsive are the public officials when the service is needed like responding over complaints and queries; the capability of the service officer to do the service; how the service will be provided timely, with speed and accuracy; the fairness and impartiality of the service provision; observance of hospitality and courtesy by the public officials; the imposition of service charges, service scheduling and timing; friendliness of the working environment or comfortability with the customers inside the office premises; the imposition of security and security measures inside and outside the organisation. Based on the findings, it revealed that service quality is indeed an indicator of the public sector performance and the highest score is attributed to the imposition of service charges that most citizens demanded for transparency on the cost of the government services. Cost of public services should be clear to the citizens as they are asking for a transparent government operation that is free from corruption and other ethical management issues.

In relation to these findings, the study of Hamali et al. (2014) discussed that in government organisations, public officers must possess and demonstrate an excellent interpersonal skill that is a significant element for public institutions to establish consumer trust and confidence. Lowest rating is found on the service speed which implies that the public sector organisations as identified in this study have been proven to exhibit very slowly in terms of providing services which means that they cannot serve the citizens in a timely manner. These findings also demonstrate the poor service quality that the public service organisations have provided to its customers. The fact that service quality is still a growing concern in this sector. The researcher in this study felt that the need to pursue the investigation of service quality in the public sector is still relevant and needed in different context and settings. This study therefore acknowledges that measuring service quality is needed to the chosen organisations to be the subject of study in Sultanate of Oman.

2.6 Summary

As public sector organisations have been continuously compared with the private sector organisation, there is a pressing need to discover the performance issues faced by public sector organisations. Also, because public sector organisations have a lot of red tape (Boyne 2002; De Vries et al. 2016), they are less likely to be innovative and responsive to customer needs as private sector organisations. Thus, they are likely to face several challenges as private and public sector organisations are completely different in context, the practices in private sector are very difficult to apply in public sector organisations. This is because goals, accountabilities, bureaucratic structure of the organisations under political environment are all different.

Specifically, Sultanate of Oman has seen a rapid change in its innovative strategy due to a shift in focus from oil to other areas of diversification. This has shifted the focus towards being customer centric and thus creates a balance between service innovation, service quality and the performance of public services. This is because it was observed that recession in GCC in second half of 2014 due to fall in oil prices led them to invent new methods to carry on the economy so that they do not depend on oil which they regarded as a market-based reform dealing on privatisation, public-private partnerships and outsourcing (Biygautane et al. 2017).

Further, this study helped the researcher learn a great deal on linking organisational ambidexterity and NPM as well as how to enhance service quality through service innovation directly and indirectly in the public sector through the formulation a conceptual mode. During the research, it was discovered that not a lot of study has been carried out with regard to the result of innovation in the public sector performance. However, organisational ambidexterity is still to be tested in real world which is part of the objective of this research. This is because it is still a relatively new concept and so innovation is far from realisation (Cannaerts et al. 2016; Palm & Lilja 2017; Smith & Umans 2015). Yet, it is still the centre of the topic because of the ever-changing needs of the citizens and environmental conditions (Gibson & Birkinshaw 2004). Furthermore, even though there is a lot of literature on NPM and its influence on public administration, there is still room for studies to explore how NPM functions in the public sector (Pollitt & Dan 2013; Hajnal & Rosta 2015). Building on the proposal that NPM is still in its infancy in Oman and is still relevant in the public sector today, this study prefers to use NPM rather than post-NPM as one of the independent variables applied in the research.

Finally, studies on service innovation combining organisational ambidexterity and NPM with regard to the public sector in the Middle East still remains a gap despite many studies observing the effect of organisational ambidexterity (Gieske et al. 2019; Rosing & Zacher 2017) and NPM on organisational performance (Brinkerhoff & Brinkerhoff 2015; Demircioglu & Audretsch 2017). Lack of research has made it an important topic of research for this study as there is hardly any evidence likely to be found that determine the success or failure of the combined constructs in the public sector.

Chapter 3: Conceptual Framework and Hypotheses Development

3.1 Introduction

The central logic of the conceptual framework development is that organisational ambidexterity and NPM each have an effect on service innovation within the context of the public sector. The model also explores the constructs that link to service quality. Therefore, it examines how service innovation would help provide better quality of service in the public sector. Also, the conceptual framework helps to analyse the different explorative and exploitative activities as well as NPM that connect to service innovation in the public sector in the Middle East.

Organisations put effort into developing new services and improving existing services (Cheng et al. 2012). Service innovation can be achieved by developing new services and refining the existing ones (Berry et al. 2006). Thus, organisational ambidexterity has emerged in the public sector stressing on service innovation exploration and service innovation exploitation and its superior effects on service quality and customer satisfaction (Sok & O'Cass 2015). They stated that the sustainability of “service firms depends on how well they embody service innovation in their effort to deliver quality services to customers”, therefore, by providing quality service, this in turn, would yield financial performance (Sok & O'Cass 2015, p. 2).

The objective of public reform is to boost the public sector services and performance. However, innovation is one of the challenges faced by the public sector. Kinder (2012, p. 1), claims that “as local public service organisations enter the age of austerity, performance driven by innovation and learning, will be an important feature of any NPM paradigm”. Despite a lot of research being carried out focusing on NPM to address the public reform agenda (Damanpour et al. 2009; Dan & Pollitt 2015; Salge & Vera 2012), limited studies have found any link between NPM and service innovation. (De Vries et al. 2016; Demircioglu & Audretsch 2017).

Therefore, this research study focuses on the link between organisational ambidexterity, NPM, service innovation and service quality because actual research on service innovation combining both organisation ambidexterity and NPM within the context of public sector in the Middle East is very limited.

It is worth mentioning that all scales have been taken from the literature review except NPM which will be self-developed (validation of the self-developed scale is discussed in chapter 5)

3.2 Conceptual Framework

The conceptual framework can be summarised in Figure 1, shown below. The framework provides an overview of the relationships to be tested.

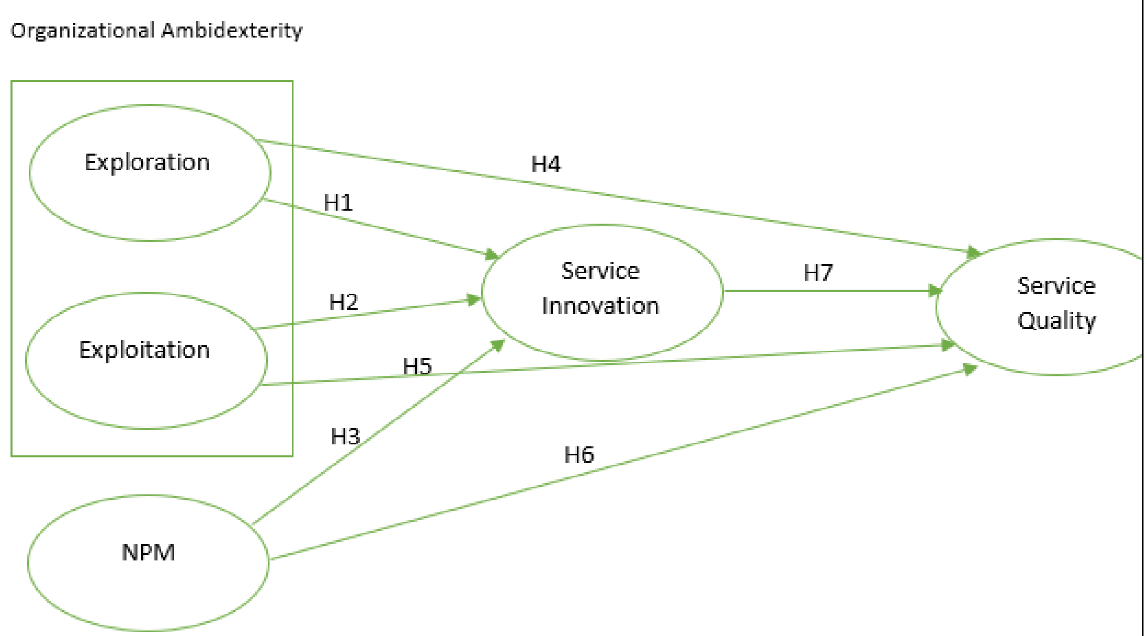

Figure 1: Conceptual framework

3.3 Hypotheses Development

Empirical results and theory about the relationship between exploration, exploitation and NPM have been discussed in the preceding sections, along with their effects on service innovation and service quality in the public sector. These form the foundation for the hypotheses of this thesis. In this subsection, diverse hypotheses have been elaborated.

3.3.1 Exploration, Exploitation and Service Innovation

Much research has indicated that service innovation relates to both exploitation and exploration which is dependent on service organisation (Menor et al. 2002; Sok & O'Cass 2015). This means that ambidexterity plays a major role to attain service innovation and to realise this requires capabilities and resources to implement with a balanced approach. Barney (1991) identified those resources to include human capital resources, organisation’s equity, and physical capital resources.

Public service organisations conceptualised structural ambidexterity though simultaneously utilising exploration and exploitation activities (Gibson & Birkinshaw 2004; O'Reilly & Tushman 2013). The adoption of structural ambidexterity of organisation at this period is driven by global demands and pressures to be progressive. According to Junni et al. (2013), this model considers the creation of innovation units as specialised office that is expected to perform better than the usual organisation structure. However; some limitations are present on the use of structural ambidexterity and one of them is the model’s dependence on how sub-structures and complimentary structures are excellently integrated (Cannaerts et al. 2016) which may result in difficulties in applying exploration and exploitation activities simultaneously because of structural and cultural gap. Further, this limitation will lead to creation of information sharing and innovation diffusion barriers (Gibson & Birkinshaw 2004). Arundel et al. (2015) posit that the hesitance to embrace new ways of working has been mentioned as the most common challenge to innovation. Nevertheless, progression from the state of no ambidexterity into structural ambidexterity is then considered as a risky undertaking that requires the public service organisations to be ambidextrous in concept and the readiness to adopt and implement.

The position of combining exploration and exploitation as a way to innovative capacity have been highlighted by numerous authors (March 1991; O'Reilly and Tushman 2013; Sok & O'Cass 2015). Search, uncertainty, risk taking and experimentation have been covered by exploration while exploitation includes refinement, efficiency, and implementation. More innovative capacity (Jansen 2006) has been present in ambidextrous organisations rather than those who support one of the two approaches since they are more responsive to internal and external environment. O'Reilly and Tushman (2013) point out that the ability of firms to pursue both exploration and exploitation simultaneously can achieve better and higher performance than firms that pursue one approach. Furthermore, Tushman and O'Reilly (1996), as cited in He and Wong (2004, p. 483) article, posit that firm should be able "to both compete in mature markets (where cost, efficiency, and incremental innovation are critical) and develop new products and services for emerging markets (where experimentation, speed, and flexibility are critical)". In this respect, the major role is played by the public managers. Organisational performance is highly dependent on the way managers handle the tension between exploration and exploitation (Gibson & Birkinshaw 2004; Tushman et al. 2011; O'Reilly & Tushman 2004; Smith & Tushman 2005; Umans 2013).

Therefore, different leadership styles need to be followed by public managers in order to balance both (Rosing et al. 2011; Umans et al. 2018).

However, strategic dilemma has been raised when service organisation works towards utilising exploration and/or exploitation (Sok & O'Cass 2015). Organisations might pursue to explore new services in order to fulfil customers’ needs which in turn yield long-term success. They may become unsuccessful in exploiting current services to achieve the desired financial outcome. On the contrary, organisations might pursue to exploit existing services that lead to short-term success, yet they may fail to explore new services that would possibly lead to long-term viability. Failing to overcome this paradox may cause the organisations to take inappropriate decision with regards to service innovation, exploration and exploitation, which, in turn might lead to lack of providing quality services and failing to maximise the desired financial outcomes.

In terms of outputs, Junni et al. (2013) as well as He and Wong (2004), in their study pointed out that organisational ambidexterity progresses performance and innovation. Sok and O'Cass (2015) conducted a study to examine the effects of exploration and exploitation on the financial health of a company through the delivery of quality service. The results of this study inferred that financial performance and service quality heightened if high levels of service innovation exploration and exploitation both were deployed. Based on the innovation paradox perspective, we take on that the balance of exploration and exploitation as essential for innovative performance. Thus, in order to attain lead in their service, organisations should employ both exploration and exploitation as they both are distinguishable and irreplaceable (Gibson & Birkinshaw 2004). Having service innovation exploration is essential as it helps to match to customer’s needs and wants by inventing new services. Although, it can be contended that service organisations face a lot of competition as other organisations can copy their ideas, exploration is still very important as it is the baseline for competitive action across many service industries (Sok & O'Cass 2015). Looking at both aspects, while service innovation exploration focusses on generating new services for customers, service innovation exploitation focusses on making a current service better and hence, being able to meet customer needs and wants by increasing its efficiency to quality ratio (Jansen et al. 2006).

However, it has been seen that when service organisations tend to give less attention to creating new services to match the evolving customer needs when they prioritise exploitation over exploration. In the same way, service organisations tend to not pay attention to improve their current services when they give more attention to exploration over exploitation. As previously defined, organisational ambidexterity encompasses the organisation's ability to undergo exploitative innovation and explorative innovation simultaneously (Gibson & Birkinshaw 2004; He & Wong 2004). The use of both exploration and exploitation at the same time can be a hard decision to do but once overcome, it will provide numerous benefits to the organisation. Thus, we propose the following hypotheses.

H1. Exploration is positively related to service innovation.

H2. Exploitation is positively related to service innovation.

3.3.2 NPM and Service Innovation

Research studies on management in between 1980s and 1990s concentrated on the implementation of NPM that fostered significant changes in the organisations to minimise the structure that depend on hierarchy and adopt the practices utilised in the private sector. The practices used on the private sector include contracting out, performance targets, use of internal markets to put on pressure to innovate, and increase for autonomy for top management (Arundel & Huber 2013). According to Windrum (2008) NPM practices were considered as the answers for the supposed lack of innovation in the public sector, due to some degree to risk aversion and culture of public sector that inhospitable to innovation. Additionally, stiff competition could mean that the provider of public service adopt innovation to maintain their competitive advantage which will lead to improving effectiveness and efficiency of the public service delivery (Osborne & Brown 2011).

In order to act in an innovative way, the two main characteristics that are certainly needed for public organisations in service delivery and policy implementation is what the NPM focuses on. Firstly, 'Let public managers innovate' by way of inventing fresh ideas of dealing with their business by giving them enough freedom to make managerial decisions. Secondly, 'Make public managers innovate' by pressurising them with managerial and market-like perspectives. In other words, this means that result control incentives being forced upon them help them to modernise. Lægreid et al. (2011), claims that the public sector lacks innovativeness when it comes to developing new products and services. Moreover, public servants do not have a motivation to innovate, because the organisations in which innovations are carried out in the public sector are government property, and performance-related pay is an underdeveloped mechanism. They further explained that through encouraging innovative behaviour, promoting managerial autonomy by giving them the freedom to work, and with emphasis on results control, the public sector can achieve higher performance (Pollitt & Dan 2013; Verhoest et al. 2007). The authors also emphasised the importance of sufficient financial resources that will help enabling experimentation. Therefore, these NPM beliefs show that public service organisations will attain greater performance if it inspires a more creative culture and achieves more managerial independence as well as higher result control. Also, organisations can exercise pressure in order to encourage innovation. Performance standards being mentioned in performance contracts with government should entitle the public service organisations to be held responsible and enable penalties and rewards linked to them. Consequently, if a service organisation's results would be able to bring about an overall benefit to the organisation's performance, they are enforced to be innovative. This comes in the form of higher authorities exercising pressure on organisations to act in a supervisory way with the aid of result control. Also, it can be expected that once managers are given the authority and independence to supervise and be creative, organisations are more likely to be innovative. Therefore, this would help to raise acceptability by the general public. Both these factors have been positively proven in a regression experiment (Verhoest et al. 2007).

In Lægreid's (2011) study, NPM was a response to the supposed absence of result and customer-orientation of public sector organisations responsible for public service delivery or policy implementation. Moreover, the size of the public service organisation, which may be measured as a pointer of structural capacity is an additional vital structural factor in Lægreid et al. (2011) article besides apparent managerial autonomy and result control. Thus, the volume of organisations to achieve their tasks is mirrored by the organisational size which is in turn measured in terms of staff or budget. It is common to be believed that large organisations have greater inner volume to handle inventive products and services as it needs a sufficient level of volume and expertise required which large organisations possess. Also, adequate funding being the main requirement, Windrum (2008) strains the requirement for sufficient means of support for inventions in public organisations. Consequently, Carpenter (2001) pointed out, as quoted in Lægreid et al. (2011) article, the ability of an agency to get more independence or to fight off the pressure of control from higher authorities is determined by its size. Indeed, governments are more inclined to take part in innovations where there are limited restrictions on resources instead of periods with budgetary shortfall as contended by Donahue (2010). Fascinatingly, budget size has an important result on innovative activity but not on innovative culture. Therefore, having a huge budget does not suggest an innovative culture; instead it is one of the conditions to convert the innovative culture into real growth of new products and services. Thus, this suggests that in order to bring innovative ideas into practice, financial resources are important.

Further, according to NPM doctrine, Damanpour (1991) claim that innovative attitudes and behaviour would be reinforced due to incentives related to each person as well as pay linked to performance which in turn is likely to persuade employees to be more risk takers and henceforth be more receptive to change and experimentation. In order to be significant for launching innovations, the part of champions and entrepreneurs, an optimistic white-collar approach in the direction of change and more open to taking risks has been established empirically. Correspondingly, the elimination of life-time employment, the assessment of workforce performance wise, encouraging risk takers through incentives (Windrum 2008), creative culture and generally an inclination to think outside the box are the constructive effects that are recorded by recent research (Lægreid et al. 2011).

Yet, innovation in public sector is driven by precise organisational cultures linked with NPM thinking. Single-purpose organisation with strong objectives, service quality driven and results oriented (Pollitt et al. 2004) have been formed due to NPM reforms. Both an inventive culture and creative activity will be greatly predominant in such service organisations, then in other organisation, where a powerfully originated culture based on performance is cultivated suggesting an emphasis on accomplishment of goals, delivery of tasks and quality of service delivered. Focusing on goal setting enables a creative organisation to be formed that is backed by NPM (Lægreid et al. 2011). Additionally, having rewards and performance-related-pay and promotions linked to performance for workforce that have performed well helps to reinforce the importance of NPM for such employees as well as inhibit a more creative culture. So, we propose the following hypothesis:

H3. NPM is positively related to service innovation.

3.3.3 Exploration, Exploitation and Service Quality

Exploration is favourable to prosperity in the long run, while exploitation is contributing to short-term performance (March 1991). Since both exploration and exploitation are viewed as conflicting deeds, organisations which intend to carry out these jobs have two choices: structural ambidexterity or contextual ambidexterity (Gibson & Birkinshaw 2004). In order to overcome the inner battle if an organisation selects structural ambidexterity, it will allocate one part of the business to concentrate on exploration while the other concentrates on exploitation. Striving for equilibrium among contrasting, co-dependent and balancing elements – exploration and exploitation – inside one business part is highlighted by contextual ambidexterity (Gibson & Birkinshaw 2004; O'Reilly & Tushman 2004).

When organisations provide services that are supposed by customer to be of greater quality than opponents (Payne & Frow 2005), only then can service organisations attain their wanted financial. By comprehending what customers expect of their service and converting those expectations into quality service produce monetary revenue (Song et al. 2009), even though financial performance does not apply in the public sector. The features of a service that underwrite the satisfaction of specified or disguised customer desires and wishes is what is meant by service quality. It can be thought of as a differentiation advantage (Zhou et al. 2008). Looking at both, creating new services and matching to the evolving customer wants is crucial in exploration (Zhou et al. 2008) while improving a current service and growing its ratio of efficiency to its quality to carry on to match consumer needs is critical in exploitation (Jansen et al. 2006).

Sok and O'Cass (2015) claim that service organisation's creativeness is also linked to employee empowerment, which enables the firms to undertake in exploration - exploitation service innovation. Giving employees independence would help to augment their skills and help them to grow professionally which in turn would foster customer-driven goals as well as better service quality and performance goals (Rafiq & Ahmed 1998). Having these methods would help to make the customer service performance in contact with employee better in areas such as service innovation exploitation and exploration and service quality. Looking at this customer service cycle, employees who are involved in delivering a service are engaged in carrying out of organisation's strategic initiatives which aid or obstruct service innovation. These employees are also vital in raising awareness of customers for new services and in their adoption. Thus, employees play a chief role in innovation of services as they are often the service. So, only if the employees deliver the service as per standard, will service innovation thrive. However, service innovation has an impact on the role of employees' making it complicated as it causes them great changes in their behaviour in both exploration and exploitation in order to deliver services (Sok & O'Cass 2015). In reality, as employees have to perform many tasks at the same time and have more responsibilities to follow, combined service innovation is more difficult than balanced service innovation (Sok & O'Cass 2015). Therefore, as combined service innovation enables employees with greater decision-making authority, employee empowerment is more critical. Greater employee empowerment helps to start solutions specific to customer needs which would raise their capability to initiate and deliver quality services. Likewise, there is less engagement of employees in balanced service innovation which is why employee empowerment is less severe. This is because employees carry out service delivery by focusing their attention on one type of innovation than the other type. This makes them have lesser responsibilities which in turn results in less decision-making authority due to which carrying out several tasks at the same time is less important.

However, when organisation who deliver services favour exploitation over exploration; focusing on delivering new service to match up with the evolving customer desires will be less focused upon. Likewise, they may be unsuccessful to completely utilise their current services to their utmost potential, and not emphasise on refining present services if service organisation prioritise more strongly exploration over exploitation. Therefore, neglecting one over the other ought to reduce the capability to provide superior services (Jansen et al. 2006; O'Reilly & Tushman 2004). However, organisation have to preserve a balance between exploration and exploitation in order for any innovation to prosper (March 1991), including service innovation. Zhou et al. (2008) conducted a study that examined the relationship of exploration and exploitation to service innovation in the context of balancing ambidexterity for developing its services towards high quality consumers in the private sector. Findings showed that ambidexterity is both essential with the aim of attaining superior services to customers. Specifically, exploration of service innovation plays an essential role in developing new services and responding to changing and new needs of customers or markets. Critical to the success of business activity is to continuously improve with new ideas for new experiences for existing customers. The same is true with service innovation exploitation where the objective is to refine and to improve existing service quality and efficiency in meeting the needs and demands of customers or markets. The demand for service innovation applying organisational ambidexterity has brought big impacts on the delivery of quality services as customers nowadays wanted to be served with both improvements in existing services and at the same time, provision of totally new services (O’Cass & Sok 2013). They also believed based on their findings that, achievement of quality service is best attained if organisation pursue or implement both exploration and exploitation for a combined service innovation to address service quality and needs of customers. Balanced ambidexterity means that there should be no overemphasis of exploitation over exploitation to ensure that quality of service is provided to the customers. Thus, referring to the above arguments, we propose the subsequent hypotheses.

H4. Exploration is positively related to service quality.

H5. Exploitation is positively related to service quality.

3.3.4 NPM and Service Quality

As there is a growing pressure to enhance performance, the necessity for change has been initiated by establishing initiatives in the public and private sectors. According to the KPMG report, technology, customer expectations, pressure in the organisation and economy represent that key drivers for change in the public sector. Hood (1991) argues that the reply to the change demands in the public sector has created new administrative thinking knows as the NPM. New public management-style improvements are something that has been assumed to be very promising with respect to helping residents. Therefore, Lane (2002) as cited in Drechsler (2005) article, posit that NPM improvements are seen as making public services more responsive to public needs rather than changes to internal alignment. NPM helps to overcome this as the general public regards the public style as per old reforms to be run for the benefit of politicians and bureaucrats. According to this judgment, thus having these politicians and bureaucrats have a say in appraising this reform is unfair. Likewise, employing performance indicators (Van Thiel & Leeuw 2002) identified by public services themselves would imply government's logic into citizens. Consequently, in order to overcome the inability of the public officials to comprehend what citizens want and value is why market mechanisms were introduced into local services. Thus, by using citizen's perceptions, it would bring closer to the NPM thinking of what needs to be proposed for the main standard of success. One more advantage of using citizen perceptions is that it helps to show the trade-offs between the disparate values and effects of managerial practices in the public sector are made with respect to citizens as opposed to where there decided by the policymaker when 'objective' performance indicators are used (Lane 2002).

The advantage of accepting private sector management methods to get more ‘bang for the buck’ in public administration and management are very familiar (Boyne 2002; Hood 1991). Though, numerous public management commentators have recommended that public management focusing on customers puts democratic principles like equality at risk when struggling to produce competent and operative delivery of public (Aberbach & Christensen 2005). Anderson et al. (1997), as quoted in Högström et al. (2016) article, argues that theory of attractive quality offers intuitions that can aid service firms to effectively and efficiently achieve value creation. According to Högström et al. (2016, p. 8) “The normative nature of the theory’s prototypical quality categories can be used to identify the must-have or minimum performance standards (i.e. requirements) that organisations must meet to a certain extent in order to create relevant offerings and to discover which requirements merely drive user preferences”.

Furthermore, NPM tends to have the opposite of the desired effect and thus, jeopardises their continuity. It accepts that their long-term continuity is motivated by a philosophy in which production and consumption are considered distinctly meaning the expenditures of production can be lessened without interfering with consumption. This would hold true for manufactured products but not for public services (Gronroos & Ojasalo 2004). For public services, reducing production costs would inversely affect the quality of the use of services and therefore their long-term practicality and sustainability. The chief factor for services is the part the employees play in delivery of service which is among one their most exorbitant expenses. Therefore, public service organisation have wanted to reduce their unit costs by cutting down on staff costs through measures like recruiting less trained staff etc. However, this seems to be counter-productive approach as if they reduce the staff costs, it can negatively affect the quality of the service which would in turn reduce their sustainability (Gronroos & Ojasalo 2004). So, service organisation tends to make sure to have the right set of employees in order to safeguard and increase the class of service offered which would help them to solidify their position which as per Normann (2000), as cited in Osborne et al. (2015) article, is characterised as the 'virtuous circle' for the success and long-term continuity of service organisation

Furthermore, Kakouris and Meliou (2011) posit that the viewpoint of NPM in the context of customer responsiveness focuses on the demands of the citizens-customer needs and wants that improves the service quality in the administrative structure in the public sector and determining the quality standards. Pollitt (1995) states that NPM provides guidelines that emphasise on customers orientation, so that to focuses on the customer to improve the service delivery in the public sector. Agus et al. (2007) demonstrate that NPM and TMQ as quality concepts emerged in the public sector realm at the start of the 1990s. The central objective of the NPM encompasses the improvement of public service delivery via customer-oriented approach and to put more efforts on organisational measurement and performance. The delivery of service has a direct relationship to the customer needs; thus, the public manager should utilise methods oriented to the customers to enhance the overall service quality. The private sector approach and experience provide a platform of learning to the public service organisations in the context of customer-oriented service and the importance of providers of the services in delivering and supporting service quality for the providers. Consequently, we propose the resulting hypothesis:

H6. NPM is positively related to service quality.

3.3.5 Service Innovation and Service Quality

Arundel et al. (2015) point out that there is an increasing policy interests to find out how to boost innovation in the public sector to enhance the productivity, service provision efficiency and public service quality. Berry et al. (2006) suggest that in order to create new services as well as improve current services, and progress service superiority, an operational path is offered by service innovation. The guarantee of service organisations to stay is contingent on how excellent they represent service innovation in order to be able to give superior services to its customers. It is not an easy task to adopt the approach of quality management in the public sector. The elements of quality management such as TQM, Quality Improvement Teams, and ISO standards that are applicable in manufacturing presents significant challenges to service organisation. Brysland and Curry (2001) argue that question raised about the relevance of quality approach to an environment that in non-competitive or not driven by market, which does not allow the customer to choose their suppliers. The public sector has now changed, for example in the United Kingdom the public sector become competitive environment. Benchmarks and comparison methods in the public sector have facilitates the improvement of quality, minimise expenses, and reduce waste.

The focus of the local public service organisations on contracting out and the growing significance for customer-oriented and involvement have become an area of interest in quality management. The pursuit of quality as Brysland and Curry (2001) argue emerges from the Audit Commission established as regulation by the government to enable the provision of the economy while improving efficiency and effectiveness of the local public service. Nevertheless, no agreement has been reached about the suitable service level and the impression of excellent quality for services is that focusing on meeting or exceeding the expectations of customer and that each individual customer is important. The performance and success of an organisation is assessed by service quality (El Saghier & Nathan 2013). According to Zeithaml et al. (1996), service quality has a positive relationship with customer satisfaction that helps the service organisation to achieve competitive advantage and sustainability.

The SERVQUAL model been introduced in service quality research to measure perception and expectation of service quality (Parasuraman et al. 1988). A number of public service organisations setting has employed the model of SERVQUAL to evaluate the quality of service delivery based on the customer demands and expectations compared to what they actually get. SERVQUAL advantage based on the fact that it is a tried and tested tool utilised for the comparisons for benchmark tasks (Brysland & Curry 2001). Uden et al. (2008) posit that SERVQUAL is a service quality framework developed in the mid-eighties. This model centres on ten different characteristics of service quality as such: reliability, responsiveness to customer needs, competence, access, courtesy, communication, credibility, security, understanding the customer and lastly tangibles. However, during the early 90s, the model was revised and brought it down to five features of quality. This led to the change of name of the model to RATER. The revised quality dimensions introduced were as such: reliability, assurance, tangibles, empathy and responsiveness (Uden et al. 2008). As this model measures the gap between customer expectations and reality, expectations are defined as past experience, word-of-mouth and needs of customers. This model is quite straightforward for analysing customer experiences qualitatively. Also, it enables service firms to set their own customer expectations as a yardstick to reach and is widely applicable across a variety of services.

Plattfaut et al. (2015) demonstrates that service innovation as a process has the objective to improve the productivity of service and expansion of service quality. Service innovation facilitates productivity by designing the method of service delivery to reduce cost and expand service quality by initiating the services that meet the previous demands of the customers._Additionally, the public service organisations introduce new services, refine the existing services as a means of promoting service innovation does not promise the attainment of financial performance. Nevertheless, service innovation should adhere to traverse the delivery of service that customer's sees of high quality service to gain financial performance. Plattfaut et al. (2015) argues that the performance of service innovation has a direct correlation with the performance of service provision performance. The organisations that focus on service innovation are likely to increase their performance during service delivery to customer. Additionally, Palm and Lilja (2017) state that hat the improvement of customer satisfaction and value is generated by the improvement of innovation and quality.

Damanpour and Scheneider (2008) states that the adoption of innovation in the public organisations improves service quality delivery and increase the ability to resolve societal problems. Moreover, service offerings cannot be standardised unlike manufacturing as aforementioned and are more intertwined with the processes and routines throughout an organisation (Droege et al. 2009). For service organisation to implement service innovation positively in order to deliver quality services, workers need to be authorised to endorse, guard and recognise the importance of developing new service and the refinement for current service. However, this is greatly dependent on whether they identify if there is any impact in the process of creating and delivering services (Rafiq & Ahmed 1998). Thus, we recommend the next hypothesis.

H7. Service innovation is positively related to service quality.

To further verify our findings, a post-hoc analysis will be conducted to test the possible mediating role of service innovation in the relationship between

- Exploration and service quality
- Exploitation and service quality
- NPM and service quality

Chapter 4: Methodology

4.1 Research Approach

This research is primarily focused on a deductive approach to theory development. This is one of the most popular types of research approach. Ketokivi and Mantere (2010), as quoted in Saunders et al. (2016), state that deductive reasoning happens when the conclusion is drawn from a set of premises and when the conclusion holds correct when all the premises are met. Moreover, Saunders et al. (2016, p 145) claim that "if your research starts with theory, often developed from your reading of the academic literature, and you design a research strategy to test the theory, you are using a deductive approach". Likewise, in this research, it concerns, the effects of organisational ambidexterity and NPM on public sector service quality through service innovation. Therefore, four premises were formed:

1. Exploration and exploitation positively enhance service quality
2. Exploration and exploitation positively enhance service innovation
3. NPM positively enhances service innovation and service quality
4. Service innovation positively boosts service quality

If all these 4 premises hold true, it can be 'deduced' that the conclusion of the effects that organisational ambidexterity and NPM have on service innovation and service quality in the public sector.

Thus, in this deductive reasoning research, it is subject to a vigorous test through the premises or hypotheses. As per Saunders et al. (2016), deductive reasoning helps to establish relationships between different variables. Like in this research, it is possible to be able to build a connection between organisational ambidexterity, NPM and service innovation and service quality in the public sector. This helps us to build several hypotheses as mentioned in the earlier chapter. In this form of reasoning, it is also important for variables to be operationalised in such a way that it helps facts to be measured. Like in this research, all constructs need to be measured quantitatively. Also, it is chief to generalise details from the general theory to the very specific. Thus, it is important to choose a sample carefully of a sufficient size so that appropriate generalisations can be drawn from that sample which is representative of the whole. It should also be noted that deductive reasoning is very linear, meaning everything follows a clear, logical order. As well as that, it can be quicker to complete and the risk is low. Although there might be some risk, for instance, respondents might not return the questionnaire. However, it poses some challenges. This is because it is very formal and it is based on a set of rules premises to be followed. It does not take into consideration of external social factors such as informal social relationships. It also inhibits creative thinking as it centres upon agreeing or disagreeing with the current researched theory instead of bringing out a novel theory. This has led people to move away from the "test room method" to a more qualitative approach to research because of the one-way centred approach it entails. However, due to time constraint and insufficient time, this study will be cross-sectional meaning involving a particular study at a particular time employing the survey strategy i.e. a mono method quantitative study. This involves using a single data collection technique i.e. a questionnaire, which seeks to explain the effects of organisation ambidexterity and NPM on services innovation and service quality.

Yet, deductive reasoning as per Bryman and Bell (2015) has been very appropriate for this research as it helps to build hypothesis on a theory already formulated by applying it to a very general circumstance such as the public sector here. This helps to avoid risk as a pattern has already been established against observations and an existing theory which helps to confirm or reject a hypothesis has been already built. As this form of research has its roots based on science, it is much more reliable and has the ability of being able to be tested. It also enables the research to be drawn to some sort of conclusion. So, it is eventually quicker as well. Moreover, it has also been opted as this research is built upon quantitative research.

Explanatory study is conducted in this research to help to test specific theories pertaining to the public sector. The context is used in developing a model from which results obtained can be applied back at the context. Therefore, it helps to test casual associations among different variables. Saunders et al. (2016, p. 176) posit that “The emphasis in explanatory research is to study a situation or a problem in order to describe the relationships among the variables”. As this research has already identified the constructs and proposed a theoretical framework, these help to explain whether organisational ambidexterity and NPM lead to service quality through service innovation in the public sector. Therefore, it helps to elaborate why and how certain relationships between different variables are formed. This particular explanatory form of research is chosen as it helps to explain certain aspects in a detailed fashion. It also helps to increase understanding of the researcher on this particular subject. It is not undertaken to provide conclusive results but it helps to ascertain how and why organisational ambidexterity and NPM help in improving service innovation and service quality in the public sector which is why explanatory over exploratory is more favoured.

Further, as this is a deductive approach with explanatory study method, it is entitled to scientific research. This is because this research is conducted in a logical fashion through systematic collection, interpretation and evaluation of data through development of hypothesis (Saunders et al. 2016). This involves observing around us, developing hypothesis, carrying out experiments to validate these hypotheses, analysing the results and coming to a conclusion. Likewise, in this research, hypothesis have been built on former research and based on the results, relationships have been formed that portray how organisational ambidexterity activities and NPM elements enhance service innovation provided by the government organisations and service quality perceived by the citizen.

This research is built upon quantitative research as it employs deductive reasoning, where it stresses on utilising data to test theory, as well as “emphasises quantification in the collection and analysis of data” (Bryman & Bell 2015, p. 28). Even though reliability is quite an issue with quantitative research as it is often difficult to decide if certain measures are stable or not, it helps to establish deviation between different cases. Thus, it provides the researcher with a constant yardstick as it provides a systematic method for measuring variations. As quantitative research is built upon numbers rather than words, it helps to quantify which gives a better understanding. It is also more beneficial to deploy quantitative rather than qualitative method as the researcher’s concerns form the investigation. Therefore, it is purely controlled to ensure validity of data instead of depicting the perspective of others being studied as it is in qualitative research. As this research builds upon theory already formulated where theoretical work has already been done before the collection of data, quantitative research is more suitable than qualitative research. This is because in qualitative research, concepts are formulated out of the data collected. Additionally, as this research tests relationship between different variables, such as organisational ambidexterity and NPM along with service innovation and service quality in the public sector, which are measured quantitatively and analysed using a statistical technique (Bryman & Bell, 2015), quantitative research is most appropriate. However, it presents a static relationship and therefore any changes in the variables over time are not taken into account.

Overall, this research is focused on the organisational level, and more specifically at the business unit-level (Birkinshaw & Gupta 2013; Gibson & Birkinshaw 2004). This research assumes that people completing the questionnaires are stating facts about their department. Therefore, ‘organisational level’ is defined as an operational service unit in a public service organisation which would be better described as an organisational unit. However, making inferences about the organisation from department observations is the closest learning one can achieve about an organisation. As this research is concerned with how ambidexterity and NPM at an organisational level affect service quality through service innovation, it builds upon examining aspects from a more micro level. The research will be directed at the top management of each organisational unit who are aware of organisational objectives and strategies in order for them to be better able to respond to questions in the survey instrument (Birkinshaw & Gupta 2013).

4.2 Research Philosophy

4.2.1 Ontology

As the specific research philosophy for this study as per Saunders et al. (2016, p. 127) aims at “assumptions about nature of reality”, it helps to shape the way in which one sees and study the public sector organisations. Thus, ontology facilitates to find out how one sees the world of business and management and what to research for this project. So, as for this research, it is aimed at examining the effect of organisational ambidexterity activities and NPM on service innovation and service quality in the public sector. For instance, for a long time, research stated that NPM specifically does not have positive consequences on service innovation and service quality in the public sector. However, recently, researchers have started to view this in a changing fashion (Dan & Pollitt 2015; O'Toole & Meier 2004; Scharitzer & Korunka 2000). So, having an ontological stance helps to study the theories related to public sector and the related constructs in order to know how this will continue in the future. This draws aside any beliefs anyone has by interacting with individuals in the public sector in order to avoid these discussions shadowing the deductions about public sector in general. Their diverse ontological assumptions intend to mean that they focus on how organisational ambidexterity and NPM can bring about favourable results with respect to service innovation and service quality in the public sector instead of being absorbed with the negative consequences.

As this research is carried out being an objectivist, it fits in the conventions of the natural sciences meaning that the social world that we study is external to us and others as opposed to subjectivism which holds the belief that social reality is a made up of perceptions and consequent actions of people around us (Saunders et al. 2016). Consequently, this research focusses on facts and the reality of the social world. It builds on the actual truth of how innovation and service quality can be improved for citizen through organisational ambidexterity and NPM instead of relying on the perceptions of social actors. Thus, objectivism embraces realism which means that it considers the public sector organisations to be like physical actors in the natural world which exist independently as to what we think of them. This reinforces the belief that there is only one social reality prevalent in the world because the experiences of the people do not impact the life of the social world as stated in this research where individual perception is not relevant because it is carried out at organisational level. Therefore, as an objectivist, social and physical exists without any relation to each other, being lasting in its charisma and come in front of us as outside actors beyond our reach. However, a weakness being that organisations are considered as a tangible object, having their own objective reality, which are in itself a constraining factor that act on and constrain its members which are employees (Bryman & Bell 2015). Overall, objectivism is greatly favoured as it aspires to be realist and has a universal approach, holding the same meaning for all individuals.

In contrast, constructionism is said to be at the other end of the ontological position. This holds the belief that organisation and culture are pre given and hence have no part in entertaining the members which they regard as external realities (Bryman & Bell 2015). Proponents of this stance hold the belief that order in organisations is based upon general understanding rather than commands. They also believe strongly that not only they are a product of social interaction, they are also in constant state of revision over time. However, this has not been opted for this research as this research is based upon theoretical facts and so it supports realism. Therefore, this is not based on constructivist belief as opposed to objectivist belief because, for instance, this research does not study historical context to shape what is happening in the world today, instead its seeking to discover universal facts.

4.2.2 Epistemology

The term ‘epistemology’ refers to assumptions about knowledge, what is considered suitable and genuine knowledge and how it is possible to share that knowledge to other individuals (Saunders et al. 2016). As organisations are multi-dimensional, there are various sorts of knowledge to be considered. All can be regarded as legitimate. Therefore, the variety of different acceptable epistemologies give out vast choice of methods that can be employed. As this research follows a positivist approach, it helps to reinforce the quantitative methods chosen, especially when this research uses structured data collection techniques, as it holds the belief that objective facts give the best scientific evidence. Therefore, this would result in the findings to be regarded as objective and generalisable. Thus, it is vital to understand the implications of dissimilar epistemological assumptions with regard to this choice of method, strong points and drawbacks of succeeding research findings. Also, even though this research holds a positivist view, it would not be able to give out any more complex information on the organisational dynamics or give out any new form of knowledge that would shape one’s belief of organisations in a radically different way than if this research was based on a different view. Therefore, positivism entails considering organisations as real as the same as one considers physical objects. Moreover, epistemologically holding a positivist view, this research would discover and measure facts and therefore, only facts that can be measured would then end up being legitimate data. This would then lead to casual relationships being formed within data to replicate creating law-like generalisations as the ones drawn by scientists after which these generalisations would then be able to support, explain and predict organisational behaviours.

This is in contrast to interpretivism approach as this research does not focus on perceptions, narratives, stories or interpretations of the individuals filling out the questionnaires. Instead, it focusses on scientific facts obtained by the individuals filling out the questionnaire that explain what the organisation is doing in terms of exploration and exploitation and how NPM is affecting service innovation and service quality in the public sector. Moreover, this research supports positivism as it builds on existing knowledge to develop hypothesis which would then be further tested and confirmed (Saunders et al. 2016). As this research is carried out through quantitative methods, it further enhances positivist approach as the researcher tries to remain neutral and detached from research. Therefore, this would help produce evidence in an unbiased fashion and therefore not being able to influence the nature of the data collected. This in turn supports the type of quantitative research being undertaken.

4.2.3 Axiology

This research philosophy focusses on the perspective of role and ethics in the research. This shows how anyone as researchers consider the values of own as well as the research participants (Saunders et al. 2016). Our values are what guides our research. How an individual incorporates axiological views into their research is by conducting a specific type of research in such a way that fits in with their moral values and ethics. Thus, choice of philosophy and data collection methods reflect an individual researcher’s values. For instance, conducting research through survey or interviews emphasise that one places greater importance on personal interaction instead of an indirect questionnaire. Consequently, this research places great importance through conducting face to face questionnaires. Therefore, it reflects the researcher's value proposition and helps to decide what is ethically suitable by explaining this in the research through the decisions it has made.

4.3 Research Design

4.3.1 Research Strategy

This research focusses on gathering data through survey using a questionnaire. Survey research usually refers to collecting data predominantly through questionnaire or structured interviews all at one point in time in order to gauge relationships between different variables of which quantifiable or quantitative data has been collected (Bryman & Bell 2015). Gathering data through this type which helps to accumulate data quantitatively encourages to set a consistent benchmark. This type of strategy would also help as people filling out questionnaires that entail too many variables would give out answers all at the same time when handing back the questionnaires.

This survey strategy is more usually connected with a deductive approach. As this research utilises a deductive approach to reasoning, survey strategy seems the most appropriate in answering 'what', 'who', 'where', 'how much' and 'how many' sorts of questions (Saunders et al. 2016). The method of using questionnaire under survey strategy is more popular as it helps to amalgamate standardised data from a large population in a very economical fashion which leads to easy comparison. Also, survey strategy is easier to understand and explain. As survey strategy helps to collect quantitative data, it can help give reasoning to possible relationships between different variables. Therefore, survey strategy should give more control over the whole research process. Once the data is collected, it would also help to ensure independence over the data. Thus, there would be no complaints over relying on others for information. However, the data gathered using this strategy is not likely to be as extensive as other research strategies. For instance, only a certain number of questions can be included in a questionnaire. Also, the capacity to form a questionnaire badly is one of the biggest disadvantages of a questionnaire.

Also, gathering data through a case study was considered by choosing three ministries but the idea was dropped as even though it has the capacity for an in-depth research, they have a tendency to not be able to give out generalisable, reliable and theoretical contributions to knowledge. As Saunders et al. (2016, 185) point out that "This is largely based on positivist criticisms of using small samples and more generally about using interpretative, quality research". This is because small samples of three ministries would be used and qualitative data would be used to form generalisations. This would contradict with this research as it is focused upon quantitative research.

4.3.2 Time Horizon

The time horizon for this cross-sectional research is that it is at one point in time. Therefore, all the data collected on a number of variables are collected simultaneously at a single point in time, over a two to three months period (Bryman & Bell 2015). This more often refers to as the snapshot time horizon (Saunders et al. 2016). As mostly research projects are time constrained, it is usual for the study of a particular phenomenon to be carried out at a particular time. Cross-sectional studies usually entail the survey strategy. As for this research, the researcher will tend to describe the incidence of organisational ambidexterity and NPM in public service organisations and also to explain the relationship of how organisational ambidexterity and NPM affect service quality through service innovation in the public sector.

4.4 Measurement Scales

As the scales used are from literature already developed, they have strong measurement validity except for NPM which is self- developed. As appropriate scales at the organisational level of analysis were not yet available in the literature, the researcher developed scales for

NPM that relates specifically to the services provided by the organisations based on the elements that Pollitt (1995) identified in his article. Pollitt claims that the elements of NPM are declared and practiced across Western European and North American countries. Furthermore, he points out that “These eight elements comprise a kind of ‘shopping basket’ for those who wish to modernise the public sectors of Western industrial societies. Not every element is present in every case. Characteristic mixtures vary somewhat from country to country” (Pollitt 1995, p, 133). However, the scales that have been developed are carefully constructed in order to ensure optimum measurement validity (as explained in the next chapter 5 – validation of the self-developed scale).

The organisational ambidexterity measurement scale comprises two subdimensions, namely exploration and exploitation which were adapted from a study conducted by Kortman (2015). Service innovation was measured using items adapted from Grawe et al. (2009) study. The measures for service quality were adapted from an empirical study conducted by Plattfaut et al. (2015). Measurement scales are illustrated in Table 1. Some items were modified since this research is focusing on public sector at organisational level, so that shifting the focus from market and private sector orientation to public sector and customer needs (Chapter 6 discuss in details the validation of final survey instrument).

Respondents were asked to indicate their level of agreement with statements within their department. Seven-point Likert-type scale were anchored at 1 = strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = moderately agree and 7 = strongly agree.

Construct	**Items**	**Cronbach’s Alpha**	**Source /article**
Organisational Ambidexterity			
Exploration	My department…	0.82	

	1. Challenges outmoded traditions/practices/sacred cows. 2. Has enough flexibility to respond quickly to changes in customer needs and demands. 3. Reacts rapidly to changes in public needs (e.g., through shifting organisational priorities). 4. Supports the reconfiguration of department activities to respond to external changes.		Kortmann, S. (2015). The mediating role of strategic orientations on the relationship between ambidexterity-oriented decisions and innovative ambidexterity. *Journal of Product Innovation Management*, vol. 32 (5), pp. 666-684.
Exploitation	My department… 5. Collaborates to support organisational objectives. 6. Uses resources efficiently 7. Supports the achievement of efficiency-related objectives 8. Usually makes decisions that facilitate the efficient utilisation of resources 9. Organises work tasks to achieve efficiency	0.78	
NPM	Explained and discussed in chapter 5.		
Service innovation	My department… 10. Encourages innovation in program/project management 11. Emphasises service innovation 12. Constantly seeks new ways to better service our customer 13. Changes/modifies service approaches to satisfy customer requirements 14. Consistently introduces new service	0.89	Grawe, S.J., Chen, H. and Daugherty, P.J. (2009). The relationship between strategic orientation, service innovation, and performance. *International Journal of Physical Distribution & Logistics Management*, vol. 39 (4), pp. 282-300.
Service quality	My department… 15. Employs up-to-date equipment in service provision 16. Is always reliable when providing services 17. Promptly responds to customer requests when providing services 18. Provides services in a trustful relationship to our customer 19. Always aims to satisfy customer needs when providing services	0.79	Plattfaut, R., Niehaves, B., Voigt, M., Malsbender, A., Ortbach, K. and Poeppelbuss, J. (2015). Service innovation performance and information technology: an empirical analysis from the dynamic capability perspective. *International Journal of Innovation Management*, vol. 19 (04).

	20. Provides services efficiently for customers		

Table 1: Measurement scales

4.5 Quality of Research Findings

In quantitative research, validity and reliability are vital to decisions about quality of research. Saunders et al. (2016, p. 202) defines validity as "the appropriateness of the measures used, accuracy of the analysis of the results, and generalisability of the findings". On the other hand, he defines reliability as "replication and consistency", meaning that if an earlier research is being able to be replicated and achieve the same results, it is said to be reliable. Another aspect that is considered important with regard to quality of research is generalisation i.e. the ability to generalise the findings. Bryman and Bell (2015, p. 169) argue that "In quantitative research the researcher is usually concerned to be able to say that his or her findings can be generalised beyond the confines of the particular context in which the research was conducted". The following section will discuss in greater detail the three principals of quality of research findings that will be adapted in this research.

4.5.1 Validity

Bryman and Bell (2015, p.291) point that "Measurement validity relates to the question of whether or not a measure is measuring what it is supposed to measure". Validity makes sure whether the indicator actually measures that concept. There are different forms of measurement validity for instance, in a questionnaire-based survey, internal and external validity. The former is where a series of questions are drawn that can be statistically exposed to be connected with any analytical factor or outcome. This aspect is applied to causal or explanatory studies like this study. The later aspect is more likely associated with generalisability. For example, with regards to this study, the concern is whether this research results can be generalised to other applicable settings or countries. Several ways to ensure internal and external validity is also chief as research findings could be deemed invalid if findings are false or if a reported relationship is false. This will also in turn hamper the reliability of the research. Thus, both have an intertwined relationship. However, in this type of research, external validity is very strong as the results of this research can at least be generalised to the GCC region.

Bryman and Bell (2015) claim there are different methods of measuring different type of validity. For example, they point that another form of ensuring validity is through concurrent validity. This refers to when a criterion is developed on which people differ which is relevant to the concept in hand. Suppose for this research, in order to measure service innovation and service quality in the public sector, organisational ambidexterity and NPM can be criterion on which to base whether those who have adopted this criterion have better service innovation and quality than those who have not adopted this criterion. Moreover, this research would reinforce construct validity, as this is what usually applies to quantitative research, through the choice of scales used. Construct validity ensures that the scales formulate to measure organisational ambidexterity, NPM, service innovation and service quality do really measure what they intend to denote. To achieve construct validity, convergent validity and discriminant validity both are required (Campbell & Fiske 1959). The convergent validity is the extent to which several attempts to measure the same concept result in the same conclusion. In other words, this in turn reflects that any number of measures are only valid measures of the same concept in hand if they are in agreement. On the other hand, discriminant validity is where several measures of varied concepts are dissimilar. This reflects that if the varied concepts are distinct, then the valid measures for these should not connect greatly. (Bagozzi et al. 1991; Hair et al. 2014). The average variance extracted (AVE) of all constructs should be above the level of 0.50 to ensure convergent validity, and the discriminant validity will be evaluated by comparing all corresponding correlations and the square root of the AVE.

The square root of AVE values should be greater than the off-diagonal correlations. If this is achieved, then the constructs gained good psychometric properties (Sok & O'Cass 2015).

4.5.2 Reliability

Yet, ensuring validity alone does not guarantee quality research. Even though it is vital, it is not adequate alone. As reliability is equally important, there are several important factors that are considered when deciding whether a measure is reliable. One of them is internal reliability that means being stable, which entails whether the results for a measure are consistent over time and therefore do not fluctuate during a research project (Bryman & Bell 2015). Second, external reliability, concerns the replicability, talks about to whether the data collection and analysis techniques would give out the same results and constant findings if they were carried out by the same researcher at a different point in time for this study or if they were replicated in the same context by a different researcher. Due to the fact that the researcher got high sample which is quite representative, therefore the study should be replicable in Muscat.

Saunders et al. (2016) argues that research that is unreliable will straight be considered invalid as any bias will render the results of such a research to shed doubt on the findings. There are various types of bias that could be present such as:

- Participant error: this includes any way which affects the way a participant performs.
- Participant bias: this includes factors which encourage a false response.
- Researcher error: this includes factors which would change the researcher's interpretations because of being tired or not being prepared.
- Researcher bias: this includes inducing bias in the researcher's tracking of responses.

These threats imply that research methodology needs to be carried out rigorously in such a way that its findings and conclusions are reliable. All aspects of the research need to be presented in such a transparent way that others can judge themselves and copy the study if they wish to do so. Hence, it should be free of logic leaps and false assumptions.

Internal reliability of the measurement scales measured using Cronbach's alpha as it helps to ensure the internal consistency of the entire scales. It helps to assess the consistency of responses to a predetermined set of scale items that are then combined as a scale to assess a specific concept. The alpha coefficient value is always between 0 and 1, and the reliability scale should exceed a threshold of .70 (Hair et al. 2014; Salge & Vera 2012). If it is .70 and above, it indicates that the scale items combined in the scale are assessing the same concept. However, scores above .90 may indicate that one or more items in a scale are redundant.

4.5.3 Generalisability

Lastly, the quality of research is highly dependent on generalisability. This refers to how well the results of research can be replicated in another context or setting (Bryman & Bell 2015). With reference to this research, it is highly probably for the results to be replicated to the GCC region due to similarities in the working systems and order of the countries. Also, as the GCC region is somewhat technologically advanced at the same level as Oman, replicating results from this research would not be invalid nor unreliable. As GCC region entails the same level nearly of public sector development with the west side of the world having more advanced systems and already being early adopters of NPM (Boukamel & Emery 2017), it seems reliable to have this research findings and model carried out in Oman to be replicated to GCC region. Also, ambidexterity may already be prevalent in the West side (Duncan 1976) making it less suitable to replicate this research. Thus, generalisability of this research would be spread to GCC region as they are on the same level technologically and economically.

4.6 Data Collection Instrument

4.6.1 Online Survey

All the data gathered through questionnaires are saved in the online survey tool known as Survey Monkey which enabled the interviewer to design the questionnaire, capture and save the data and finally analyse it. As Survey Monkey is used as an online survey tool, the responses to each question were automatically coded before entry. This form of online survey is chosen over handing out questionnaires in hand due to the vast number of embellishments that used to enhance the appearance of the questionnaire. Many different colours and formats can be used in online surveys which place them at a greater advantage than the hand surveys. Also, the interviewer/respondents can key in directly in a box. The questionnaire can also be designed in such a way so that only one question appears for each respondent and they can scroll down the questionnaire to see all questions in advance. This is very advantageous for the researcher. Likewise, the answers from respondents were programmed to be downloaded into a database in excel sheet. This removes human error in coding. All these features have proven to increase response rate from respondents and this applied so for this research as well.

4.6.2 Questionnaire Design

The questionnaire must be carefully designed as it is unlikely that there will be more than one chance to gather the data. As mentioned earlier, this research entails descriptive research, meaning that questionnaires of organisational practice will be given out which will help the researcher to identify different phenomena. Also, more complicated questions can be included. However, as there is less chance of re-collecting data, the data that needs to be collected, how it is intended to be analysed and the questionnaire design need to be planned carefully in order to meet the objectives and answer the research questions in hand. Otherwise, the poorly designed questionnaire might lead to measurement error (Sanchez 1992).

There are six main headings in the questionnaire. As the questionnaire categorised based on the demographic questions and plus five constructs introduced for this study. The first heading is about "Demographic Data", the second section is about "Organisational Ambidexterity (Exploration and Exploitation), the third section contained questions related to "NPM elements", the fourth section included questions related to "Service Innovation" and the final heading is about "Service Quality". The questionnaire covered topics related to organisational activities towards exploration and exploitation, NPM elements that have effects on the organisation, organisational practice used to enhance service innovation, and effort spent by the organisation to deliver good service quality. However, in order to design questions in the questionnaire, the researcher will either adopt or adapt questions and also design their own questions. Although adopting and adapting questions is more efficient as long as it answers the research questions, the researcher needs to be careful as there are a lot of poor quality questions in the literature. Also, it should be noted if questions are under copyright and even if they are not, it is good practice to obtain the author's permission (Saunders et al. 2016). As for this research, the scales, apart from NPM which was self-developed, were adapted from existing scales from the academic literature or research that has conducted empirical study using quantitative method. Mostly, and in order to collect opinion from the individuals, rating questions was used with seven-point Likert type scale. Combining rating questions into scales can be used in order to measure the provided concepts. All the scores for each scale item which is the rating question should combine to give a scale score. Every scale should measure what the research is interested in, be tested and validated and be designed for a homogenous sample. Scales was changed significantly as significant changes can impair the validity of the scale and hence the results obtained. There were little of amendment if necessary. All the respondents asked to answer the same set of questions which helped to collect answers from a large sample before the quantitative analysis.

However, it is very hard to build a good quality questionnaire because it needs to make sure the right data is collected to answer the research questions in hand and achieve the research objectives.

Furthermore, the questionnaire should use clear legible wording in order to be understood by respondents and therefore increases the validity of the questionnaire. Questions should not be longer than 12 words as shorter questions are easier to understand. Also, another form of questions such as category questions can be used. This helps to fit the respondent's answer into one category only. This sort of form is useful for collecting demographic data about the respondents. The categories used should not overlap each other and should cover all possible responses. The boxes should be placed close enough to the appropriate text in order to make it clear which box is for which response category. This will help to make the layout of the questionnaire clear. The responses will also be presented in a logical order so that it makes it easier to locate the response category that entails each respondent's answer.

Also, the wording of the questions were carefully designed. This is because it should measure what they do by checking the questions in the context for which they were designed instead of elsewhere. This will help to make sure that questions are not misunderstood and they do not force a specific response. Most importantly the order and flow of questions is very important in order to avoid biased answers. Also, according to Saunders et al. (2016) when introducing new topics, it is vital that the interviewer uses phrases such as 'I am now going to ask you about…'. Having an interviewer-completed questionnaire would also mean that instructions for the interviewer are mentioned in the questionnaire such as 'Now I am going to read you different statements...'. The visual presentation is also very critical for interviewer completed questionnaires. This is because the questionnaires need to be designed in such a way that reading out the questions and filling in responses is not troublesome. Also, the face to face questionnaire will not be too long as this will lose the interest of the respondent. It will be long enough to be sufficient to meet the research questions and objectives of this research. The face to face questionnaire will be started by the interviewer giving a short and simple introduction for the questionnaire and ended with thanking the respondent for their time. Also, for this type of questionnaire, the interviewer will be well prepared beforehand for questions that the respondent will ask. As for this study, the researcher used face to face meeting with the respondent and asked them to fill in the questionnaire after sending the link of the survey to their email.

4.6.3 Validity and Reliability of Questionnaire Design

The design of the questionnaire will also have an impact on the reliability and validity of the data gathered. All these problems can be address through careful design of all the questions, pre-study testing and careful planned delivery of the questionnaires. As this research entails organisations in Muscat, it is important to understand the country and culture of Oman in order to make less mistakes by using wrong terminology and language. As face to face questionnaires are carried out which are sometimes referred to as structured interviews, the interviewer should not move away from the set questions. Due to the questionnaires being long, it is ideal they are conducted face to face because they can include more complex questions.

The internal validity and reliability of the questionnaire are equally important which are highly dependent on the design of the questionnaire. Having a valid questionnaire will ensure that the correct data that actually measures the concepts the researcher is interested in collecting is gathered whereas having a reliable questionnaire means that the results obtained are consistent over time. Thus, in order to ensure validity and reliability in terms of questions, the researcher was clear about the data requirements and design questions accordingly. Also, the researcher assured that the respondent understands the question the way the researcher intends it to be understood, as well as assured that the respondent answers all the question. Finally, the researcher assured that he/she understands the answer in the way respondent wants the researcher to.

Content validity can be obtained through making sure that the questions in the questionnaire give sufficient coverage of the investigative questions of the research. This was ensured through carefully studying the literature review or through having the expert's feedback, for example on the NPM self-developed scale, on whether every question in the questionnaire is necessary and valid or unnecessary and not valid. Reliability can be achieved for this questionnaire through internal consistency. This is where the answers by respondents will be correlated to answers of other questions in the questionnaire. This helps to measure the consistency of responses between a subgroup of questions which is usually measured through Cronbach's alpha as mentioned earlier.

4.7 Sample

4.7.1 Population

As already observed, the level of analysis for this research is organisational level which is defined as the operational and functional (i.e. service units) within an organisation. Therefore, the whole population for this research refers to the operational and functional departments within selected public sector organisations which can be considered as elements. The focus was on different key service ministries as this will increase variation and enhance validity in the responses (Kyrgidou & Spyropoulou 2013). It is important to consider a population from which sample will be selected no matter what the research question or objective in hand is (Bryman & Bell 2015). At times, it is possible to collect data from every member. This is referred to as census. However, mostly it is impossible to collect and study data this way due to time and money constraints (Saunders et al. 2016). Sometimes as the population can be quite huge, it is possible for a target population to be derived in order to make it more manageable. Likewise, instead of defining population of public sector organisations in the whole of Oman, the sample of this research was drawn from public sector organisations across Muscat region only.

4.7.2 Sampling Frame

As there is no employment record for every department in every ministry in Oman to which the researcher has access, it is impossible to list down all the government service organisations from which the sample were selected for this research. As there is no sampling frame for such population, non-probability sampling technique were utilised to recruit participants (Mammen & Sano 2012).

4.7.3 Sample Size

This decision of deciding on an appropriate sample size has never been a straightforward one. It is dependent on a number of things and therefore there is never a single answer. Sample size is decided based on several factors including the level of confidence required in the data, margin of error, and type of analysis to be undertaken and the size of the target population from which the sample is to be drawn. Due to these competing characteristics, it is not surprising that sample size is decided on the basis of judgement apart from these calculations (Saunders et al. 2016). However, ultimately, decision on sample size is taken based on time and cost. The sample size for this research is one individual at the strategic level working in government service organisation (non-probability sampling). However, increasing the sample size increases the likely precision of a sample. So, the researcher should decide on the sample size based on how much sampling error can be tolerated. Larger sample sizes are considered if less error can be tolerated and vice versa. Even though the sample size considered for this research is 150, (i.e. 150 respondents representing 150 operating/functional units) and it does not achieve 95% confidence level, it is not considered a bad thing as basing sample size on desired level of precision is not realistic because sampling error is only one form of error included in any estimate.

Also, sample size as mentioned is dependent on time which makes it harder to balance it with the level of precision required. This is because requiring greater level of precision would make it uneconomical in terms of cost and time. Moreover, non-response rate should also be considered when deciding sample size. This is because it is possible that every one individual that is surveyed might not agree to participate in the research leading to non-response. Non response can be categorised into complete refusal, breakoff, complete response and partial response. Therefore, if the aim is to survey 120 people and there is a likely non response rate of 20%, this research should aim at involving 150 people (Hair et al. 2014), as around 30 may be non-respondents. Non response can be a product of people refusing to respond, being ineligible to reply, incapability to find the respondent and lastly respondent is found but not able to make contact. This research is if possible, likely to have someone refusing to respond or being unable to locate the respondent. Also, statistical inference is drawn from the conclusion about the effect of organisational ambidexterity and NPM on service innovation and service quality based on the sample chosen in order to comprehend how much of the result could be obtained by chance. Further, heterogeneity and homogeneity of the population from which sample is taken is also another factor that needs to be considered. As public sector organisations are less heterogeneous, having a small sample size is appropriate because there is less degree of variation. Overall, the agreed sample size is dependent upon the research questions and objectives. In other words, what needs to be found out, what will be useful, what will have credibility and what is possible from the available resources all help to decide sample size.

4.7.4 Sampling Technique

The type of sampling that undertaken for this research is non-probability (or non-random sampling) as mentioned before in section (4.7.2). The sampling technique chosen is one senior person as a key respondent at the organisation level, usually a senior manager who have the knowledge at a strategic level. Managers are perceived more reliable and accurate when it comes to providing data (Mom et al. 2007: Zahra & Covin 1994). Furthermore, managers perceptions specifically with regards to organisational ambidexterity and innovations theories has been also adopted by different scholars (He & Wong 2004; Jansen et al. 2006). So, the managers will be able to complete the questionnaire about facts related to their organisation, as these respondents have knowledge of their department practice (Grawe et al. 2009). Yet, it is also understood that it is not justifiable to rely on a single individual to know everything about an organisation. Also, having only a single senior employee from each organisation will make it more inclined for them to represent their organisation in such a way that makes their own roles and responsibilities come out in a favourable light than other respondents (Bryman & Bell 2015). Therefore, type of non-probability sample should be carefully chosen.

The type of non-probability sampling technique fit for this type of research is purposive sampling which lies between the two extremes of quota and haphazard sampling techniques. Having a purposive sampling technique enables the researcher to use his or her own judgement to select respondents that will best be able to answer the research questions at hand and meet objectives. This is why it is sometimes referred to as judgemental sampling. Homogeneous purposive sampling is used as this research focusses on one particular sub group, which is the senior members at the strategic level, which are all similar as they all belong to the same level in an organisation's hierarchy. All respondents have similar characteristics which makes them be able to be explored in greater depth with minor differences to be more visible.

This type of purposive homogeneous sampling supports the positivist philosophy as these senior members of the organisation with expert knowledge and experience were able to give out facts about their organisation, and not reporting their opinions or their interpretations, with regard to how organisational ambidexterity and NPM will enhance service innovation and service quality in the public sector. The people selected for the sample were people who are aware of organisational issues and were able to give out information confidently. Consequently, as this will bring out mere facts about organisation in contrast to their own opinions, this supports the epistemological positivist theory and not interpretivist as mentioned before.

4.7.5 Representativeness

Usually it is possible to collect data from a sample and compare it with data collected by another source for that population. If there are no significant differences, it can be said to be representative of the target population with respect to these features. As this research entails a relatively small sample size and supports non probability purposive sampling, it is unlikely that it is representative of the whole population. However, it can be representative of the target population, meaning public service organisations in the Muscat region. Moreover, in order to enhance generalisability, non-respondents can be resurveyed which is often known as the follow-up approach (Saunders et al. 2016).

4.8 Data Collection

4.8.1 Survey Approach

Data collection for this research as mentioned earlier is conducted through cross-sectional research design. There were more than one case is used for this research which is that 150 members from 150 different operational and/or functional unit within the public sector surveyed in order to bring out variation, but also to identify patterns and similarities.

Questionnaire was completed by the respondents. These questionnaires were face to face meaning that the researcher meets the respondents in person and asked them face to face to fill in the questionnaire which is theoretically referred to as face-to-face questionnaire (Saunders et al. 2016). These are also known as structured interviews as they include a set number of questions from which the researcher should not diverge. This will ensure that the person being interviewed is who is wanted and so, will increase reliability of this data. However, having face to face questionnaire can have answers contaminated as they would answer to please the interviewer due to their face to face contact but this can be reduced by using good interviewing technique. Moreover, this type of questionnaire will definitely have a higher response rate comparing to self-completed questionnaire, as the interviewer is physically present carrying out the face to face questionnaire, although this method will require more time for data collection. However, questionnaire was available electronically to all 150 managers at the operational unit/functional unit). These managers are responsible, for instance, for the operational and/or functional area within the organisation.

Participants were selected by listing all ministries first that provide services that target the citizen and the community. Each organisation studied properly before contacting them. The researcher looked into their available website and selected the active operational and functional units within the ministry accordingly. The concerned manager of each organisation was contacted via phone to check as to who is the most appropriate individual to take a survey for this matter. Each respondent was contacted by email and some by telephone setting up an interview date to visit, preferably morning time as respondents were more attentive and alert in contrast to lunch hour. The respondents were divided into assignments as per each area in Muscat in order to be able to carry out questionnaires each day to minimise time. Each respondent was contacted in person by visiting them at their office, and the questionnaire carried out by sending it first to their email on spot so that they were able to fill in the questionnaire electronically. The organisations name, respondents name, date and time was recorded as well after the interview was completed. Also, there was a time for return visits also be noted. Further, if any contact was not been able to take place, the reason for this was also noted. For such contacts, the researcher tried several times to reach to them, each time at a different day and time with the same information being recorded. There were also return visits to complete the questionnaire.

4.9 Data analysis

4.9.1 Structural Equation Modelling (SEM)

Structural equation modelling (SEM) is the most appropriate method of data analysis and model assessment for this research. This method is basically second-generation data analysis techniques which are suitable to test the degree to which the research meets the acceptable standards of high-quality statistical analysis. This type of equation modelling helps the researcher to answer questions in a very single and systematic way by framing the relationship between dependant and independent variables together (Hair et al. 2014). However, the SEM program that will be used for this research is AMOS.

4.9.2 AMOS Software

AMOS software which is the short form for ‘Analysis of Moment Structures’. The most interesting feature of this software is that it "allows researchers to choose from two completely different modes of model specification” (Byrne 2001, p. 5). One is the AMOS graphics which lets the researcher work from a path diagram while the other is AMOS basic which lets researcher work with equation statements. However, AMOS graphics is used to analyse data in this research as it has a wide variety of drawing tools available, they all have been sensibly planned with all the SEM principles in mind and lastly because of how easy and quickly it can produce a path diagram. This is also popular among many researchers for these reasons.

This software also has the feature to display information for descriptive statistics and spot any outliers as well which were very beneficial for this research. Also, even though one has to request for information on residuals using this software, it can be easily obtained through the Analysis Properties box for this research. Furthermore, AMOS uses a maximum likelihood approach in dealing with missing data and as this is theoretical based it has many drawbacks for this study. However, AMOS uses bootstrap method to handle multivariate nonnormal data. This helps the researcher to ensure the constancy of the parameter guesses and hence report results with more precision here.

4.9.3 Preliminary Data Analysis

Multiple regression is the most suitable technique of analysis when the research problem comprises a single metric dependent variable assumed to be associated to two or more metric independent variables. The aim of multiple regression analysis is to foretell the variations in the dependent variable in response to changes in the independent variables. This goal is most often attained through the statistical rule of least squares. Multiple regression is useful whenever the researcher is interested in predicting the amount or size of the dependent variable (Hair et al. 2014). The measurement model lets the researcher to use various variables for a single independent or dependent variable. The scales are then combined into the estimation of the relationships between dependent and independent variables in the structural model. This procedure is similar to carrying out a factor analysis of the scale items and using the factor scores in the regression (Hair et al. 2014).

The reliability coefficient, which evaluates the consistency of the complete scale, is the Cronbach's alpha which is the most extensively used measure. The commonly agreed upon lower limit for Cronbach's alpha is 0.70, however it may reduce to 0.65 in exploratory research, or when scales have only two or three items (Hair et al. 2014). One issue in evaluating Cronbach's alpha is its positive relationship to the number of items in the scale. Researchers must place more strict requirements for scales with large numbers of items because increasing the quantity of items, even with the same extent of intercorrelation, will increase the reliability value.

This research focusses on exploratory factor analysis (EFA), meaning the underlying structure among the variables in this research is defined. Therefore, it is used in order to study the correlation between large numbers of variables by identifying factors, which are the correlated variables. However, with EFA, the analysis methods take only what the data presents without setting any limitation on the number of variables to be chosen. This is in contrast to confirmatory factor analysis (CFA) where the researcher already has made up his/her mind on the structure of the data based on the theory pertaining to that data or prior research. This is where confirmatory analysis approach takes the stand of measuring the extent to which the data meets the expected structure (Hair et al. 2014), this sort of analysis used after establishing the CFA. In this research, factor analysis recognised dimensions such as service innovation and service quality in the public sector and focused on respondents and not variables. Moving on, factor analysis then gives the researcher two options which are data summarisation and data reduction. As this research focusses on common method variance, data reduction is of no importance. Exploratory factor analysis will also help to overcome any measurement error and also enhances content validity which is known as face validity for this study. Also, as mentioned earlier, the diagnostic measure used for this research in order to measure the consistency of the whole scale is Cronbach's Alpha. However, the main drawback of this reliability coefficient is that with higher number of items, the reliability value increases. This type of factor analysis will also include measuring validity through discriminant validity scale which is quite different from the rest as it intends to measure how two conceptually similar concepts are distinct. Once the factor analysis has been designed, AMOS will be utilised in order to check the measurement model designed under factor analysis and further help to test the hypothesis by structuring a full structural model using AMOS. This involves a 7 stage process with the first being to define what items are used as measured variables, second being to develop and specify the measurement model, third being to select an appropriate sample size, estimation method and missing data approach, fourth being to assess the validity of the measurement model constructed and if it is valid to go to the next stage which is to convert the measurement model to the structural model which will be AMOS, sixth being to gauge the validity of the structural model developed and the last being to draw conclusion and recommendations if the structural model is valid. Consequently, this process helped to test the identified hypothesis.

4.10 Ethical Considerations

One should always be mindful of ethics when carrying out research. Any harm to participants, lack of informed consent, invasion of privacy and if any deception is involved should always be considered by the researcher. If there is any harm to the respondents, it should be minimised. All the records of individuals and organisations kept confidential and anonymous by the researcher to protect their privacy. To ensure confidentiality, we agreed not to reveal the name of the manager. This will also be considered when publishing results for this study. Although in such quantitative studies like this research, it is easier to keep records anonymous, it is at times not possible to make records totally anonymous. Also, it is easier to identify individuals for this study due to the sample size being relatively smaller. However, employees were informed before of this risk and give them the chance to withdraw (Bryman & Bell 2015). To ensure confidentiality, the researcher will not reveal the name of the manager to others.

As this research involves face to face questionnaires, there is a lot of deception due to social interaction involved. Even though it should not be present, it is rarely desirable and feasible to provide respondents with all the information on what the research is about. However, honesty will be encouraged in transferring information about research to all interested parties resulting in information asymmetry and benefit for both parties. This will enable reciprocity of data which will ensure that there is less power inequality from the onset for this study. This will result in the relationship between the researcher and the respondents to be as a jointly beneficial research relationship who view each other as moral beings and impose on both parties to follow agreed moral standards and principles (Bryman & Bell 2015). Furthermore, data should always be protected and not be excessive than the objective for which it is obtained, be accurate and be relevant. Data will also be protected against loss or destruction of personal data by the researcher.

Chapter 5: Pre-Study 1 - Validation of the Self-Developed Scale

5.1 Introduction

From the last few decades, there are numerous scales developed so as to analyse the opinions, attitudes, behaviours and perceptions of the members of an organisation and this is done in order to assess certain hypothesised deductive relationships with rest of the constructs. From the viewpoint of Schwab (1980), as cited in Hankins (1995) article, the prime reason behind using the measures is lack of existence of any reliable data regarding their validity as well as authenticity. According to Schmitt and Klimoski (1991), also cited in the same article of Hinkin (1995), the development of scales is not only complicated but a tedious process. Operationalising the unobservable construct in an accurate and reliable manner is critical in observing the exact fit amongst the variables of interest. There are three prime stages as suggested by Schwab (1980), belonging to the development of a particular measure which have been implemented in NPM scale development and these are:

Stage One – A particular item is developed or generated at this stage.

Stage Two – The items are united at this stage in order to form the scale.

Stage Three – The new measure is examined psychometrically for the purpose of its evaluation.

The stages of Schwab (1980) comprised of different activities which might be completed in a parallel manner. For instance, designing the survey instruments, defining the population and choosing sample might be the actions completed simultaneously. Output is produced after each stage completion. The initial stage is item generation in which preliminary scales are developed. The final survey instrument is produced at the scale development stage, while, the reliability and validity of new measures is determined through scale evaluation.

At first, during the item development phase, Schwab (1980) suggested that there is a need to pay more attention as well as care to both the inductive or deductive ways through which the items are generated; along with a strong establishment of connection amongst the items and their theoretical domain. The need is to generate a handful of items so that more options can be provided for the purpose of deletion and this is because of the fact that some items considered valid by certain judges might not be valid for the others. In addition to that, reliability and factor analysis further necessitates item deletion, quite often. Hensley (1999) asserted that when the scales are developed by keeping in view the factors of validity and reliability, they provide with significant statistical power, allows the measurement of difficult constructs while using fewer items, and provision of such durable measures which can be added to NPM theory base. Further, he stated that certain constructs can further be divided in to multiple sub-constructs. In numerous cases, the measures belonging to simple sub-constructs can be more practical and appropriate. However, developing the multiple-item measures is considered most appropriate, when a whole construct is the only unit of measurement. It is thus upon the consent of the researcher to either combine the items within a singular scale while measuring the whole construct.

5.2 NPM – Self-Developed Scale

It is quite evident from the discussion already held that NPM holds different aspects. However, the current section presents the content development process for the dimensions along with validating the scale theoretically as well as psychometrically. The main objective addressed through this research is to provide with a detailed NPM conceptualisation such as development and validation of subscales for different dimensions of NPM in order to develop a completely validated instrument known as NPM scale which can offer complete measure of NPM effectiveness. The entire process requires the generation of certain potential items of scale, conducting formal as well as exploratory pre-tests, scale revision, and execution of a public administration and management's expert field survey.

In order to validate the scale, the researcher chose Delphi techniques to gather expertise's judgements and opinions. The following sections explain stages used to develop and validate the scale of NPM.

5.2.1 Stage One – Delphi technique to generate items by academic experts

According to Skulmoski et al. (2007), the Delphi technique is a reiterative procedure to gather as well as filter out the judgements and opinions of anonymous experts. Numerous data collection and analysis techniques have been deployed in this regard with a series of feedback. In order to emphasise upon the problems, solutions, opportunities and forecasts, questionnaires have been designed. Further questionnaires have been developed after extracting the results from the preceding questionnaires. This process continues until a suitable answer of the research question has been gained, for instance, when harmony is developed or when an ample amount of information has been exchanged which was also the procedure in this case. Delphi method is one of the most suitable research instruments in cases when there is a lack of knowledge regarding a particular phenomenon or a problem, just like the scenario in hand. This method provides with a greater fit to develop the scale for the current study because it works well especially in cases when the aim is to enhance the understanding regarding problems, solutions, forecasts and opportunities.

This very method proves to be useful and appropriate in scenarios in which the expertise' judgements and opinions are required but factors such as time and distance makes it difficult for the board to work together at a similar physical space. The Delphi technique deployed in this study focus on looking for consensus instead of differences and in this instance; the diverse sets of responses are generated while using the debate process in certain Delphi rounds (Needham & de Loë 1990). As cited in Yousuf (2007) article, both Linstone and Turoff (1975) and Helmer (1983) agreed upon the Delphi applications and they found that utilising Delphi as a group response is advantageous in a sense that a consensus is emerged along with an expert opinion for representation. Certain communication barriers can be avoided through Delphi as it provides confidentiality. Barnes (1987) states, as cited in Yousuf (2007) article, that these barriers can be: feeling reluctant in stating disliked opinions, disagreement with the group members and modifying the previous positions. As for this exercise, the researcher made sure to provide confidentiality and anonymity and there was a consent agreement attached in the email as well which mentions that, "Your anonymity will be on priority throughout the process, however, your identity can be revealed at later stages when the results will be published after getting an agreement by you. Moreover, you own the right of withdrawing from this procedure without facing any consequences at any point in time". Therefore, and since they accepted to participate, the consent agreement is considered valid.

Rowe and Wright (1999) suggested an approach of characterising the classical method of Delphi through four key attributes and the very approach is followed in this study. These attributes are as follows:

1.Anonymity – Through this, the participants are allowed to express their feelings and opinions freely and they don't have to feel the pressure coming from other group members to agree with them. The evaluation of decisions is based on merit instead of favouring the one who projected the idea.

2. Iteration – Through this, the participants are allowed to refine their opinions by keeping under consideration the work progress of the group based on each round.

3.Controlled feedback - Through this, the participants are provided with the opportunity to change or elaborate their ideas after looking at the perspectives of the rest of the participants.

4.Statistical summary of the group response – Through this, quantitative analysis and data interpretation is done.

The potential scale items are specified so as to measure the implementation of all of the eight NPM dimensions; while using those results extracted from content analysis and suitable literature. The set of items are refined and revised in order to generalise it for different NPM contexts. According to Delbeq et al. (1975), also cited in Skulmoski et al. (2007) article, it is critical to devote appropriate attention in developing the basic question which is also the focus of Delphi and hence followed rigorously in this study; that is because of the reason that if basic question is not understood by the respondents then they might not be able to respond appropriately which further creates frustration.

The researcher selected participants that are experts in the subject of public administration and management in general and NPM in particular to participate in this Delphi process. Experts details are presented in the below Table 2.

No.	Name	Job title	University name	Country
1.	Prof. Jonathan Boston	Professor of Public Policy Chair School of Government	Victoria University of Wellington	New Zealand
2.	Prof. Michiel S De Vries	Professor of Public Administration Chair: Public Administration	Radboud University	Netherlands
3.	Dr. Sorin Dan	Researcher Innovation and Entrepreneurship InnoLab	University of Vaasa	Finland
4.	Prof. György Hajnal	Head of Department, Department of Public Policy and Management	Corvinus University of Budapest	Hungary
5.	Dr. Vincent Homburg	Associate Professor	Erasmus University Rotterdam	Netherlands

		Department of Public Administration and Sociology/ Public Administration		
6.	Prof. Juraj Nemec	Professor at the Faculty of Economics and Administration Chair of the committee for Ph.D programme in Public Economics	Masaryk University	Czech Republic
7.	Prof. Daniel Simonet	Associate Professor Strategy, public policy and administration.	American University of Sharjah	UAE
8.	Prof. Sandra S Van Thiel	Professor of Public Management	Erasmus University Rotterdam	Netherlands

Table 2: Experts details

The selection criteria is to have experts that have relevant research articles published in journals in the related field which the researcher has cited some in the thesis. The researcher invited expertise by sending them email which was obtained either from their articles or from the website of the university that they work for. The experts were informed that the aim of this exercise is to build consensus and recommendations regarding what would be the best NPM items for the scale. Furthermore, they were aware that respondents will provide all answers on seven-point Likert scales, where 1 = strongly disagree and 7 = strongly agree. The Delphi process consisted of 3 rounds.

- Round 1: expertise/scholars suggest 5 possible items for the scale.
- Round 2: from the list of items generated by all Delphi participants, expertise/scholars select the 10 -12 best items for the scale (scale development).
- Round 3: expertise give their feedback/comments if any (scale refinement).

5.2.1.1 Round One

Schmidt (1997) explained, also cited in Skulmoski et al. (2007) article, that brainstorming is the purpose of Delphi's first round, mostly. Email was sent to the expertise inviting them to participate in this exercise. A time period of almost a month had been taken in which the details of the project were sent to scholars. The members of the group were asked to recommend five possible items that may be used to measure NPM as a concept in public sector management. The generated items may be recognised as the core attributes of NPM. For instance, performance targets, efficiency, disaggregation, decentralisation, cost cutting, policies, rewards, customer responsiveness/needs were declared. In total, eight participants sent their final items. All of the NPM dimensions are then asked to be reviewed by the same board of expertise in order to assess the items' content validity. The thirty selected items were assigned to a particular dimension so as to examine which of the items didn't reflect any of the dimensions.

5.2.1.2 Round Two

The responses coming from Round One forms the basis upon which the questionnaire of Round Two is developed. If a list had been generated in Round One, then cutting down the list is to be done in second Round. Ranking as well as the rating the Round One output is general as pointed by Schmidt (1997). In order to produce reliable results, verification is done on continuous basis, throughout the entire process of Delphi and needs to be determined in the design of the research.

The questionnaire of Round Two was then sent to the participants who took the time period of around two weeks and that is because some of the respondents didn't respond in a timely manner. A reminder was sent to them after one week had been passed. The participants were further provided with an opportunity to either re-consider or change their responses from Round One because the responses from other respondents were also shared with them.

Therefore, a total of 30 items were inserted in a Google form which was sent to those eight participants. They were asked to select between 10 and 12 'best' items, so that a consensus could be reached regarding the best relevant and validated items for NPM scale. These items are selected on the basis of their suitability to include in measurement scale development for NPM. twelve items of NPM scale were retained from a total of thirty for advanced evaluation and to assess in Round Three after taking into consideration the equivalent or identical items. The items representing a particular value dimension and classified by more than four experts were considered for further development of scale i.e. the final scale would be items that were chosen by at least half of the participants which would be the majority. There were 18 items eliminated because they were much repetitive or scored less than 4 responses.

Consequently, the Round Two output were reflected with 12 scale items selected by most of the experts (please refer to Appendix 1 for round two output). Several items have been modified and their comments were mentioned along with the items. These items were then categorised under different headings, for instance, under the dimension of 'performance', 3rd and 7th scale items lie, both of them were quite similar so the one with highest responses was selected that was 7th one, while the 3rd item of scale was excluded based on the comments provided by experts. Similarly, under the dimension of 'efficiency', the 11th item of scale was modified based on comments received from the participants. For example, the word "productive" was removed as it is a term mostly related to the private sector. Also, abbreviation "e.g." was added as the three items starting with inputs are only serving as examples. Furthermore, the term "economic incentives" was removed, to avoid double barrelled questions as suggested by the expertise. However, the dimension of 'cost cutting, accrual accounting and better contract management' was removed from 16th item of scale to avoid double barrelled questions.

As a final result, a refined survey instrument containing eleven items is generated, in which every dimension is captured through single or multi-item measures but eight categories were found irrelevant by the end of Round Two because these dimensions are not latent factors, and are simple constructs that can be measured by one or two items.

5.2.1.3 Round Three

The questionnaire of Round Three was developed based on the responses that came from Round Two. In every round, the questions become more specific as per the needs of the research. The process used for analysing the Round One and Round Two data is the one followed to conduct the final analysis round. Around four days were spent in completing Round Three. Emails were sent to the respondents after making appropriate changes based on the comments of participants received from Round Two. The respondents were then asked to provide their feedback upon the final items of scale

The outcomes of Round Three (please refer to Appendix 2 for round three output) show all of the final items and they are not listed under distinct categories. Some items were modified and finalised based on remarks and comments received from the participants in this round. Therefore, some items were modified as follows:

- Increased outsourcing and privatisation: using the word ‘or’ and ‘and’ in certain indicators is quite problematic as suggested by the scholar. This will further make the analysis difficult as it will be unclear when the respondents answer ‘no’ to a particular question. Thus, the item ‘increased privatisation and outsourcing’ was fragmented into 3rd, and 4th and 5th finalised items of scale. In addition to that, private ownership was used in the place of privatisation because of its applicability to the public sector of Oman. Moreover, public-private ownership was further added as suggested by another scholar.

- Focuses on giving organisation increased autonomy: one of the scholars said "you might want to include autonomisation, it is not only about privatisation but in general executive organisations being at arm's length but not privatised". Therefore, Autonomy was also included in the scale item because it was not a factor in privatisation alone but also in executive organisations generally which aren't privatised. As a result, this question was generated.
- Organisational units have discretion to implement policies as long as outcomes are realised: scholar's comment on this item was "I think this indicator has nothing to do with your scale. That will become visible when you start using this scale". However, the researcher decided to keep this item pending further investigation and to gain more feedback from the practitioner when it comes to stage 2 - Validating NPM through Practitioners.
- Focuses on incentivising individual and organisational performance via more rigorous performance specification and measurement, and the transparent reporting of results: was the original item of scale which was altered so as to demonstrate the feedback gained from a scholar who removed 'individual and organisational', 'via more' was replaced with 'using' and 'transparent reporting of results' was omitted to avoid double barrelled questions. Therefore, the final item become "Focuses on incentivising performance using rigorous performance specification and measurement".
- Implements customer satisfaction measurement and Focuses on increasing the responsiveness of public agencies to consumer/client preferences: Scholar suggested to replace "consumer" and "customer" with "citizen" since the focus is on public sector and the former two terms generally relate more to private sector. Therefore, the

item becomes “Implements citizen satisfaction measurement” and “Focuses on increasing the responsiveness of public agencies to citizen preferences”.

Therefore, a refined survey instrument containing 14 items are generated through stage one of the Delphi technique.

These experts’ generated items show similarity with those eight NPM items based on how they had been defined in the articles of Hood (1991) and Pollitt (1995). From the viewpoint of Pollitt, the NPM elements are defined as well as practiced in the North American countries and throughout the Western Europe. Moreover, he pointed out that these NPM elements served as a shopping basket for the individuals who are looking towards modernising the public sectors of certain Western industrial societies. Not all of the elements are present in all cases and the characteristics vary from one country to another.

According to Brooks (1979), as cited in Yousuf (2007) article, although the technique is flexible, it is time-limited because the respondents need to answer to the questionnaires in a defined time frame. This flexibility provides the respondents with the opportunity to answer from any geographical location and time slots available to them. The results extracted from Delphi are just the opinions and as valid as the board of experts’ opinions. It is crucial for all the participants to understand the objectives of Delphi process because they might provide inappropriate answers otherwise. In addition to that, it is fruitful to add a 4^{th} round so that the experts can make their judgements regarding finalised items. However, the reason behind limiting the process to 3 rounds is the fear of experts’ lack of participation. Furthermore, this was presented as a suggestion in Round Three in order to efficiently analyse the thesis but as the procedure was closed already, it was better to stick to the original plan.

5.2.2 Stage Two - Validating NPM through Practitioners

Stage two involves with validating the NPM scale while interviewing the practitioners. Five individuals at different functions in different organisational levels (Mom et al. 2007) working in Oman's public sector were selected as representative of the final survey respondents (please refer to Appendix 3 for practitioner details). These individuals gave their feedback and comments on the items of the questionnaire and made sure that the meaning is clear (Gibson & Birkinshaw 2004). Practitioners were selected based on a specific criterion of both work experience and qualification. All practitioners that were targeted through the website of their organisation work for government/public sector, have at least ten and more years of experience, and are top-level managers. Practitioners were contacted first by telephone where the researcher explained the purpose of the research and then mutually agreed on an interview date and time. These interviews were semi-structured with a time period of around one hour which took place at their premises.

The questions being asked regarding questionnaire were like: if they well understood the questions? if they are knowledgeable about the subject in hand? And if they faced any problems while answering? to indicate any ambiguous phrasing and to provide any comments for improvement (Jansen et al. 2006) is there double-barreled question? Are the questions comprehendible in Oman and can be replicated in their respective organisations of Oman? Would it make sense in their organisation? This gave the researcher bit of qualitative information on the structure and content of the questionnaires. Also, this helped to get clarification face to face in order to test the proposed items. This also helped to revise the questionnaire so that no difficulties are faced by the actual sample in answering and so on no difficulties faced in recording the data.

However, most of the responses were positive with a few modifications and alterations to some of the items which need to be addressed here:

1. Increased outsourcing – The term increased came under debate because from the viewpoint of almost all the practitioners, it does not essentially increase but can be otherwise too. They further suggested labelling the item of scale as 'outsourcing' alone because 'increased' indicates that it might be declining previously. Thus, the item of scale was altered as: 'Relies extensively on outsourcing'.
2. Increased private ownership – This item of scale was removed entirely because according to practitioners it doesn't belong to public sector. There are no concurrent public as well as private ownerships because none of the public services can be privatised. Thus, private sector will never own public services for life such as for instance, Electricity Company completely owned by private sector or renewal of driving license services cannot be handed over completely to the private sector.
3. Organisational units have discretion to implement policies as long as results are realised - this was the scale item opposed by one of the scholars in third round because according to him, it has nothing to do with the item of scale. However, it was not omitted and was thought of being open to more insight and thought by practitioners before taken decision to delete it. Moreover, there were mixed responses initiated by the practitioners with respect to this item. According to some experts, discretion is decentralisation while others thought of it as results such as performance against targets. The prime aim of this item of scale was not interpreted by any of the experts because as per their opinions, asking employees and middle management regarding policies is not possible. Any policy related queries must be asked from higher management, alone. Thus, the item was omitted due to different inferences drawn upon it.
4. Performance information is used to incentivise individuals or organisational units to perform better - this was suggested by experts to be removed due to its repetitive

nature. This item of scale was quite similar to 'Focuses on incentivising performance using rigorous performance specification and measurement'.

5. The debate on word 'citizen' was initiated in 'Implements citizen satisfaction measurement' and 'Focuses on increasing the responsiveness of public agencies to citizen preference'. After conducting a detailed research, Pollitt and Dan (2013) pointed that NPM is defined as a phenomenon at two-levels. At a high level, it is just a theory which explains the improvement in public sectors through bringing in the techniques and values of the business. Consequently, NPM is a package of specialised practices and concepts which involves on treating the service users as customers. Thus, the word 'customer' is more suitable rather than 'citizen' because the entire phenomenon is elaborated within the context of business. Moreover, the population of Oman includes expatriates, thus using the word citizen might not be appropriate. As a result, the original item of scale was kept intact which was, 'Implements customer satisfaction measurement' and 'Focuses on increasing the responsiveness of public agencies to consumer preferences'.

As a final result, a total of eleven items of NPM scale are finalised below:

1. Outputs and outcomes are measured.
2. Focuses on increasing efficiency through e.g. greater managerial discretion over the selection of inputs, short-term labour contracts, and inter-agency competition.
3. Relies extensively on outsourcing.
4. Entering into Public-Private Partnership.
5. Focuses on creating decentralised organisational structures and processes.
6. Focuses on given organisation increased autonomy.
7. Focuses on giving managers increased autonomy

8. Focuses on improving public sector financial management via output budgeting, and more comprehensive reporting.
9. Focuses on incentivising performance using rigorous performance specification and measurement.
10. Implements customer satisfaction measurement.
11. Focuses on increasing the responsiveness of public agencies to customer preferences.

Chapter 6: Pre-Study 2 - Validation of the Final Survey Instrument

5.1 Introduction

The greater trust in the interpretation of survey results is allowed through instrument validation which is an important feature of survey analysis techniques as preserving the integrity of the survey methodology solidifies evidence from the data collection process. Therefore, when researchers are required to record the survey results with confidence, reliability and validity are important tools for instrument development (Burton & Mazerolle 2011).

Burton and Mazerolle (2011) further note that validity is often qualitatively measured in survey analysis through face and content validity as it is easiest to assess. Since they determine the accuracy and interaction between the questions asked and the variables evaluated, these are crucial initial steps in evaluating the model's validity. A panel of experts which is made up of people with experience in instrument analysis determine the consistency, significance and representativeness of the elements in the sample to maintain the face and content validity. Hair et al. (2014) state that the goal is to make sure that the choice of scale objects extends beyond just scientific issues to provide theoretical and practical aspects as well.

5.2 Face and Content Validity

To ensure face and content validity, six expert scholars/academics in the field of public administration, two of them were academics at Sultan Qaboos University in Oman Prof. Ali Al Musawi at the Instructional and Learning Technologies Department at the College of Education, and Dr. Mohamad Zain at the Management Department at College of Economics and Political Science. While four of them were scholars from different universities in different countries. They were key experts in different filed. The experts were; Prof. Anthony Arundel is a Professor of Innovation at the University of Tasmania in Australia, his research interests focuses on innovation in the public sector and questionnaire design and methodology and published numerus articles in innovation, Prof. Ewan Ferlie is a professor of Public Services Management and Organisation at the King's College in UK, he does research in the areas of public service management and organisational studies and published several articles in NPM and other related topics, Prof. A. Parasuraman is a professor in Marketing at the University of Miami in US, his research interests focuses on service quality measurement and service marketing, he developed and introduced the concept of SERVQUAL, and lastly, Prof. Timur Uman is a Professor in Business Administration at the Jönköping University in Sweden, he has been doing researches and studies on organisational ambidexterity and NPM and published several articles on the same topics. The scholars were invited to assess and get suggestions/feedback regarding the measures' content validity (Sok & O'Cass 2015). The researcher selected scholars that are experts in the subject of public organisational ambidexterity, NPM, service innovation and service quality.

Scholars who were based in Oman were contacted by telephone initially in order to discuss the objective of the study in hand after which a suitable date and time at Sultan Qaboos University was set up at their convenience. For the experts abroad, their email was sought through some articles that the researcher cited in the thesis while some were sought through google scholars. They were sent an email along with what was required from them. Fortunately, they were quite helpful and gave a positive response in return. Furthermore, the researcher conducted a one-hour conference call with one of the scholars to discuss and elaborate on the content of the survey.

Thus, the final survey which was distributed to 150 respondents reflected 5 main sections which discussed five different constructs, all of which were developed from previous literature while NPM was self-developed:

1. Organisational Ambidexterity – this reflects both exploitation and exploration. However, in order to make it easier for the respondents to understand what exploration and exploitation means, the title in the survey for section two and six in the survey was as follow:
    a. "Activities associated with external opportunities" to study exploration
    b. "Activities associated with operational efficiency" to study exploitation
2. New public management –had the following title in the survey:
    a. "Performance-oriented reforms"
3. Service innovation
4. Service quality

The survey was shared with all the experts. As per their comments below and relevant modifications made accordingly as shown in Table 3, the final survey was generated.

	Original items	Modified item	Remarks
Activities associated with external opportunities (exploration)			
1.	Gives departments enough flexibility to respond quickly to changes in their markets	Has enough flexibility to respond quickly to changes in customers and demands	Replaced "markets" with "customer needs and demands"
2.	Reacts rapidly to changes in the market (e.g., through shifting business priorities)	Reacts rapidly to changes in public needs (e.g., through shifting organisational priorities)	Replaced "markets" with "public needs" and "business priorities" with "organisational priorities"
Activities associated with operational efficiency (exploitation)			
	Causes departments to waste resources on unproductive activities	Uses resources efficiently	This was a reversed question that was changed to a positively worded question to ensure reliability and consistency with other items

	Gives departments conflicting objectives that cause incongruent work	Organises work tasks to achieve efficiency	This was a reversed question that was changed to a positively worded question to ensure reliability and consistency with other items
NPM			
	Focuses on increasing efficiency through e.g. greater managerial discretion over the selection of inputs, short-term labour contracts, and inter-agency competition	Focuses on improving efficiency	Removed the examples “greater managerial discretion over the selection of inputs, short-term labour contracts, and inter-agency competition”
	Focuses on improving public sector financial management via output budgeting, and more comprehensive reporting	Has strong financial management e.g. minimising costs	Reworded by removing the term “output budgeting, and more comprehensive reporting” to avoid double barrelled question.
	Focuses on incentivising performance using rigorous performance specification and measurement	-Offers incentives to employees -Sets performance targets	Scholars suggested that incentivising is not necessarily to be done through using rigorous performance specification and measurement, it can also be simply done by setting performance targets first and. then by offering incentives.
Service innovation			
	Innovation is readily accepted in program/project management	Encourages innovation in program/project management”.	Reworded

Table 3: Scholars remarks and items modification list

The final survey composed of 6 sections. The first section consisted of demographic questions such as organisation name, department name, department type, position hold etc. The second section included four items related to exploration; the third section covered 11 items measured NPM construct; the fourth section included five items related to service innovation; the fifth section measured six items related service quality construct; the final section included five items related to measurement of exploitation. (please refer to Appendix 4 for final research questionnaire)

Section two

Activities associated with external opportunities

My department

1. Challenges outmoded traditions/practices/sacred cows
2. Has enough flexibility to respond quickly to changes in customer needs and demands
3. Reacts rapidly to changes in public needs (e.g., through shifting organisational priorities)
4. Supports the reconfiguration of department activities to respond to external changes

Section three

Performance-oriented reforms

5. Measures outputs and outcomes
6. Focuses on improving efficiency
7. Relies extensively on outsourcing
8. Enters into Public-Private Partnerships
9. Has decentralised organisational structure and processes
10. Gives managers autonomy to make decisions
11. Has strong financial management e.g. minimising costs
12. Sets performance targets
13. Offers incentives to employees
14. Responds to customer needs and preferences

15. Measures customer satisfaction

Section four

Service innovation

16. Encourages innovation in program/project management
17. Emphasises service innovation
18. Constantly seeks new ways to better service our customer
19. Changes/modifies service approaches to satisfy customer requirements
20. Consistently introduces new service

Section five

Service quality

21. Employs up-to-date equipment in service provision
22. Is always reliable when providing services
23. Promptly responds to customer requests when providing services
24. Provides services in a trustful relationship to our customer
25. Always aims to satisfy customer needs when providing services
26. Provides services efficiently for customers

Section six

Activities associated with operational efficiency

27. Collaborates to support organisational objectives
28. Uses resources efficiently
29. Supports the achievement of efficiency-related objectives
30. Usually makes decisions that facilitate the efficient utilisation of resources

31. Organises work tasks to achieve efficiency

Moreover, after finalising the English version of the questionnaire, it was then translated into the Arabic version. This is because it is very crucial to distribute the questionnaire in Arabic as most of the employees working in the government sector are national and so the communicated language is Arabic. Therefore, after the translation and having it checked by Arabic academic, the questionnaire was revised and reviewed by another Arabic translator to ensure the questionnaire is accurate and well worded.

5.3 Survey Testing

It is always necessary to conduct a pilot study before carrying out the actual and final survey. The reason behind this is that not only does it ensure that the actual survey questions will do well but it also ensures that the questionnaire as a whole operates well. As certain problems may come up after conducting the actual survey, these problems can then be addressed if a pilot study has been carried out before. Having a pilot survey will help to recognise questions where respondents feel uncomfortable or where their interest is lost. This will also help the researcher with regard to the suitability of instructions. It will also help the researcher with regard to the flow of the questionnaire and if the questions need to be rearranged. Also, while conducting a pilot study, the researcher will come across questions that are not understood well by the respondents. Furthermore, it will help to assess the final survey instrument and data collection method. This test helps in studying the reliability of the collected data and validity of the questions used in the questionnaire. As a result, no matter how much short of time, a pilot study should always be undertaken, as a trial run is always vital, to know if a questionnaire will succeed (Plattfaut et al. 2015).

Keeping all this in mind, the pilot study procedure carried out before approaching the actual sample of 150 managers attempted to assess the final survey instrument (including all constructs) and data collection method. The people selected for this test were independent of the actual sample. However, they were representative of the sample on which the actual questionnaires carried out (Bryman & Bell 2015). An initial list of potential survey participants was randomly selected using contact of people working in government. The questionnaire was made available online to respondents using survey monkey website. The link to the web survey was sent to potential participants through their email. The questionnaire was sent to one hundred individuals working at an operational or functional unit in the government. A total of forty-six individuals completed the survey, resulting in a response rate of 48 percent.

The data were analysed using the Statistical Package for Social Sciences (SPSS). All questions were made mandatory for respondents to answer all questions in the survey. Therefore, there were no missing values. Furthermore, in this study the outliers were tested and found that there were no extreme responses identified. The consistency and the internal reliability of all the scales was assessed using Cronbach's Alpha reliability test. The Cronbach's Alpha value should be 0.7 or higher (Hair et al. 2014). The results show that Cronbach's Alpha were 0.851 for Exploration, 0.897 for Exploitation, 0.882 for NPM, 0.951 for Service Innovation, and 0.917 for Service Quality. The Cronbach's Alpha for all the variables have achieved values higher than 0.7, thus, the measurements scale was reliable.

Chapter 7: Research Results

7.1 **Introduction**

This chapter contains systematic data analysis that were done by using the Statistical Package for Social Sciences (SPSS). The hypotheses testing and mediation analysis was done by using the Analysis of Moment Structures (AMOS) software. This chapter contains sections that discuss missing values, outliers, data normality assessment, data linearity and homoscedasticity assessment, multicollinearity, and demographic data analysis. Furthermore, it consists of exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and testing the convergent and discriminant validity. Moreover, the data analysis was completed by testing the advanced analysis that contains structural model, hypotheses testing and mediation analysis.

7.2 **Preliminary Data Analysis**

7.2.1 Checking Missing Values

The first and foremost step for data preparation for further analysis is checking and examining the missing values of the respondents. Missing data defined as the unavailability of valid values on one or more variables for analysis, also Hair et al. (2014, p. 40) posit that "Missing data often occur when a respondent fails to answer one or more questions in a survey". The effects of missing data can influence the findings of the generalisability. Usually, the choice of imputation method is used for missing values data treatment and prepare the data for further analysis (Hair et al. 2014). In this research, the setting of the survey is made mandatory for respondents to answer all questions so that they did not leave any missing values. Thus, the missing values issues resolved and no missing data analysis is required.

7.2.2 Checking for Outliers

Extreme responses or outliers may affect empirical analysis outcome (Hair et al. 2014). Hair posited several methods to detect the outliers. For this research, a univariate detection method was used to identify an extreme response. This help to find the outliers on each of the variables solely. However, for a sample size of 80 or less, a value of 2.5 or greater are defined as an outlier. In this research, the results of the analysis of variables standard scores presenting values up to 4, as suggested by Hair et al. (2014) for large sample size the threshold value can increase up to 4. Hence, there are no outliers identified for this study.

7.2.3 Assessing Data Normality

Data normality generally defined as the normal distribution curves of gathered data. Hair et al. (2014) expressed that data normality is the first and foremost step for multivariate data analysis procedure. There are various methods used for assessing data normality. The z value of skewness and kurtosis is widely used in researches for data normality assessment as a base-line and standardised method. The standardised critical values are 2.58 at 0.01 or 1.96 at 0.05 level. If the values are greater from these standardised values then it's a non-normal data distribution. Moreover, the sample size plays a vital role for data normality, the greater number of sample size the chances of non-normality issues is eliminated. However, in this research the sample size of 157 respondents diminishes the effect of non-normality (Hair et al. 2014).

It is important to know if the distribution for an individual variable is normal. Though the data do not have to be perfectly normally distributed, they are approximately normally distributed (Field 2018). To assess the normality of the distribution, the researcher used the normal probability plot method. In a large sample size of 157 respondent, the researcher examined the shape of the distribution visually (Field 2018); also, a visual inspection of the bell-shaped histograms and normal Q-Q plots as illustrated in Figure 2 shows that the data were approximately normally distributed for all the variables, with skewness of -1.548 and kurtosis of 3.067 for the EXPLOR, a skewness of -1.241 and kurtosis of 4.882 for the NPM, a skewness of -0.995 and kurtosis of 1.075 for the SERVINNOV, a skewness of -0.713 and kurtosis of 0.041 for the SERVQUAL, and skewness of -1.416 and kurtosis of 2.171 for the EXPLOIT. However, the data are a little skewed and kurtotic, but it does not differ significantly from normality. Curran et al. (1996) suggested that the accepted measures of less than 2 for the skewness and 7 for the kurtosis. Therefore, the researcher assumes that the data are approximately normally distributed in terms of skewness and kurtosis.

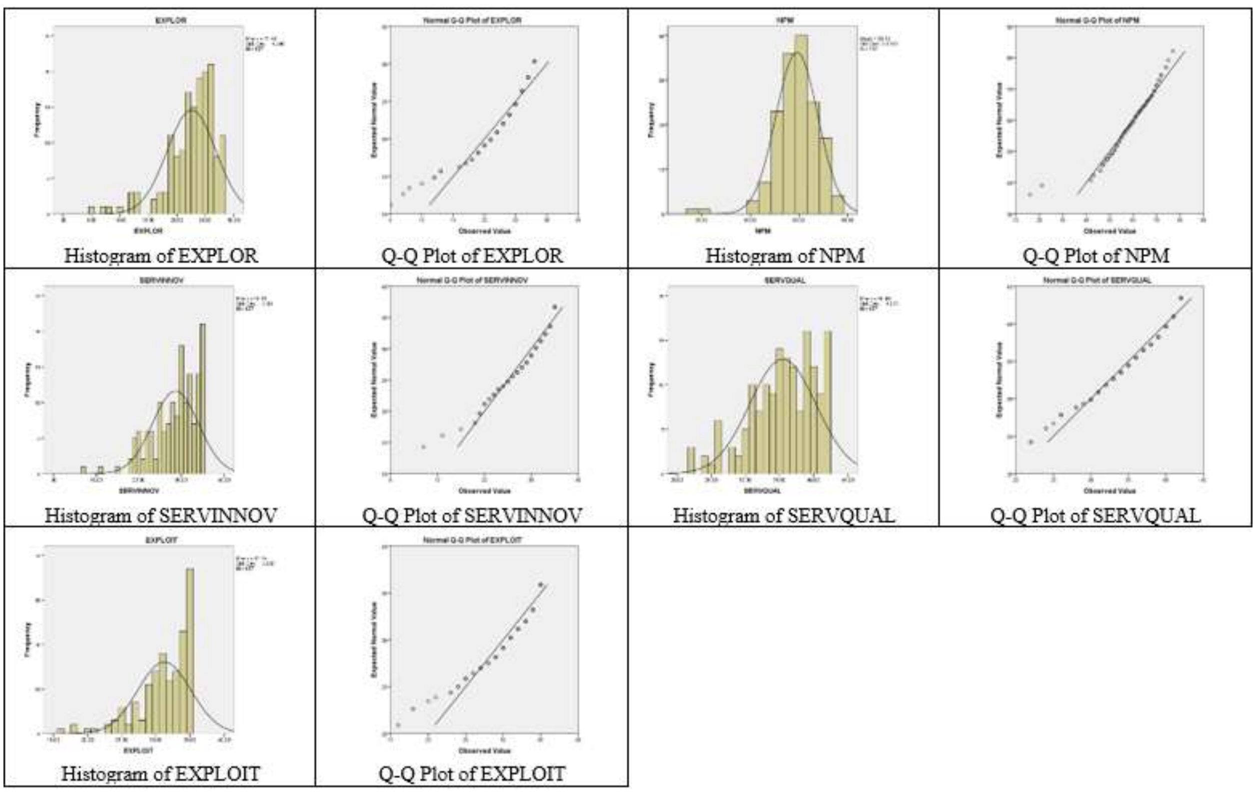

Figure 2: Distributions scores and normal Q-Q plots of research variables

7.2.4 Assessing Data Linearity and Homoscedasticity

Multivariate data analysis requires the assessment of linearity and homoscedasticity before further analysis. These assumptions are assessed by examining the graph, which shows residuals (Hair et al. 2014). The predicted values and errors were converted into z-score and then plotted on scatterplot for assessing the assumptions. Figure 3 shows that the assumptions of linearity and homoscedasticity are fulfilled through the scatterplot of the standardised residuals and standardised predicted values. It expressed that graph did not show any residuals curve. It also shows that these residuals are normally distributed in the normal P-P plot of the standardised errors. Furthermore, in Figure 3, the scatterplot shows that one case is greater than standardised residuals values 3, and close to 4. This value might create an issue of biases and affect the multivariate data analysis. However, the results of Cook’s distance statistics (see Appendix 5) values were below the standardised limit of 1, so that it will not affect the model.

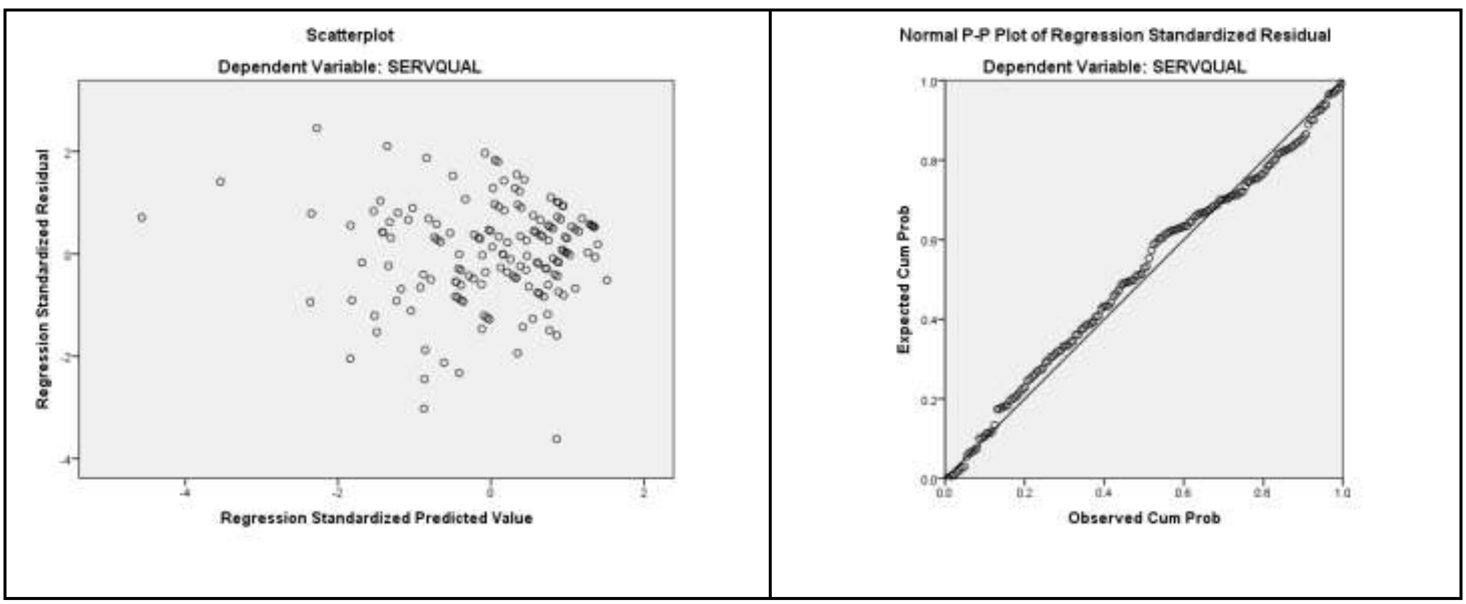

Figure 3: Scatterplot and normal P-P plot of standardised residuals

7.2.5 Assessing Multicollinearity

Multicollinearity assessment described as examining the strong relationship between two or more predictors. The high-level collinearity creates several issues include model fit problem, increase the standard errors of the b coefficient and this results to unbalancing the sample of the equation. Furthermore, Field (2018) posit that multicollinearity not only limits the variance size in the outcome but also decrease the assessment ability of each predictor. The multicollinearity results (see Appendix 6) show no issue because the tolerance level values are greater than 0.1 and the VIF values are less than 10.

7.2.6 Demographic Data

Demographics information included in the first section of the survey. During the around two-months data collection period, twenty-two government service organisations were selected to co-operate in this study. After filtering the repeated departments and deleting unnecessary data, one hundred and fifty-seven out of one hundred sixty-three of the questionnaires were included and found to be suitable and usable for data analysis, representing a response rate of 96%. This study sample includes two types of government organisation; ministerial (service ministry) and non-ministerial (service authority). The organisation type frequency Table 4 and pie charts Figure 4 shows that the majority of the responses were 119 (75.8%) from ministerial organisation and 38 (24.2%) from non-ministerial organisation.

Organisational Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ministerial (Service Ministries)	119	75.8	75.8	75.8
	Non- Ministerial – (Authorities)	38	24.2	24.2	100.0
	Total	157	100.0	100.0	

Table 4: Organisational type demographic data

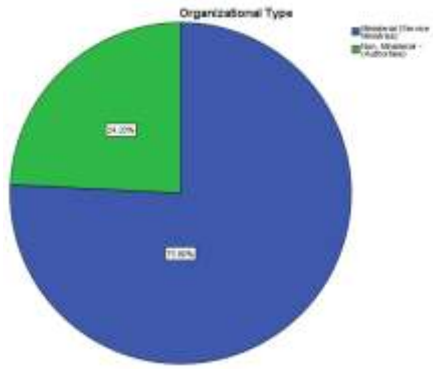

Figure 4: Pie chart of organisational type

The department type frequency Table 5 and the pie chart Figure 5 illustrates that the response of employees working in the operational department were 88 (56.1%), functional department 31 (19.7%) and other service department 38 (24.2%).

Department Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Operational department	88	56.1	56.1	56.1
	Functional department	31	19.7	19.7	75.8
	Other (please specify):	38	24.2	24.2	100.0
	Total	157	100.0	100.0	

Table 5: Department type demographic data

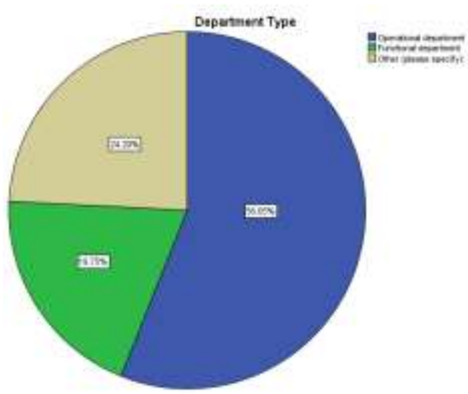

Figure 5: Pie chart of department type

Moreover, the management level frequency Table 6 and pie chart Figure 6 shows that the majority of the responses were at the middle management position (managers and directors) 126 (80.3%), then 21 (13.4%) working at the lower management (supervisors) followed by 10 (6.4%) working at the top management level (general managers).

Management Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Top management	10	6.4	6.4	6.4
	Middle management	126	80.3	80.3	86.6
	Lower management	21	13.4	13.4	100.0
	Total	157	100.0	100.0	

Table 6: Management level demographic data

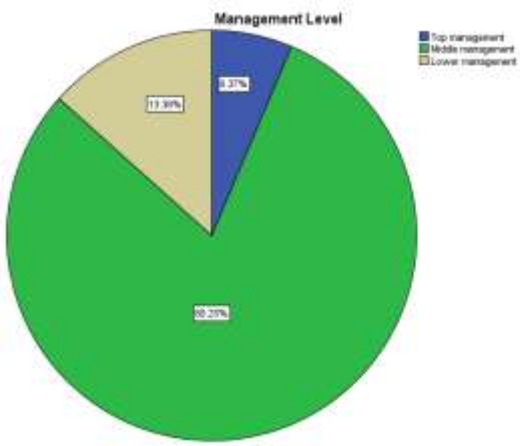

Figure 6: Pie chart of management level

A large sample of the individual from each organisation asked to rate their department, i.e. at the organisational level, and this approach is more consistent and effective than relying on a single informant to answer questions on behalf of an entire organisation which have some limitation (Gibson & Birkinshaw 2004). This procedure was undertaken in Twenty-two government service organisations. The organisation name frequency Table 7 and pie chart Figure 7 illustrates the total number of responses from each organisation. Hence, the sample was enough to carry out the statistical analysis at the organisation level.

Organisation Name

	Frequency	Percent

Valid	Civil Service Employees Pension Fund	8	5.1
	Ministry of Agriculture and Fisheries	8	5.1
	Ministry of Civil Service	7	4.5
	Ministry of Commerce and Industry	7	4.5
	Ministry of Education	7	4.5
	Ministry of Endowments and Religious Affairs	7	4.5
	Ministry of Environment and Climate Affairs	7	4.5
	Ministry of Health	7	4.5
	Ministry of Heritage and Culture	7	4.5
	Ministry of Higher Education	6	3.8
	Ministry of Housing	7	4.5
	Ministry of Justice	6	3.8
	Ministry of Manpower	7	4.5
	Ministry of Regional Municipal and Water Resources	7	4.5
	Ministry of Social Development	7	4.5
	Ministry of Tourism	7	4.5
	Muscat Municipality	8	5.1
	Public Authority for Consumer Protection	8	5.1
	Public Authority for Craft Industries	7	4.5
	Public Authority for Social Insurance	8	5.1
	Public Prosecution	7	4.5
	The National Center for Employment	7	4.5
	Total	157	100.0

Table 7: Organisation name demographic data

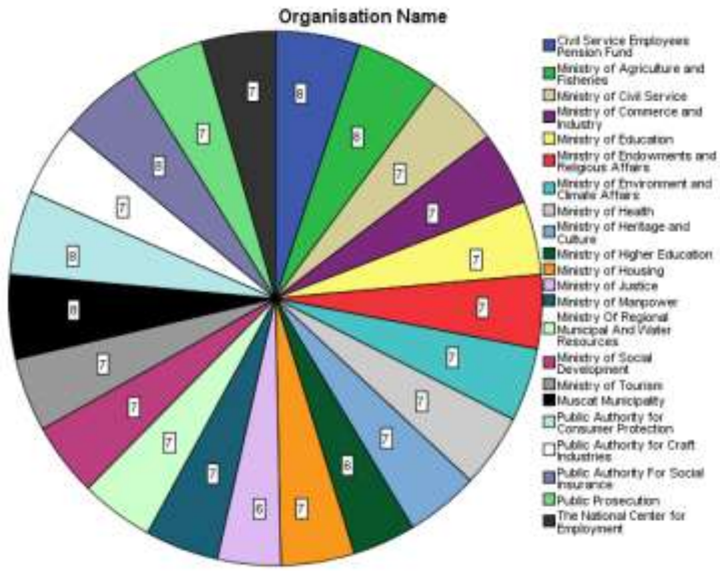

Figure 7: Pie chart of organisation name

The analysis of the demographic data will help to better understand certain aspects about the studied organisations, which in turn will help to build perceptions during the analysis and the interpretation of the results. First, having different type of service departments will increase the probability of observing the performance of various service provided by the units. Second, management level will highlight the level of managers in each unit as they are perceived more reliable, have knowledge of their department practice (Grawe et al. 2009) and accurate when it comes to providing data (Mom et al. 2007: Zahra & Covin 1994). Third, the large sample of the individual from Twenty-two government organisations highlights a broad representative sample, increase variation as well as enhance validity (Kyrgidou & Spyropoulou 2013)

7.3 Exploratory Factor Analysis

Exploratory factor analysis (EFA) gives an edge to the researchers for grouping large numbers of items into variables factors. The number of variables are highly correlated within groups through factor loading (Hair et al. 2014). For EFA, the minimum sample size required is 100 or more to be factored, and the observations must be more than the variables. These criteria lead to have appropriate results (Hair et al. 2014). For this research, the sample size was 157 responses and the 31 variables.

7.3.1 Assumptions in Factor Analysis

To test the assumptions of factor analysis, first step is to conduct the Bartlett's test of sphericity where significant ($p < .05$) confirms strong correlations between the variables. Furthermore, the second step to test the factor analysis assumptions, is the sample adequacy measure should produce value greater than .50 to obtain intercorrelations among the variables (Hair et al. 2014). In this research, the assumptions were met as the values are shown in Table 8 confirms that bartlett's test of sphericity was significant. Moreover, the measures of sample adequacy values are higher than .50, which confirms the degree of intercorrelations among the variables. Therefore, the researcher can proceed with EFA.

Constructs	Kaiser-Meyer-Olkin (KMO) Sampling Adequacy	Chi-Square Test (df)	Bartlett's Test of Sphericity (Significance Value)
EXPLOR, NPM, SERVINNOV, SERVQUAL, EXPLOIT	0.922	2644.076	.000

Table 8: Results of sample adequacy and Bartlett tests

7.3.2 Exploratory Factor Analysis

In this research, the exploratory factor analysis was conducted using SPSS software. The data was analysed via maximum likelihood (ML) extraction method with promax rotation to rotate the factors. ML is widely used when data is normally distributed (Fabrigar et al. 1999). In addition, Curran et al. (1996, p. 16) posit that "Normal theory maximum likelihood (ML) estimation has been used to analyse the majority of CFA models.". Since the measurement models will be evaluated later in this study by running CFA using AMOS, ML used to extract the factors from the data during EFA to preserve consistency in method.

The result of the first EFA (see Appendix 7) produced six factors as opposed to the number of the developed constructs of five. Items EXPLOR1, NPM3, NPM4 and EXPLOIT4 have no value of loading. Also, items SERVINNOV1 and SERVINNOV2 clearly loaded in one factor while items SERVINNOV3, SERVINNOV4 and SERVINNOV5 loaded in another factor. Furthermore, item SERVQUAL1 has a value of .376 i.e. below the accepted threshold of 0.45 (Hair et al. 2014). However, the variables have no cross-loading.

Consequently, items with no loading value and low value of loading was removed first i.e. EXPLOR1, NPM3, NPM4 and SERVQUAL1. Then performed the EFA for the second time. Accordingly, twenty-seven of the initial thirty-one items were retained. The results of the final attempt are presented in Table 9. It shows that the pattern matrix consists of five factors with all items were loaded accurately on the intended factors above threshold of 0.45. The first factor consists of EXPLOR 2, EXPLOR 3 and EXPLOR 4. The second factor covers NPM items i.e. NPM1, NPM2, NPM5, NPM6, NPM7, NPM8, NPM9, NPM10 and NPM 11. The third factor consists of SERVINNOV 1, SERVINNOV 2, SERVINNOV 3, SERVINNOV 4 and SERVINNOV 5. The fourth factor covers items SERVQUAL 2, SERVQUAL 3, SERVQUAL 4, SERVQUAL 5 and SERVQUAL 6. The last factor consists of items EXPLOIT 1, EXPLOIT 2, EXPLOIT 3, EXPLOIT 4 and EXPLOIT 5.

Pattern Matrix[a]

	Factor				
	1	2	3	4	5
EXPLOR2					.687
EXPLOR3					.799
EXPLOR4					.859
NPM1	.611				

NPM2	.644				
NPM5	.596				
NPM6	.662				
NPM7	.641				
NPM8	.548				
NPM9	.645				
NPM10	.595				
NPM11	.462				
SERVINNOV1				.498	
SERVINNOV2				.661	
SERVINNOV3				.850	
SERVINNOV4				.830	
SERVINNOV5				.637	
SERVQUAL2		.543			
SERVQUAL3		.770			
SERVQUAL4		.910			
SERVQUAL5		.688			
SERVQUAL6		.492			
EXPLOIT1			.906		
EXPLOIT2			.847		
EXPLOIT3			.860		
EXPLOIT4			.451		
EXPLOIT5			.498		

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalisation.

a. Rotation converged in 7 iterations.

Table 9: Pattern matrix of factor extractions

The factor results of eigenvalues and explained variance are shown in Table 10. It shows that the first factor has an eigenvalue of 11.549 and the 11 items explain 42.77% of the total variance. These items reflect the theoretical construct of NPM. Moreover, the second factor has 2.07 eigenvalue, and the 5 items explain 7.58% of the total variance. These items are reflecting the theoretical constructs of Service Quality. The next third factor has 1.694 eigenvalue and the 5 items explain 6.27% of the total variance. These items reflect the theoretical construct of Exploitation. The next fourth factor has an eigenvalue of 1.257 and the 5 items explain 4.65% of the total variance and these items reflect the theoretical construct of Service Innovation. The last element has an eigenvalue of 1.137 and the 3 items explain 4.21% of the total variance and these items reflect the theoretical construct of Exploration. The five factors explained 65.49% of the variance and meets the eigenvalue criterion.

	Number of items	Factor Loading	Eigen-Value	% of Variance	Cumulative %
NPM	11	.611 .644 .596 .662 .641 .548 .645 .595 .462	11.549	42.773	42.773
SERVQUAL	5	.543 .770 .910 .688 .492	2.047	7.583	50.356
EXPLOIT	5	.906 .847 .860 .451 .498	1.694	6.274	56.630
SERVINNOV	5	.498 .661 .850 .830 .637	1.257	4.655	61.285
EXPLOR	3	.687 .799 .859	1.137	4.212	65.497

Table 10: Components' variance extracted and eigenvalue

Figure 8 shows that the scree plot curve turned out to be horizontal after factor 5, also, all the 5 factors have eigenvalue greater than 1and above the inspection line.

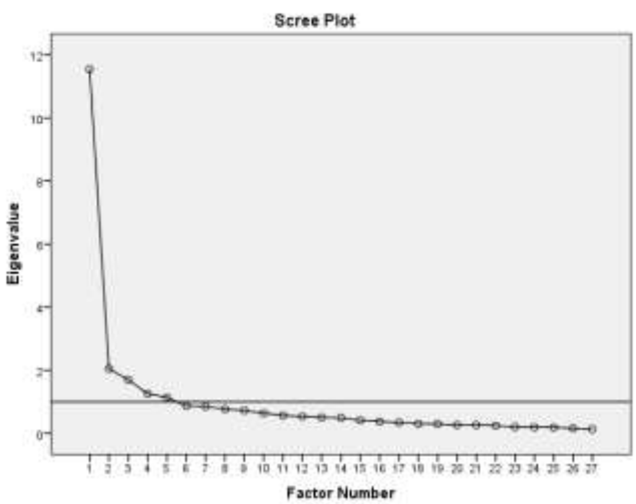

Figure 8: Eigenvalue scree plot of the exploratory factor analysis

The EFA performed at ML extraction method with promax rotation approach. The results of the study confirmed five latent variables which reflect the theoretical constructs of this research and it shows that 27 items have a significant and appropriate factor loading on 5 factors. Table 11 presents the EFA results include variable names, eigenvalues, variance extracted, factor loadings, codes and statements.

Latent variable name	Eigenvalue extracted	Variance extracted	Factor loading	Factor code	Item Statement
Component 1 New Public Management	11.549	42.77	.611	NPM1	Measures outputs and outcomes
			.644	NPM2	Focuses on improving efficiency
			.596	NPM5	Has decentralised organisational structure and processes
			.662	NPM6	Gives managers autonomy to make decisions
			.641	NPM7	Has strong financial management e.g. minimising costs
			.548	NPM8	Sets performance targets
			.645	NPM9	Offers incentives to employees
			.595	NPM10	Responds to customer needs and preferences
			.462	NPM11	Measures customer satisfaction
Component 2 Service Quality	2.047	7.58	.543	SERVQUAL2	Is always reliable when providing services
			.770	SERVQUAL3	Promptly responds to customer requests when providing services
			.910	SERVQUAL4	Provides services in a trustful relationship to our customer
			.688	SERVQUAL5	Always aims to satisfy customer needs when providing services
			.492	SERVQUAL6	Provides services efficiently for customers
Component 3 Exploitation	1.694	6.27	.906	EXPLOIT1	Collaborates to support organisational objectives
			.847	EXPLOIT2	Uses resources efficiently
			.860	EXPLOIT3	Supports the achievement of efficiency-related objectives
			.451	EXPLOIT4	Usually makes decisions that facilitate the efficient utilisation of resources
			.498	EXPLOIT5	Organises work tasks to achieve efficiency
Component 4 Service Innovation	1.257	4.65	.498	SERVINNOV1	Encourages innovation in program/project management
			.661	SERVINNOV2	Emphasises service innovation
			.850	SERVINNOV3	Constantly seeks new ways to better service our customer
			.830	SERVINNOV4	Changes/modifies service approaches to satisfy customer requirements
			.637	SERVINNOV5	Consistently introduces new service

Component 5 Exploration	1.137	4.21	.687	EXPLOR2	Has enough flexibility to respond quickly to changes in customer needs and demands
			.799	EXPLOR3	Reacts rapidly to changes in public needs (e.g., through shifting organisational priorities)
			.859	EXPLOR4	Supports the reconfiguration of department activities to respond to external changes

Table 11: Summary of exploratory factor analysis findings

7.3.3 Reliability Analysis, Mean Values, and Standard Deviations

Reliability analysis performed to examine that the scale items measures the same construct (Hair et al. 2014). To assess the reliability of the scale measurement, the researcher conducted the analysis of item-to-total correlations and inter-item correlation (Hair et al. 2014). The results in the attached Appendix 8 shows the individual analysis of each variables (the reliability statistics). The correlations are higher than .50 for its items to the summated scale score. Also, the correlations are higher than .30 among its items. It concluded that the five variables are reliable scale for measurement.

Furthermore, Cronbach Alpha reliability is the popular test that is used for examining the scale consistency, and instrument quality assessment. Higher the values show higher quality and consistency of scale while lower shows poor scale performance (Churchill 1979). The Cronbach's Alpha value should be 0.7 higher (Hair et al. 2014). The results show that Cronbach's Alpha for all the variables have achieved values between 0.82 and 0.89 that's higher than 0.7, thus, the measurements scale is reliable. Table 12 presents the values of Cronbach's Alpha, mean and standard deviation of the constructs.

Variables	Mean	Std. Deviation	Cronbach's Alpha
Exploration	5.79	1.08	0.82
New Public Management	5.41	0.87	0.87
Service Innovation	5.72	1.08	0.89
Service Quality	5.99	0.80	0.86
Exploitation	6.25	0.78	0.86

Table 12: Means, standard deviations, and reliability analysis

7.3.4 Correlation

Correlation test illustrates the association between the variables. It supports the researcher to assess the relationships strength between the variables (Field 2018). The correlation was examined through running the correlation analysis using Pearson's correlation coefficient test and the values determines the strength of the variables. It lies between +1 to -1 values; if the coefficient is +1 it means the association between the variables is perfectly positive, and if the coefficient is -1 it means the association between the variables is perfectly negative, and a value of 0 means no linear association between the variables. Furthermore, the values of ±0.1 reflect as a small effect, ±0.3 reflect as a medium effect, and ±0.5 reflect as a large effect among variables (Field 2018).

The correlations between the study variables are presented in Table 13. The result indicates that EXPLOR correlates positively and significantly to EXPLOIT ($r=.471$, $p < .01$), NPM ($r=.548$, $p < .01$), SERVINNOV ($r=.547$, $p < .01$), and SERVQUAL ($r=.349$, $p < .01$). The EXPLOIT correlates positively and significantly to NPM ($r=.558$, $p < .01$), SERVINNOV ($r=.655$, $p < .01$), and SERVQUAL ($r=.601$, $p < .01$). NPM correlates positively and significantly to SERVINNOV ($r=.699$, $p < .01$), and SERVQUAL ($r=.568$, $p < .01$). Finally, SERVINNOV correlates positively and significantly to SERVQUAL ($r=.653$, $p < .01$).

Correlations

		EXPLOR	EXPLOIT	NPM	SERVINNOV	SERVQUAL
EXPLOR	Pearson Correlation	1	.471**	.548**	.547**	.349**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	157	157	157	157	157
EXPLOIT	Pearson Correlation	.471**	1	.558**	.655**	.601**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	157	157	157	157	157
NPM	Pearson Correlation	.548**	.558**	1	.699**	.568**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	157	157	157	157	157

SERVINNOV	Pearson Correlation	.547**	.655**	.699**	1	.653**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	157	157	157	157	157
SERVQUAL	Pearson Correlation	.349**	.601**	.568**	.653**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	157	157	157	157	157

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

Table 13: Correlation table of study variables

7.4 Common Method Bias

In this research, the researcher attempts to eliminates the issue of common bias at the instrument development stage. The questionnaire was tested and verified by experts in the relative field of public administration, public service, management, service innovation and quality fields experts. Therefore, the input received from the experts helped in improving the instrument. The language used in both English and Arabic version was clear, short and easy sentences, the negatively worded questions reformed to positively worded questions, avoided double-barreled questions, a pilot study conducted with 40 respondents. Besides, the respondents were professional with background and experience related to their fields. These considerations help in reducing and eliminating the common bias at the lowest level. Furthermore, using Harman's single factor test, it was found that the value of the highest variance of a single factor is 42.77% of the 65.49% explained variance, suggesting that common method bias is not a problem in this study. As the bias might occur if one factor explains the majority of the covariance among the measures (Podsakoff & Organ 1986) and this does not exist in this study.

7.5 Confirmatory Factor Analysis

To answer the research questions and to test the hypotheses, the structural equation modelling (SEM) multivariate data analysis technique used. In this study, the first step is to starts with is the confirmatory factor analysis (CFA) test, and the second step is the structural model test

(Hair et al. 2014). The CFA test analysis help to find out how the observed variables represents the latent variable. Before the analysis, number of factors are predetermined based on relevant theory. The confirmation or rejections of the research theoretical model depends on how it fits the real data. The CFA findings can be affected by several factors:

7.5.1 Sample Size

The sample size is an important element for SEM testing approach. A certain number of sample size depicts the appropriate results. However, different opinions and approaches are considered for what's sample size is appropriate for SEM. Numerous scholars and researchers gave their own opinion about the sample size required. A sample size of 200 is considered as appropriate for the SEM approach. On the contrary, a sample size of 100 is considered as the minimal sample size for SEM technique (Gallagher et al. 2008). In this research, the sample size is 157 which is most appropriate and suitable for this technique.

7.5.2 Model Identification

The objective of CFA is that the model should be overidentified. It also expressed that the unique covariance and variance should be higher than the number of estimated parameters which contains enough degree of freedom. The formula of unique covariance variance is 1/2[p(p+1)] (Hair et al. 2014). The p is the number of measured items. Thus, the unique covariances and variances resulted in 1/2[27(27+1)] = 378. The estimated number of parameters is 22 (indicator of variable loadings) + 27 (Error terms for indicators) + 15 (one variance for each construct and 10 unique covariances among constructs) = 64. Thus, 378 – 64= 314, means that the model is overidentified because it resulted in more degree of freedom than free parameters.

7.5.3 Factor Loadings and Goodness of Fit Indices

The significant standardised factor loading is the key element and determinant for construct validity and measurement model. The threshold for standardised factor loadings should be higher than 0.5, while 0.7 and above are considered as good value (Fornel & Larcker 1981). Furthermore, the goodness of fit indices (GFI) measures the fit between the variables and how well the data is fitting the measurement model (Hair et al. 2014). There are several measures of model fit. One of the main measures is the CMIN (Chi-square) test. The non-significant p-values represented as good model fit. Also, there are important groups of model fit indices discussed in the literature to assess the goodness of fit (Hair et al. 2014; Gallagher et al. 2008). For instance, for the absolute fit indices, the root mean square error of approximation (RMSEA) value should be less then 0.8, and the normed chi-square (CMIN/DF) value should be less than 5. As for the incremental fit indices, the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Relative Fit Index (RFI) should be greater or equal to 0.9 for all. Also, for the parsimony fit indices, the Parsimony Adjusted Goodness-of Fit Index (PGFI) and the Parsimony Normed Fit Index (PNFI) values for both should be below 0.5. The major fit indices the researcher utilised in this research include normed chi-square (x^2/df), comparative fit index (CFI), non-normed fit index (TLI), and root mean square error of approximation (RMSEA). These major fit indices are essential and enough to indicates model fit (Gallagher et al. 2008; Schreiber et al. 2006).

7.5.4 Research Confirmatory Factor Analysis

Applying the maximum likelihood extraction method, the first attempt of CFA shows that NPM5 and NPM7 (see Appendix 9) have loading factor below 0.6. In addition, the model fit indices were 536.299 for x2, 1.708 for CMIN/DF, 0.899 for TLI, 0.910 for CFI, and 0.067 for RMSEA. In order to improve construct validity and goodness of fit, items NPM5 and NPM7 was deleted because they had lower loading. Furthermore, the correlation coefficients between NPM8 and SERVQUAL was a relatively high estimate, therefore the researcher decided to remove NPM8 as well to avoid having squared correlation higher than AVE for NPM measures (Fornell & Larcker 1981). Also, to improve the overall model fit, the error covariances of observable variables within the same construct were applied.

The second attempt of CFA shows that all items have loading that exceeded 0.6 i.e. within the acceptable range (Gallagher et al. 2008). The results of the confirmatory factor analysis are presented in Table 14.

			Estimate
NPM11	<---	NPM_F	.647
NPM10	<---	NPM_F	.701
NPM9	<---	NPM_F	.614
NPM6	<---	NPM_F	.647
NPM2	<---	NPM_F	.800
NPM1	<---	NPM_F	.744
EXPLOR4	<---	EXPLOR_F	.788
EXPLOR3	<---	EXPLOR_F	.884
EXPLOR2	<---	EXPLOR_F	.683
EXPLOIT5	<---	EXPLOIT_F	.733
EXPLOIT4	<---	EXPLOIT_F	.683
EXPLOIT3	<---	EXPLOIT_F	.810
EXPLOIT2	<---	EXPLOIT_F	.783
EXPLOIT1	<---	EXPLOIT_F	.883
SERVQUAL6	<---	SERVQUAL_F	.716
SERVQUAL5	<---	SERVQUAL_F	.861
SERVQUAL4	<---	SERVQUAL_F	.809
SERVQUAL3	<---	SERVQUAL_F	.730
SERVQUAL2	<---	SERVQUAL_F	.695
SERVINNOV5	<---	SERVINNOV_F	.799
SERVINNOV4	<---	SERVINNOV_F	.836
SERVINNOV3	<---	SERVINNOV_F	.837
SERVINNOV2	<---	SERVINNOV_F	.832
SERVINNOV1	<---	SERVINNOV_F	.689

Table 14: Standardised regression weights

Thus, the CFA procedure was successful and the diagram of the measurement model Figure 9 shows the values of the standardised factors loading above 0.6.

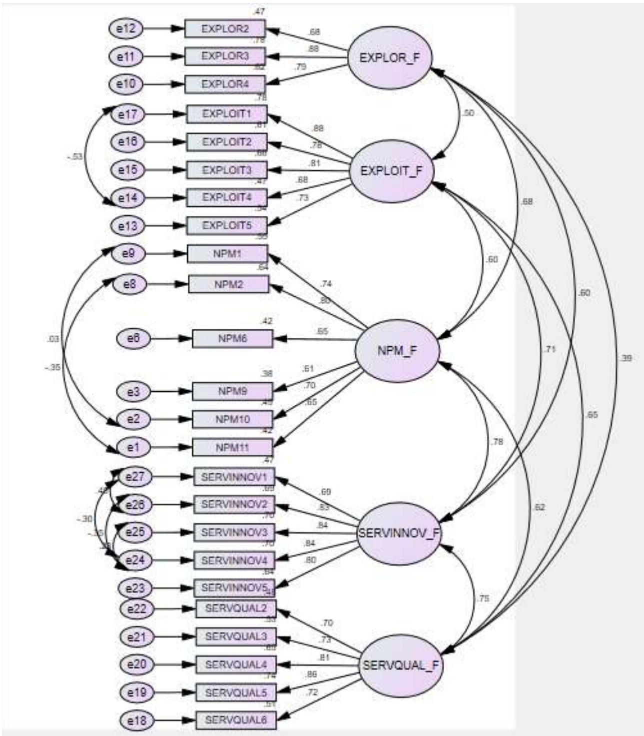

Figure 9: Research measurement model visual diagram

The model fit indices improved as well. The resulting x^2 was 326.295, and the CMIN/DF value of 1.388 is within the suggested value of less than 5 (Hair et al. 2014). The TLI value of 0.952 and CFI value of 0.959 are both above the recommended value 0.9 (Gallagher et al. 2008; Hair et al. 2014). The model also yielded a RMSEA value of 0.05 which is also within the recommended value of less than 0.08 (Hair et al. 2014). The model goodness of fit indices produced a satisfactory and good fit between the data and the measurement model. Table 15 reports the measurement model of goodness of fit tests.

CMIN	**CMIN/DF**	**TLI**	**CFI**	**RMSEA**
326.295 p-value .000	1.388	.952	.959	.050

Table 15: Measurement model summary of goodness of fit tests

Therefore, the validity analysis can be performed since the fit indices that are independent of the influence of sample size are acceptable.

7.6 Construct Validity

Construct validity is one of the main procedures used to assess the research measures. It provides an overview of whether the measures really reflect what are supposed to measure (Gallagher et al. 2008). The construct validity is assessed through four types of validity include face validity, convergent validity, discriminant validity, and nomological validity (Hair et al. 2014). The face validity was assessed during the scale and instrument development stage where the content was analysed and validated. The convergent validity measures the common shared variance between the indicators of the same construct. The discriminant validity assesses the construct's divergence and how the construct is different from other contracts. The nomological validity refer to inter-construct correlations and their significance levels. The construct validity should be performed before running SEM technique (Hair et al. 2014).

7.6.1 Convergent Validity

Average variance extracted (AVE) is the "measure the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error (Fornell & Larcker 1981, p. 7). The values of AVE should be greater than 0.5 and this indicate that the construct have achieved convergent validity. AVE formula: AVE= $\sum_{i=1}^{n} L\, i^2$/n. Li represents the standardised factor loading of i item, and n is the number of total items (Hair et al. 2014).

Exploration AVE= 0.6832+0.8842+0.7882/3= 0.62

Exploitation AVE= $0.883^2+0.783^2+0.810^2+0.683^2+0.733^2/5= 0.61$

New public management AVE= $0.744^2+ 0.80^2+ 0.647^2+ 0.614^2+ 0.701^2+ 0.647^2/6= 0.48$

Service innovation AVE= $0.689^2 + 0.832^2 + 0.837^2 + 0.836^2 + 0.799^2/5 = 0.64$

Service quality AVE= $0.695^2+0.730^2+0.809^2+0.861^2+0.716^2/5= 0.58$

All the values of average variance extracted estimates of the constructs were above 0.50, which is above the level recommended by Fornell and Larcker (1981), and Hair et al. (2014). However, NPM value is a bit below the minimum limit but at the borderline acceptable value which is still adequate (Fornell & Larcker 1981).

7.6.2 Composite Reliability

Composite reliability (CR) is the internal consistency measure of the construct (Fornell & Larcker 1981). The values of construct reliability should be above 0.7 and this indicate that the construct have achieved composite reliability. Formula of CR = $(\sum_{i=1}^{n} L\,i)^2 / (\sum_{i=1}^{n} L\,i)^2 + (\sum_{i=1}^{n} e_i)$. $L\ i$ represents the standardised factor loading of i item and e_i is the error variance term of i (Hair et al. 2014).

Exploration CR= $(0.683+0.884+0.788)^2 / (0.683+0.884+0.788)^2 + (0.534+0.219+0.379) = 0.83$

Exploitation CR= $(0.883+0.783+0.810+0.683+0.733)^2 / (0.883+0.783+0.810+0.683+0.733)^2 + (0.220+0.387+0.344+0.534+0.463) = 0.88$

New public management CR= $(0.744+0.800+0.647+0.614+ 0.701+ 0.647)^2 / (0.744+0.800+0.647+0.614+ 0.701+ 0.647)^2 + (0.446+0.360+0.581+0.509+0.581) = 0.87$

Service innovation CR= $(0.689+ 0.832+ 0.837+ 0.836+ 0.799)^2 / (0.689+ 0.832+ 0.837+ 0.836+ 0.799)^2 + (0.525+0.308+0.299+0.301+0.362) = 0.89$

Service quality CR= $(0.695+.730+.809+.861+.716)^2 / (0.695+.730+.809+.861+.716)^2 + (0.517+0.467+0.346+0.259+0.487) = 0.87$

All the measurement models are having CR greater than 0.8 which are greater than the recommended value 0.7 suggest by Field (2018), Fornell and Larcker (1981) and Hair et al. (2014) which confirm that each of the scales is reliable.

7.6.3 Discriminant validity

Discriminant validity is the degree to which a measure does not correlate with another measure (Fornell & Larcker 1981; Hair et al. 2014) i.e. the AVE value of any two variables should be greater than their squared correlation value. Table 16 represents the AVE squared root of the five constructs was greater than the correlations coefficients with the other measure. However, the correlation between NPM and SERVINNOV yielded same value of correlation estimate. This is not the results that the researcher was expecting, however, they were retained as it's better than deleting the whole construct. Furthermore, the values of the majority of inter-construct correlations are statistically significant.

	CR	EXPLOR	EXPLOIT	NPM	SERVINNOV	SERVQUAL
EXPLOR	0.83	**0.62**				
EXPLOIT	0.88	0.22**	**0.61**			
NPM	0.87	0.32**	0.29**	**0.48**		
SERVINNOV	0.89	0.29**	0.42**	0.48**	**0.64**	
SERVQUAL	0.87	0.12**	0.36**	0.30**	0.42**	**0.58**

Table 16: Construct reliability, convergent, and discriminant validity

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

Consequently, based on the results of examining the goodness of data fit, convergent validity and discriminant validity of the modified measurement model, it can be concluded that the final modified measurement model for assessing the constructs and their relative items in the construct was reliable and valid.

7.7 Structural Model and Hypotheses Testing

The second step of the SEM is the structural model and hypothesis testing (Hair et al. 2014). Five reliable latent variables that CFA produced are used in this analysis. Structural relationships are illustrated in Figure 10. The diagram clearly illustrates the path analysis model using the latent variable, and the relationship between the exogenous and endogenous variables. Furthermore, for a theoretical reason some covariance between the errors were applied. As a result, the model explains 39% of the variance in service quality, and the goodness of fit indices in Table 17 shows that the values are within the accepted range.

CMIN	CMIN/DF	TLI	CFI	RMSEA
418.600 p=.000	1.774	.904	.918	.071

Table 17: Structural model summary of goodness of fit tests

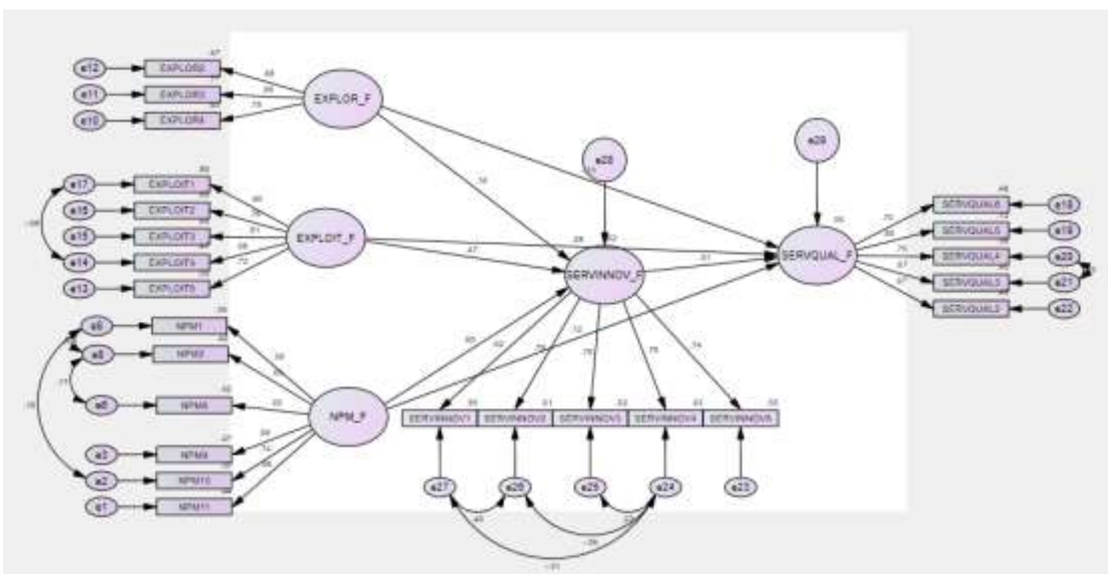

Figure 10: Research structural model visual diagram

7.7.1 The Relationships Between Exploration, Exploitation and Service Innovation

The path analysis test results show that EXPLOR relates positively and significantly to SERVINNOV (β= 0.179, t-value= 2.568, $p < .01$), and EXPLOIT relates positively and significantly to SERVINNOV (β= 0.474, t-value= 5.774, $p < .000$). Thus, hypothesis 1:

Exploration is positively related to service innovation, and hypothesis 2: Exploitation is positively related to service innovation are both supported.

7.7.2 The Relationships Between NPM and Service Innovation

The findings of path analysis indicate that NPM relates positively and significantly to SERVINNOV (β= 0.604, t-value= 5.399, $p < .000$). Thus, hypothesis 3: NPM is positively related to service innovation is supported.

7.7.3 The Relationships Between Exploration, Exploitation and Service Quality

The relationships between EXPLOR and SERVQUAL (β= -.134, t-value= -1.752, p= .080) was not significant. However, the relationship between EXPLOIT and SERVQUAL was significant (β= .276, t-value= 2.734, p= .006). Thus, hypothesis 4: Exploration is positively related to service quality was not supported. Hypothesis 5: Exploitation is positively related to service quality was supported

7.7.4 The Relationships Between NPM and Service Quality

The findings of path analysis indicate that the relationship between NPM and SERVQUAL was not significant (β= 0.124, t-value= 1.022, $p < .307$). Thus, hypothesis 6: NPM is positively related to service quality was not supported.

7.7.5 The Relationships Between Service Innovation and Service Quality

The findings of path analysis indicate that SERVINNOV relates positively and significantly to SERVQUAL (β= 0.513, t-value= 3.452, $p < .000$). Thus, hypothesis 7: Service innovation is positively related to service quality was supported. Table 18 presents the findings of the models' path analysis and hypotheses tests.

Hypothesis	Standardised estimate	S.E.	C.R.	P	Results
H1 EXPLOR to SERVINNOV	.179	.073	2.568	.010	Supported
H2 EXPLOIT to SERVINNOV	.474	.121	5.774	***	Supported
H3 NPM to SERVINNOV	.604	.134	5.399	***	Supported
H4 EXPLOR to SERVQUAL	-.134	.055	-1.752	.080	Not supported
H5 EXPLOIT to SERVQUAL	.276	.102	2.734	.006	Supported
H6 NPM to SERVQUAL	.124	.100	1.022	.307	Not supported
H7 SERVINNOV to SERVQUAL	.513	.102	3.452	***	Supported

***. Correlation is significant at the 0.001 level
**. Correlation is significant at the 0.01 level
*. Correlation is significant at the 0.05 level

Table 18: Summary of the research hypothesis test results

7.8 Post-Hoc Analysis

Further to the hypotheses test, a series of post-hoc analysis was conducted to test the possible mediating role of the service innovation in the relationship between: 1) exploration and service quality, 2) exploitation and service quality, and 3) NPM and service quality. The purpose of the mediation test is to find out how and why the variables are associated under a certain condition. The SEM bootstrap method was selected using 200 bootstrap samples and bias corrected percentile bootstrap with 95% confidence intervals was performed in order to obtain standardised effects (Cheung & Lau 2007).

The EXPLOR standardised direct effect on SERVQUAL were not significant, but the standardised indirect effect was significant. Thus, SERVINNOV fully mediates this relationship. The EXPLOIT standardised direct and indirect effect on SERVQUAL were significant. Thus, SERVINNOV partly mediate this relationship. The NPM standardised direct effect on SERVQUAL were not significant, however, the indirect effect was significant. Thus, the SERVINNOV fully mediates the relationship. Table 19 illustrates the summary of the mediation tests.

Relationship	Mediator	Standardised direct effect	Standardised indirect effect	Result
EXPLOR to SERVQUAL	SERVINNOV	-.134 (.058)ns	.092 (.024)	Full mediation
EXPLOIT to SERVQUAL	SERVINNOV	.276 (.041)	.243 (.008)	Partial mediation
NPM to SERVQUAL	SERVINNOV	.124 (.565)ns	.310 (.008)	Full mediation

Table 19: Summary of the service innovation mediation test

7.9 Summary

This chapter discussed the methods of analysis and the results of the hypotheses testing that developed in chapter 3. The preliminary analysis of the collected data of 157 respondents entirely from Twenty-two government service organisations based in Muscat region. Using SPSS, the preliminary data analysis started with checking the missing values, outliers, data normality, data linearity and homoscedasticity, multicollinearity, demographic data. Furthermore, this chapter discussed the results of EFA that confirmed five latent variables. The five factors explained 65.49% of the variance and meets the eigenvalue criterion. Also, the test of Cronbach's alpha showed that all constructs scale achieved scale above the acceptable level 0.8.

Furthermore, the CFA analysis performed using AMOS and the overall results confirmed that the goodness of fit indices are within accepted thresholds. Besides, all the values of AVE of the constructs were above 0.5 expect for NPM construct which was below the minimum limit but at the borderline acceptable value (Fornell & Larcker 1981). As for the CR, all the values were higher than 0.8. Therefore, all items in the measurement models have achieved convergent validity. In addition, the AVE squared root of the five constructs was higher than the correlations coefficients with the other measure. However, the correlation between NPM and SERVINNOV yielded same value of correlation estimate. Moreover, the values of the majority of inter-construct correlations are statistically significant. Thus, the discriminant validity achieved as well.

This chapter also discussed the analysis of the structural model and hypotheses testing. The findings showed a satisfactory model fit indices. The hypotheses test results showed that exploration, exploitation and new public management relates significantly to service innovation. It also showed that exploitation and service innovation relates significantly to service quality. However, the relationship between exploration and service quality, as well as between new public management and service quality was not significant. Further, the results of the post-hoc analysis indicates that service innovation fully mediates the relationship between exploration and service quality and between new public management and service quality. While the relationship between exploitation and service quality was partially mediated by service innovation.

Chapter 8: Discussion of Research Findings

8.1 Introduction

The purpose of this research is to proposes a conceptual model to empirically examine the influence of organisational ambidexterity and NPM on public sector service quality directly and indirectly through service innovation. The aim was to explore how to improve service quality through service innovation in the context of public sector. To provide more insight, the development and discussion of the conceptual model on the outcomes are explained in details below. In this chapter, the results of the research are interpreted and compared with the previous literature. The purpose of this chapter is to provide a broader view of the research findings, and the interpretation of the hypothesis developed to answer the main study questions. The established literature says that organisational ambidexterity and NPM have a positive relation with service innovation and service quality. This chapter explains and discusses the effects of these relationships. Furthermore, this chapter discusses the mediating role of service innovation on the relationship between the three recourses: 1) exploration 2) exploitation 3) NPM, and service quality. The findings from the thesis are used to discuss if the proposed hypotheses are supported and illustrate their relevance to the existing literature

8.2 The Relationship Between Exploration, Exploitation and Service Innovation

In this study, the first two hypotheses were aimed to test the relationship between 1) exploration with service innovation; 2) exploitation with service innovation. The results show that both of these variables have a positive relationship with service innovation. The beta value of the relationship of exploration with service innovation was 0.179 and $p < 0.01$, and the beta value of exploitation with service innovation is 0.474 and $p < 0.000$. This result gives a clear answer to the first research question; “To what extent does organisational ambidexterity (exploration and exploitation) influence service innovation in the public sector?", and supports the developed hypotheses and consistent with the existing literature, as various researchers have shown similar effects (Berry et al. 2006; Birkinshaw & Gupta 2013; O'Cass & Sok 2013; O'Reilly & Tushman 2013). This result proposes that when public service organisation pursue ambidexterity, this will generate a positive outcome on service innovation. Achieving a balance between exploration and exploitation will result in increased performance in service organisations. The results shed light on the suggestions that organisation must use exploration and exploitation simultaneously. According to Jansen et al. (2006), exploration plays a significant role to develop new services for customers. On the other hand, exploitation plays an important role to improve and refine the existing services as well as increase the quality and the efficiency of services in a way that satisfies the customer needs. Ambidextrous organisations possess more innovation capabilities compared to the organisations that implement either of the exploration or exploitation approaches because of their increased response to external and internal environments. The findings of this study are consistent with this argument. Organisation must be able to simultaneously explore and exploit in order to survive over a long period of time. The findings suggest that exploration is beneficial for the organisation in the long run. On the other hand, exploitation is beneficial for the organisation in the short run performance (March 1991).

The analysis of the relationship between exploration, exploitation and service innovation enriches the discussion on organisational ambidexterity. Many researches have specified that service innovation connects to both exploration and exploitation activities that depend on the organisation category (Menor et al. 2002). In this regard, the ambidexterity plays an important role to bring innovation in the services. This necessitates to realise their competences and allocate their resources with a balanced method. If the service organisation is to undergo the process of exploration and exploitation simultaneously, then it became an ambidexters organisation. It is difficult for organisations to decide on the usage of both exploration and exploitation activities at the same time, but once the decision is made, it can yield numerous benefits to the organisation. This result supports the developed hypothesis and consistent with the original theoretical conceptualisation of Gibson & Birkinshaw (2004), Hood (1991), and Tushman & O'Reilly (1996).

Additionally, the study demonstrates that the public manager plays a key role in organisational performance, which depends on the manager's approach in resolving the existing tension between exploration and exploitation. This is in line with O'Reilly and Tushman (2004), who argues that committed leadership is important to achieve an ambidextrous organisation. The performance of the organisation is largely dependent on the approach adopted by the managers to handle the tension between exploration and exploitation. The importance of pursuing both exploration and exploitation need to be communicated by the management (Palm & Lilja 2017), helping leaders to develop their ability to learn more rapidly than others. Because you cannot reinvent the organisation unless the leader can reinvent themself. Best leaders see opportunity and initiate needed change where they make a move before they have. Rosing et al. (2011) posit that managers should adopt various leadership styles in order to keep a balance between both approaches. Thus, government managers need to apply different styles of leadership so that they can employ both exploration and exploitation activities. Umans et al. (2018) found that top management team shared leadership and team efforts play a significant role in resolving the tension between exploration and exploitation in public context. Besides, Sok and O'Cass (2015) demonstrate that improving service innovation and ambidexterity concept requires a significant approach that focuses on the customers, the managers, and the employees.

From the previous discussion in the literature review section, the organisations that adopt the exploration and exploitation activities have conflicting performance interest thus shall consider either contextual or structural ambidexterity (Gibson & Birkinshaw 2004). The approach of structural ambidexterity adopts one business unit that focuses on exploration activities while the other unit emphasises exploitation activities to prevent conflict and tension between the tasks in the organisation when both approaches are combined. Conversely, contextual ambidexterity involves the implementation of both the exploration and exploitation activities within a single business unit. While this study describes the empirical finding of the relationship between organisational ambidexterity and service innovation, the test does not demonstrate if contextual or structural ambidexterity represents the appropriate approach of management. As such, the empirical finding shows that the public sector requires more empirical research studies to determine whether contextual or structural ambidexterity suits public service organisations. On the same note, the empirical study ought to find a balance for integrating and separating exploration and exploitation activities within the public service organisations. Thus, uncertainty exists currently about the better approach (whether structural or contextual) (Palm & Lilja 2017).

8.3 The relationship Between NPM and Service Innovation

This study is considered one of the few studies that try to develop the NPM approach measurement scale at the organisational unit. One of the research objectives was to create a scale that measures the techniques of adopting NPM in public sector. However, the thesis does not meet the expectations in this regard because the setting and the unfitting background limit that capability of the evidence to support generalisations. Moreover, the individuals who gave their comments and feedback on the developed scale were only five practitioners. These practitioners represent their entity, and the feedback that they provided is not applicable to all government and public sector in Oman. This is also making generalisability difficult to attain.

The results of the third hypothesis of this study show significant and positive relationship between NPM and service innovation as the beta value is 0.604 and $p < 0.000$, this finding provides an answer to the second research questions; "To what extent does NPM influence service innovation in the public sector?", and supports the developed hypothesis and explains that new public management is adopted in public service organisations. Even though innovation represents one of the challenges that the public service organisations face, public reform signifies an important agenda in the large-scale perspective with the goal of improving the service and the performance According to Kinder (2012), the performance initiated by innovation and learning plays an important role in any NPM models as the public service organisations enter into the austerity era. Innovation represents a key objective for the public sector organisations during the dissemination and the adoption of the NPM paradigm. Although, this study found that limited research has shown a relation between NPM and service innovation, tries to create a relationship between the two in the public sector are unconfirmed.

The NPM doctrine states that public service organisations require the implementation of two primary concepts necessary for the NPM-oriented service delivery to make them innovative in nature. The first condition involves letting the public manager innovate. This primary condition emphasises the autonomy in management in the organisation to initiate and allow innovation that increases performance in the organisation. The second main condition needed for the NPM-oriented service delivery involves making the public manager innovative. This approach pressures the public managers to innovate through initiatives such as managerial incentives as well as the rewards in the form of result control (Lægreid et al.

2011; Pollitt & Dan 2013; Umans et al. (2018); Verhoest et al. 2007). As such, the rewards function to drive innovation as a performance condition since the managers in the public service organisations are anticipated to be involved in the action of self-interest (Boorsma & Halachmi 1998). A previous study indicates that result control and managerial autonomy influence public service organisation positively. Subsequently, a direct correlation exists between innovation activities and managerial autonomy-result control. As such, focusing on the organisational culture oriented towards incentives emphasises innovative culture and innovation activities (Verhoest et al. 2007). Nevertheless, Lægreid et al. (2011) illustrates that there was no precise evidence to suggest that the fundamental NPM principle of - letting the managers to manage and making the manager manage – significantly encourages innovation for the public sector in Norwegian and Flemish states. This is because their findings applied to the public sector that follow the public law for the employment of civil servants outside core departments. Dan and Pollitt (2015) state that the NPM reform has several effects depending on numerous conditions and factors to limit the support of generalisations using evidence. However, organisational culture that enhance performance orientation and incentive orientation inspire innovation to some extent. Evidently, the design of the NPM reforms inspire the development of these organisational cultures (performance and incentive oriented) in the public service sector (Lægreid et al. 2011).

Additionally, Bugge and Bloch (2016) found that there are multiple drivers of public sector innovation, management and staff are one of the drivers. Consequently, the NPM views demonstrate that high performance in public service organisations depends on whether they motivate creativity culture to attain managerial autonomy and initiate greater result control. The service organisations shall be enforced as innovative if they can result in the overall improvement in organisational performance. This applies when service organisation receive pressure from a high authority in a supervisory capacity with the help of result control. Arundel et al. (2015) posit that research on the initiators of ideas or the sources of innovations point to managers and staff in high income nations proposing most of the public sector innovations. Additionally, there is an anticipation that when the managers are granted the capability and the authority for creativity and supervision in public service organisations, the probability of innovation shall increase. As such, this increases the level of acceptance and satisfaction from the public. The services that attain high performance results and outcomes are more receptive and provide greater satisfaction to the customers (Pollitt & Dan 2013). Furthermore, the doctrines of NPM focus on incentives as well as PRP that inspire the public service employees to engage in risks, which facilitate self-motivation and increase their openness to experiment hence raise their level of innovation. This result is consistent with the thesis findings, which explain that in public service organisations, the innovations have been enhanced and the service organisations have adopted the shape of an innovative approach.

Other evidence shows that national disparities about the ways work is organised, nationwide culture, as well as the situations in an organisation affect innovation in the public service innovation (Arundel et al. 2015). De Vries et al. (2016) conduct a current study on public sector innovation by focusing on the factors that drive and hinder public sector innovation. The result argued that the challenges of public sector innovation include but not limited by the culture and structure of the organisation, legal frameworks, red tape, as well as procedural constrains. In this case, the bureaucratic system of management that drive public service organisation restrict their innovative possibilities. Criticism of the bureaucratic management system (Andrews & Van de Walle 2013; Boyne 2002; Ferlie 2017; Homburg 2004) initiated the creation of a new model that sought to redefine public management roles. The evolution of the NPM idea has demonstrated the reinvention of the government system of management. According to Pollitt and Bouckaert (2004), the introduction of NPM in 1980 gained universal acceptance from several countries at various levels. The extensive acceptability was based on the proposition that earlier bureaucratic model was inefficient and neglected to address the aspect of service quality at the top level. Diefenbach (2009) states that NPM represents a primary reforms agenda that the public sector adopts from the practices of the private sector managers to focus on values and objectives via performance orientation, cost/audit orientation as well as the efficiency of the services. To attain the new public goals, the orientation of innovation has focused towards reform agenda that translates to the innovative bureaucracy that provides improved services at a reduced cost (Borins 1995). Since the classical bureaucratic model did not improve the public managers significantly, the likelihood of change increased. As such, NPM was adopted to improve accountability (Homburg 2004), facilitate efficient innovation, increase the responsibility to implement and manage the ideas effectively by the public service managers.

Additionally, the change factors like – increased citizen demands to acquire quality public service, adopt and develop information technology, advance global competition, change the staff preferences – affect public organisations significantly (Borins 2001). The influence of the change factors increases that adaptive capability of the public sector to become dynamic and agile towards citizen needs and the changes in the business entities (Agarwal & Selen 2009; Dunleavy et al. 2006). The public sector requires to enhance service innovation to advance public service quality as well as facilitate performance to cope with the increasing pressures such as demands of the citizens for quality services while maintaining the cost of public expenditure.

8.4 The Relationship Between Exploration, Exploitation and Service Quality

The findings of the results chapter revealed two outcomes. The relationship between exploration and service quality was not significant as the beta value is -.134 and p = .080. This result did not support the hypothesised path between the two variables. In contrast, the relationship between exploitation and service quality was significant, with a beta value of .276 and p = .006. Furthermore, the test of indirect associations between exploration and service quality show that service innovation fully mediates this relationship, and show a direct relationship between exploitation and service quality, and service innovation partly mediates this relationship.

The finding of the non-significant relationship between exploration and service quality might be explained by the concept that the quality service prefers exploitation at the expense of exploration. The initiatives for quality movement has the potential to hinder the ability to innovate (Lilja et al. 2017). Exploitation activities affect exploration activities in one business unit. From a historical perspective, programs that focus on quality have a significant relation to the exploitation activities. The concepts like selection, choice, implementation, execution, as well as production in the literature, cover these exploitation activities. Conversely, innovation has a significant relationship with exploration activities linked to the literature ideas about experimentation, research, variation flexibility, as well as discovery (March 1991). According to Lilja et al. (2017), previous research posits for instance that quality management initiative presents the risk of hindering the innovative capabilities of an organisation as well as its ability to adapt to the shifting dynamics of the environment. Organisations have the tendencies to adopt and implement exploitation activities that illustrate reliability and certainty for a short period. As such, the scarcity of resources or budget cuts in the public service impact the organisation that favour success in the short run. This result is also consistent with the findings of Geerts et al. (2010), which postulate that service organisations favour mostly exploitative innovation activities. The innovative exploitative activities enhance the value of the service to the customers and improve the efficiency of service delivery as a significant initiative. On the other hand, exploration resulting in radical innovation is, in most case, unplanned. The lack of an appropriate solution to address the tension between exploration and exploitation results in the service organisation, making inaccurate decisions about service innovation. As such, the paradox limits that ability to deliver quality service, which causes the inability to attain the organisational goals on financial returns.

Moreover, the rising accessibility to market information increases the demands of the customers for improved existing services and introduction of new services. Bebko (2000), as cited in O’Cass and Sok (2013) article, agree that service quality represents a significant source for competitive advantage. The success of service organisations depends on the ability to maximise the value of the customers' service and the perception of the customers on the quality of service delivery, which plays a significant role for the organisation to attain its goals and objectives. Public service organisations ought to adopt and implement both high levels of exploration and exploitation activities to enable customers to enjoy service quality. In this case, the high orientation on exploitation activities allows the organisation to improve service efficiency and service quality for the existing ones while high exploration activities develop new services that increase the orientation for service innovation to fulfil the need of service quality with the goal of meeting the needs of the customers (Sok & O'Cass 2015). Consequently, Sok and O'Cass (2015) postulate that the public service organisations that prefer exploitation to exploration often neglect the development of new services that address the evolving customer needs. Likewise, a service organisation that focuses on high exploration activities compared to the exploitation activities suffer the risk of failing to exploit the available services completely thus do not improve nor refine the existing services. As such, the argument follows that a vigorous concentration on either exploration or exploitation results in reduced capacity of the organisation to sustain the delivery of quality service because one approach shall be neglected at a time. Besides, Sok and O'Cass (2015) design a research project to investigate the impact of exploitation and exploitation on the economic capacity of a public service organisation via quality service delivery. The findings of the study demonstrate that vigorous implementation and adoption of both exploration and exploitation significantly improve the financial performance of the organisation. Therefore, the balance between the exploration and exploitation paradox plays a critical role to improve the innovative performance of an organisation. According to Gibson and Birkinshaw (2004), service organisations ought to adopt both exploration and exploitation (both irreplaceable and distinguishable) to achieve their objective of becoming the leaders in the delivery of quality service.

Most importantly, the managers should not consider trading exploration for exploitation or vice versa. Subsequently, a high focus on exploration disregards exploitation that has the potential to cause the significant failure of new services that, in turn, reduces the customer perception of service value. Conversely, more orientation on exploitation neglects the customer needs, thus reducing service quality. By extension, the disproportion in the balance between exploration and exploitation reduces the potential of attaining service quality (Sok & O'Cass 2015). The staff inspired to steer away from the available processes of service delivery restrict innovation process while the employees motivated to commit to the service delivery agendas and actions can support the innovation process. Public service organisations require the empowerment of its staff for the enactment, protection, and the realisation that exploratory and exploitative activities play a critical role to attain a successful quality service. The empowerment of employees increases their likelihood to become flexible and present initiatives that address the demands of the customers during service delivery while participating in behaviours oriented towards exploration and exploitation. Hence, empowering the staff illustrates a primary input facilitates the link between service innovation exploitation-exploitation and service quality. Exploratory and exploitative activities present significant barriers to the managers based on the various attention centres; they depend on inconsistency and incompatibility of the processes as well as behaviours (Gibson & Birkinshaw 2004). Thus, the tension between exploration and exploitation increases in delivery of service quality when both operate at high levels to cause negative outcomes (March 1991). As an illustration, the case applies when a staff member works to improve and refine an existing service of a client and at the same time attempting to initiate the delivery of a new service to a customer. The exploration and exploitation activities test the judgement and competency of an employee allocate appropriate time for both the tasks into the working schedule. Effective management of ambidexterity requires that manager inspire and motivate the staff to distribute their energy between the activities of exploitation and exploration to deliver quality services. Empowering employee fosters and facilitates the view that managers involve their staff in the decision-making processes to boost performance in the service organisation.

In conclusion, the findings of the study support the empirical research that Sok and O'Cass (2015) conduct demonstrating that service organisation require the simultaneous implementation of both exploration and exploitation activities at high levels to ensure success. They illustrate that the focus to expand the development of new services and improve/refine the existing services influence service quality significantly. As such, public service organisations need simultaneous delivery of new services while improving/refining the available services via a model of integrated exploration and exploitation service innovation to increases the ability and the capacity to deliver quality service. The results also demonstrate that the success of a service organisation depends on the manager's unremitting capacity to empower the staff to ensure the delivery of quality services. Overall, attaining the goal of superior financial outcome in an organisation involves the managers empowering the employees to enhance competitive advantage by leading in the delivery of quality service.

The results and the discussion of the relationship between exploration, exploitation and service quality provide additional insight on how these activities contribute to service quality provided by service organisations. The findings of the thesis supported an indirect relationship between exploration and service quality mediated by service innovation. Furthermore, this thesis shows that service innovation partly mediates the relationship between exploitation and service quality. Thus, this result is consistent with Berry et al. (2006) to the extent that service innovation provides an effective initiative that enhances the development of new service and refines the current services while improving the service quality.

8.5 The Relationship Between NPM and Service Quality

The association between NPM and service quality was not significant at a beta value of 0.124 and $p < .307$, thus, the hypothesised relationship was not supported. However, the results of the mediation test indicate an indirect relationship between NPM and service quality, and service innovation mediates this relationship. The bureaucratic structure that affects the efforts of improving and satisfying the demands for quality products and services without increasing the cost in the public sector explains this result. Therefore, as the pressure to minimise bureaucracy creates the rising demand for service innovation to enhance performance and improve service quality results, the findings of Gowan et al. (2001) on service quality illustrates that achieving service quality remains challenging to maintain because of the complexities involved in service provision in the public service organisations. The findings further emphasised that the public service organisations handle both the expressed citizen demands as well as the essential and unexpressed needs, distribution of resources, justification of public expenditure and setting priorities within the organisation. Likewise, public sector organisations do not stress the provision of service quality to the customers thus, proposing the need to adopt service quality performance a primary strategy to achieve organisational performance since the organisational orientation focuses on service delivery while profitability does not represent the primary goal (Ilhaamie 2010).

Besides, NPM guides focus on customer orientation of the responsiveness of the customers to the service (Pollitt 1995) as the NPM approach focuses on the customer to improve the public service delivery. Agus et al. (2007) posit that the quality concepts like TQM and NPM adopted in the public service organisation from the early 1990s. The primary NPM objective involves improving the delivery of public service through customer orientation and to emphasise on organisational performance and measurement. Since the provision of service has a direct correlation to the customer needs, the manager should adopt techniques that focus on the customers to improve the overall quality of service. The experiences from the private sector organisations can provide a learning platform for the public service organisations based on the customer service orientation and the resulting role as well as the significance of the service providers to deliver and support service quality. The discussion of the thesis findings and the comparison with previous research in the public sector context and service quality domain confirm that public service delivery requires a customer-focused technique for improvement. Furthermore, the research results highlight the need to investigate other enhancement that might be used to expand the service provided in public sector organisations. For example, Chen et al. (2004), as cited in Agus et al. (2007, p. 11) article, proposed a customer-oriented service improvement scheme can be utilised in the improvement of public sector service quality. For continuous improvement of service quality in the public service organisations, the article recommends the adoption of these five phases increase the delivery of service quality in the public service organisations–including "customer identification, customer needs survey, service system design, service delivery, and service recovery". This thesis argues that the NPM philosophy represents a customer-oriented approach whose purpose is to improve the quality of public service delivery.

The findings of the empirical study that Kakouris and Meliou (2011) conduct about service quality in the Greek Inland Revenue state that the direct involvement of the managers and interaction with external customers play an important role to understand the expectations of the customer demands for service quality. Communication plays a critical role in NPM because public service organisations involve the interaction between managers and customers. The challenge for the Greek public sector involves the adoption of methods that prevent governmental changes from affecting public services. Every governmental or ministerial change transforms both policy and philosophy as well as the shifting of managers in the public service organisations. The constant management changes result in uncertainties that do not motivate the managers to implement the NPM goal of serving customers irrespective of the competence and quality of the managers. In this regard, the managers focus on the relationship quality with their supervisors and authority figures as well as other interpersonal subjects instead of concentrating on performance for the subordinates and the citizen-clients.

Thus, the results and the discussion of the relationship between NPM and service quality provide additional insights into the ways public-sector organisations ought to fulfil the citizens' demands in relative to satisfaction on service delivery. The finding of the thesis supported an indirect relationship with service quality mediated by service innovation. According to Demircioglu and Audretsch (2017), accountability to the citizens and manager because of information technology and globalisation make innovation research significant in public service organisations. The public service organisation requires efficiency (minimise costs), effectiveness (improve service quality), and satisfaction of customer demands. Following the NPM reforms in the 1980s and the economic crisis of 2008, the need to save funds and cut budgets increased; thus, developing an innovative work environment is vital. Public sector employees can be innovative under the conditions that first enable the staff to experiment and secondly, motivate them to create improvements. The feedback mechanism and effective management of low-performing employees contribute significantly to improved public sector innovation. As such, public service managers should motivate their staff to increase organisational performance.

8.6 The Relationship Between Service Innovation and Service Quality

The findings of this study highlight a positive relationship between service innovation and service quality as the beta value of this test is 0.513 and $p < 0.000$. Accordingly, in addressing the question "To what extent does service innovation influence service quality in the public sector?", the finding highlight the level of support for public organisations towards service innovation during the effort to deliver quality service to determine the long-term viability of public service organisations. Service innovation provides a model that enhances the creation of new services while refining the existing services to increase the quality of service. This research found that ensuring the stability of service organisations depends on their understanding of service innovation to provide superior service to their customers.

Policy interest emerge that continue to device ways of encouraging innovation in the public sector to increase productivity and improve efficient service delivery and service quality (Arundel et al. 2015). From the perspective of services, more insight is provided to the extent that the results indicate that public service organisations should focus on service innovation via vigorous development of new service and improvement of existing services to provide services that the customers perceive as high quality. The results from the study are consistent with the argument of Plattfaut et al. (2015), which state that the process of service innovation aims to facilitate service productivity (via the process of service delivery designed to lower cost) and expand service quality (via the initiative to satisfy the previous demands of the customers). Also, the promotion of service innovation which involves introducing new services and improving/refining the current services does not guarantee the achievement of the financial performance. Otherwise, service innovation has an obligation to navigate service delivery that the customers perceive as high quality to attain the goal of financial performance. Since service innovation has a condition for the delivery of service quality, the findings offer premises that highlight the significance ensuring that the customers receive the demanded service quality if the service organisation wants to convert its effort to reflect the financial performance (Sok & O'Cass 2015). Service quality plays a noteworthy role in the service organisation. Zeithaml et al. (1996) posit that service quality has a positive correlation with the satisfaction of the customers, which helps the service organisation to attain and sustain competitive advantage. El Saghier and Nathan (2013) support that service quality remains important by arguing that service quality determines the success of an organisation and improves the performance in the public service sector. Similarly, the significance of service quality corresponds primarily to the retention and satisfaction of the customers that translates into the demands of the customers.

Plattfaut et al. (2015) studied the IT contribution to service innovation performance and its effect of service provision performance. Their study focused on service firms' industries. They found that that service innovation performance is directly proportional to service provision performance. They claim that the organisation that thrives at service innovation have the likelihood to increase performance during the provision of services to the customers. This research extends this finding to the public service organisations, as it is hard to find studies exploring the concept of service innovation and service quality in public service organisations, and suggest that the two basic approaches of innovation improvement and quality improvement help to attain the improvement of customer value as well as satisfaction (Palm & Lilja 2017). Additionally, the proponents of the innovation concept in the public service sector as demonstrated by Damanpour and Schneider (2008) claims that implementing the innovation in public organisations shall improve the provision of service quality while increasing the capacity to solve problems about the society. Overall, innovation heterogeneity manifests in public service organisations. Several reasons exist to fuel the anticipation that public organisations exhibits heterogeneity based on the innovation activities. The reasons to expect heterogeneity in public service organisations include variations in governance, cultural factors, and power of autonomy given to the managers (Arundel et al. 2015). These findings provide additional insight into the positive relationship between service innovation and service quality from the perspective of the public service organisations and highlights the importance of organisational culture and the power offered to the manager deliver new service or improve the existing services.

8.7 The mediation effect of service innovation on the relationship between Exploration and service quality

The mediation test via post-hoc analysis shows that service innovation fully mediates the relationship between exploration and service quality. Accordingly, to answer the fourth research question; "Does service innovation mediate the relationship between organisational ambidexterity and service quality?", the results confirm that exploration standardised direct effect on service quality were not significant at -.134 (.058) ns; however, exploration has a positive and significant impact on service quality via indirect effect of the mediation relationship of service innovation at 092 (.024) to infer full mediation. The results correspond to prior literature that service innovation provides a significant path to improve service quality by establishing new service and refining the existing services in the public setting. These findings are consistent with the argument of the thesis. From this assertion, the mediation test result clarifies that exploration influence the quality of service significantly to show that H4 was not supported. The thesis findings of the mediation test illustrate that exploration impact service quality in public service organisations. Previous research illustrates that the exploration of new services as a way of embracing the dynamics and shifts customer satisfaction has the potential for offering a long-term benefit, while overemphasis of service innovation exploration reduces the capability of service quality (Sok & O'Cass 2015). Furthermore, improving service quality requires the generation of ideas and IT enhancement based on internet support (Kitsios & Kamariotou 2019). Another research confirms the influence of exploration on service quality through service innovation to satisfy the needs of the customer (Sok & O'Cass 2015). The thesis findings expand on the previous literature by determining the mediating role of service innovation on service quality based on exploration activities. The result illustrates that service innovation fully mediates the relationship between exploration and service quality.

Furthermore, from the previous findings assert that technological ability impact customer service positively and influence service process innovation (Kitsios & Kamariotou 2019). Advanced technological changes offer the opportunity to develop and adopt new services. As such, the mediating role of service innovation has the potential to influence service quality. For example, according to Kitsios & Kamariotou (2019), advances in technology has instigated several service innovations such as e-health and customer self-service. This example illustrates the mediation role of service innovation and the influence on exploration activities (new services) but does not provide a direct correlation to suggest that the new services guarantee service quality based on the context. For example, the financial sector managers have utilised new technology to create innovative services despite the emergence of these new technologies. On the other hand, the effective use of IT for hotel managers require adequate investment in the resources. While the aspects of information technology such as social media, networking, and artificial intelligence have increased, the manager still experience challenges in their utilisation for the development process.

As a barrier to the development process, the managers lack adequate resources, and they also lack awareness on the importance of these technologies which limits access to relevant information about the benefits of the technology and their applications to increase quality service (Kitsios & Kamariotou 2019). Besides, the firms that primarily focus on exploration activities risk incurring experimentation costs before benefiting from the new services (Boukamel & Emery 2017). Accordingly, the mediating effects of service innovation provide an insightful understanding of the links between exploration and service quality for public service organisations.

8.8 The mediation effect of service innovation on the relationship between Exploitation and service quality

The thesis findings of the mediation effect demonstrate that exploitation impact service quality by the mediating effect of service innovation in the public sector. Previous studies illustrate the role of exploitation on innovation to impact service quality. A previous study shows that more access to market information increases the customers' demand for better services, which involves improving the existing and the new services to improve service quality (Sok & O'Cass 2015). Furthermore, another research attempt to explore how improving mobile communication technology and information technology enables organisations to improve service quality. This approach illustrates how organisations utilised exploitation activities to improve digital services, which utilises the existing technology components (Kitsios & Kamariotou 2019). Accordingly, the findings of the thesis expand on the previous literature that illustrate the contribution of information technology and mobile communication to better the demands of the customers; thus, demonstrate how service innovation contributes to the service quality in the public sector.

From the post-hoc analysis, the test results show that exploitation had a significant standardised direct effect at .276 (.041) and standardised indirect effect at .243 (.008) on service quality, and service innovation partly mediates this relationship. The test results confirm the H5 that exploitation has a positive correlation with service quality. The relationship between exploitation and service quality manifests via the study of Sok and O'Cass (2015), which demonstrates that the exploitation of the existing services provides short-term benefits by increasing the service quality and efficiency in the public service organisations. In this case, the exploitation increases the quality of service. This result is consistent with the thesis findings. Despite the ability of exploitation to improve and refine the services, overreliance on the exploitation capabilities generates adverse consequences on service quality by overlooking the needs of the customers (Sok and O'Cass 2015). Furthermore, Demircioglu and Audretsch (2017) articulate that innovation research plays an important role to improve accountability of the public organisations to the citizens and managers because of the effects of globalisation and IT. By extension, the public sector needs to impose efficiency (linked to the improvement of service quality) to satisfy customer needs while promoting efficiency (cost reduction). Furthermore, public service organisation implement exploitation because they are reliable when the resources are scarce to create short-term success and maintain service quality (March 1991). As the demand for services increase, exploitation through service innovation helps the public service organisation to enhance the loyalty of the customers by improving the existing services (Sok & O'Cass 2015). Thus, the mediation effects of service innovation on the relationship between exploitation and service quality provides critical insight to improve the delivery of service in public organisations.

8.9 The mediation effect of service innovation on the relationship between NPM and service quality

The thesis findings contribute to NPM practices in the public sector that impact service quality. Previous studies highlight the influence of NPM practices on delivering quality services in the public sector (Agus et al. 2007; Dan & Pollitt 2015; Hood 1991; Lapuente & Van de Walle 2020). Scholars demonstrate that the primary objective of NPM is to advance the delivery of quality service in the public sector by focusing on customer needs as well as performance and measurement. Nevertheless, public service organisations have shifted to the electronic form of governance to improve service quality by increasing access despite the rising popularity of other concepts of service quality (Agus et al. 2007). The findings of the thesis expand on the previous literature by demonstrating how the key objectives of NPM practice contributes to the quality of public service delivery. Improving organisational performance and efficiency of operations helps measure service quality in the public sector (Anderson 1995). As such, public service organisations continue to seek sustainable quality service using accessible tools, existing literature, and studies. These available tools and scholastic works assist the organisation in understanding the ways of providing quality services that offer exclusive benefits to the people.

The results demonstrate that service innovation fully mediates the relationship between NPM and the delivery of quality service. The statistical mediation test shows that NPM standardised direct effect on service quality were not significant at .124 (.565) ns; however, the indirect effect was significant at .310 (.008). Thus, the answer to the fifth question of the research; “Does service innovation mediate the relationship between NPM and service quality?”, is that service innovation fully mediates the relationship. The introduction of NPM in the 1980s in several countries questioned the efficiency of the traditional model to provide service quality (Boukamel & Emery 2017). A study by Pollitt and Dan (2013) tested the main proposal of the NPM theory by evaluating 519 studies about the influence of NPM reforms to determine if performance-oriented reforms affect output or incomes in Europe. Out of the 519 studies, few addressed outputs and even less concentrated on the outcome. The findings of these studies demonstrated that the NPM did not have a significant impact, whether empirical or definitional. Furthermore, Pollitt and Dan (2013) state that their database contains important information about the output changes created by performance-focused reforms. However, a broader perspective of the information shows that the changes in output vary significantly ranging from more positive results via no variation to a negative reading, depending on circumstances. They broadly conclude that the general thinking for a performance-oriented technique or tool as functioning or not functioning remains unfitting.

Thus, for a performance-oriented tool function efficiently, the conditions in its context require adequate satisfaction. On the other hand, Dan and Pollitt (2015) state that substantial evidence is available to claim that few NPM central reform measures involved in – performance management, improving quality, and creation of public organisations – have resulted in some organisational improvements or enhanced public service delivery. Additionally, Overman and Van Thiel (2016) claim that no improvements have been recorded for public sector outputs in countries with huge number of agencies that has reduced the efficiency. Overall, the scholar reaches a conclusion that a country's performance in the public sector require significant high outputs as well as outcomes at a low cost to improve the efficiency of the public sector based on the value for revenue.

From the NPM doctrine, public organisations that engage in policy domains, and service delivery require sufficient managerial autonomy and pressure to innovate to sustain their innovativeness (Lægreid et al. 2011). The pressure to innovate manifests through managerial incentives such as government intervention to control results. The findings of the study demonstrate that public service organisations dominant performance-oriented cultures point to goal-oriented, task performance-oriented, and service quality focused organisation to suggest that innovative cultures and innovative activities are more prevalent compared to the other public service organisations. Furthermore, Kakouris and Meliou (2011) demonstrate that the NPM activities that provide public services, similar to the private sector services (customer-oriented), to their customers inspire the improvement of service quality that focus on the needs of the customer and increase organisational performance. The thesis findings expand on the previous studies by determining the mediation role of service innovation on the relationship between NPM and service quality, which fully mediates the combination.

On the other hand, Lapuente and Van de Walle (2020), conducted a study to determine the effect of NPM reform on service delivery. The findings of the study cite the absence of systematic empirical tests about the real impact of NPM reforms on public service delivery. They claim that in the past few years, the methods used to introduce management ideas from the private sector were not known at the time in both the public sector and the public policy domains. The policy domains involved the public sectors such as security, education, and transport, and central bureaucratic services where the primary assumption was to produce efficient and effective public organisations from the business-like ideas. Therefore, this study's findings apply to the public sector when public organisations need to minimise public expenditure as a priority objective to minimise public debts and decrease the deficit, which applies in modern states in the European Union and was previously used in the 1980s. Furthermore, Lapuente and Van de Walle (2020) posit that the influence of NPM reforms on the delivery of quality service (whether increased or decreased) has not been adequately understood in the public sector. While the research stream remains consistent with the thesis findings of the relationship between NPM and service quality, it requires more studies to determine the actual effect of NPM on service quality.

Chapter 9: Conclusion and Contributions

9.1 Introduction

This chapter consists of seven sections: conclusion, theoretical contributions, practical contributions, theoretical implications, practical implications, limitations & recommendations, and summary. The conclusion section presents the overall objectives achieved out of this research and the approach adopted. The theoretical contributions underline the importance of this thesis and how it builds on and extends previous research and literature. The practical contributions highlight the use of activities related to public service organisations, which ultimately contributes to the achievement of delivering quality service in the context of the public sector. The theoretical implications present the findings and areas to work on the improvements in performance and efficiency. The practical implications underline the managerial specifications for enhancing service delivery in public service organisations. Finally, this chapter ends with limitations and recommendations.

9.2 Conclusion

The customers expect quality services that are available in the private sectors. The customer-oriented approach to provide services to the customers has increased the need in public organisations to improve performance related strategies globally. As such, the study of public performance in public service organisations has increased significantly in different parts of the world. The demand for quality services from the customers has initiated innovative strategies into the public sector to achieve the performance results associated with the private sector. For example, the public service organisations in the Sultanate of Oman remain behind the private sector; thus, they face significant pressure to provide quality services. This public sector lacks flexibility and dynamism that affect the delivery of quality service. Additionally, the bureaucratic structure of the Omani public sector restricts the incentives to improve the quality of service to satisfy the demands of the customers while maintaining the expenditures and disbursements. Therefore, the public sector has the need to minimise bureaucracy that has the potential to increase service innovation demands, which emphasise service quality and facilitate organisation performance.

Public service organisations shall achieve service innovation through the development of new services as well as the improvement of the existing services. Consequently, this has resulted in the adoption and implementation of organisational ambidexterity to emphasise exploration and exploitation to impact service innovation as well as service quality significantly. Furthermore, NPM characterises a key agenda of reforms that the service organisations implement based on the private sector managers to emphasise the values and objectives of the service organisation. Subsequently, achieving the primary goals requires that the public service organisation emphasises the innovation-oriented reform agenda to enhance the innovative efforts that offer better services while minimising the cost. The theoretical frameworks that connect organisational ambidexterity, NPM, service innovation and service quality enhance the literature on performance in public sector organisations. This provides the basis of this research to test the influence of the relationships on public service organisations. Additionally, actual research and empirical studies that involve investigating the impact of the combination of organisational ambidexterity and NPM on public sector service quality through service innovation in the Middle-East public sector remains a gap in the literature. Accordingly, this thesis sought to narrow the gap by conducting empirical research to determine the success and failures of the construct models in public service organisations by combining the variable of organisational ambidexterity and NPM through service innovation. Moreover, the thesis provided significant insights into the existing literature that highlight the ways of improving service quality and performance in public service organisations.

The thesis adopted a positivist epistemology and focused principally on the deductive approach to generate knowledge and to help in theory development and evaluate the findings of the research. This method helps to draw conclusions from the empirical evidence about the impact of organisational ambidexterity and NPM on service quality in public service organisations through service innovation. The quantitative deductive approach utilises detailed research questions and hypotheses to examine the correlation between these different variables. The method applies to public service organisations and informed quantitative approach to build upon the existing knowledge during the development of hypotheses. The positivist approach helped to establish unbiased evidence to support the quantitative research by limiting its influence on the data collected. This thesis also utilised the specific research philosophy of ontology that provides a perception of the study of public service organisations via the lens of organisational ambidexterity and NPM to improve service quality. Most importantly, the ontological view helped to study the theories associated with public service organisations and the construct models in the context of the Omani public sector. One the one hand, the research strategy utilised measurement scales adopted from previous study and developed hypotheses of organisational ambidexterity, service innovation and service quality. On the other hand, the NPM scale was self-developed as the appropriate scale at the organisational level were not found in any studies. The statistical tests clarified the reliability and validity of the measurement scales and the structural equation modelling emphasised the importance and the strength of the connections of the study constructs.

The empirical research contributes significantly to the understanding of the relationship between organisational ambidexterity and NPM via the mediating role of service innovation. The thesis findings offer additional insight into the relationship between exploration, exploitation, and service innovation based on the contribution of the activities to the delivery of quality services to public service organisations. Accordingly, the empirical study illustrated the conceptualisation and the results of the thesis show that both of these variables have a positive relationship with service innovation, and for a service organisation to be successful and have acceptable performance, the tension between exploration and exploitation should be resolved. As public service organisations seek ambidexterity, the balance between exploration and exploitation results in a positive impact on service innovation. Furthermore, the thesis shows a significant relationship between NPM and service innovation. While innovation signifies one of the barriers the public service organisations encounter, public reform represents an effective agenda that increases performance and improves service for large scale setting. The large-scale orientation of the reform agenda improves performance and services. Moreover, this thesis illustrates the positive relationship between service innovation and service quality. In this case, service innovation offers a model that facilitates the development of new service and the improvement of the existing services to foster the delivery of quality service. The findings of the research demonstrate that maintaining service stability in an organisation requires the knowledge of service innovation to offer quality services to the customers. The service organisation's capacity to effectively exploit the services delivered to the customers and the perception of the customer on the delivery of quality service determine the success of the organisation by influencing its goals and objectives. However, the findings of the thesis demonstrate from the post-hoc analysis that service innovation mediates the relationship between exploitation and service quality partly. Otherwise, service innovation fully mediates the relationship between exploration, NPM, and service quality.

Overall, the thesis findings provide evidence to highlight the importance of ensuring the customer gets the quality services they demand the organisation to convert their efforts to reflect organisation performance. The private sector organisations provide the public sector with adequate information about the customer-oriented services from the previous interaction with the customer. Previous studies state that service innovation offers a perspective that facilitates the development of new services and refinement of existing services to improve the quality of service. A comparison of previous literature and thesis findings confirm that the delivery of quality service needs customer-oriented practices to improve the service quality domain in public service organisations.

9.3 Theoretical Contributions

The thesis contributes to the literature about organisational ambidexterity and NPM and how the relationship impacts service quality through service innovation. Despite the many studies that observe the impact of organisational ambidexterity and NPM on the performance of public service organisations, the studies that combine organisational ambidexterity, NPM, service innovation, and service quality for the public sectors in the Middle-East remain limited. The public service context in the Middle East differs from Europe and other countries. The recent economic drop in the oil prices during the second half of the 2014 fiscal year in the Gulf Cooperation Council (GCC) causes the challenges that the Middle East countries experience. The difficult economic situations forced countries such as Saudi Arabia, Qatar, and Kuwait to adopt alternative ways that promote economic sustainability while reducing the overreliance on oil. The phenomenon was described as a market-based reform encourage privatisation, outsourcing, and public-private partnerships. The new changes make the Middle East countries different from the other countries in Europe because of the transition away from oil dependence. Therefore, the Middle East countries should adopt and implement administrative reforms to address escalating financial problems. However, the administrative changes will have barriers from a political, economic, administrative, and cultural perspective in the implementation phase. Strategies have been formulated to address the cultural barriers that affect the implementation of the new market-based reforms. Similarly, the political will adopt the basic administrative reform to align the connection between society and administration. Another difference between the Middle East countries and the European countries is the government structure that emerged from the bureaucratic public service, (e.g. decentralisation is highly questionable and can be subjected to numerous challenges) which presents several challenges to administrative reforms. As such, this thesis offers a new conceptualisation about the mediation role of service innovation in the relationship between organisational ambidexterity and NPM in the public sector to improve service quality.

The present research makes several theoretical contributions to the literature. First, the thesis extends the previous literature on the measurement of NPM concept. The public sector literature lacks an existing measurement and empirical research to measure the function and adoption of NPM in the public sector. This thesis developed and validated an NPM measurement scale related to the services offered in public service organisations. The services offered in the public service organisations can be achieved via innovation, although limited evidence exists about the ways to measure public performance. Accordingly, the researcher developed the NPM measurement scale that contributed to the development of hypotheses H3 and H6 from these NPM relationships. The NPM measurement scale was developed by generating certain potential items of the scale, conducting exploratory pre-test executing the expert field survey for public administration and scale revision. The development of NPM measurement scale utilised Delphi techniques to generate the scale by gathering opinions and judgement from the scholars, who are experts in NPM. The newly developed and validated NPM scale made theoretical contributions to the literature on the development and measurement of NPM scale. Most importantly, the scale of NPM provides empirical support for the relationship between NPM and service innovation and service quality.

Second, the research advanced the understanding of organisational ambidexterity theory via empirical testing of the effects of exploration and exploitation on service innovation and service quality for the public service organisations. The limited research in the organisational ambidexterity theory contributed an important subject of discussion for this thesis because little evidence exists to suggest that the success or failure of an organisational ambidexterity impacts service quality and service innovation in the public sector context. As such, the thesis contributes to the literature which proposes that the pursuit of ambidexterity in public service organisations generate a positive outcome on service quality through service innovation. The contribution of the thesis to organisational ambidexterity theory in public service organisations highlights the significance of balancing exploration and exploitation. The achievement of knowledge from the perspective of ambidexterity uses explorative and exploitative dimensions that illustrate their influence on organisational performance, thus, contributes to ambidexterity theory. The performance effects of the knowledge improve the implementation of innovation and contribute to the public sector literature by confirming the positive connection between ambidexterity knowledge and organisational performance. Several studies state that organisational ambidexterity applies to private organisations (e.g. industry and firm-level) to create positive outcomes for service quality. The thesis extends the previous literature on the organisational ambidexterity concept as this thesis focused on organisational level mainly operational and functional service unit in public service organisation as it builds upon examining aspects from a more micro level. Only a few studies contain literature that shows the connection between organisational ambidexterity to the public sector. As such, this thesis has contributed to the previous literature by promoting the theory of organisational ambidexterity in the public sector by emphasising explorative and exploitative activities based on their impact on service innovation and service quality.

Third, previous literature suggests that public sector should adopt the practices of the private sector that focus on innovation and customer-oriented approach to meet the demands of the customers through the provision of innovative and easily accessible services. The innovative nature of the private sector emphasised by their flexibility and responsiveness to the needs of the customers generates a balance between organisational performance, service innovation and service quality. This study contributes to the innovation literature by providing theoretical insight and empirical evidence that service innovation is important for public sector organisations. This research is one of a limited number of researches that have studied service innovation in the public sector organisation. Furthermore, the conceptual framework of this thesis provides valuable assumptions for understanding the performance of public service organisations and the delivery of service. The public service organisations should emphasise the pursuit of service innovation to enhance performance in response to customer demands and the delivery of quality service. The thesis extends the previous literature and makes a significant contribution to the public administration field by focusing on the operational and functional service units (i.e. organisational level) mainly in public service organisations. The findings contribute to previous research literature about the mediating role of service innovation in government organisations.

Finally, this research directed at the top management of each operational and functional service unit who are aware of organisational objectives and strategies. Furthermore, this research validated the suggested measurement scale and confirmed its contribution to the development of organisational ambidexterity, NPM, service innovation and service quality in the public sector.

9.4 Theoretical Implications

The theoretical implications present the findings and areas to work on the improvements in performance and efficiency. The results of this thesis advanced the theoretical discussion on the relationship between exploration, exploitation, and NPM with service innovation. Furthermore, the finding demonstrates that service innovation fully mediates the relationship between explorations and service quality, and between NPM and service quality. Similarly, service innovation partially mediated the relationship between exploitation and service quality. As such, the results of this thesis advanced the theoretical discussion on the nature of exploration, exploitation, and NPM in public service organisations and how their relationships contribute to service quality and organisational performance. The thesis suggests that the knowledge acquired from the explorative, exploitative tasks, NPM and service innovation is linked to the service quality in public service organisations to improve customer-oriented management.

The previous theoretical assumptions of the public administration and the past innovation activities have been improved by the need to implement NPM reforms to improve the creativity and performance of service organisations. Previous literature confirmed the contribution of NPM perspective to change the previously modified centralised public service structure into the decentralised system to enable the public sector to attain their objective as well as goals. The shift from centralised to decentralised system promotes high performance and improves the public sector organisations. Similarly, the other elements such as reducing cost, performance management, separating traditional organisation and autonomy, and shifting the policy of permanent public employment to performance-related contracts, results control contributes to the goals and objectives of public service modernisation.

The service innovation and service quality concept were developed and studied mostly on the industry and firm level. The thesis extends the construct to the organisational level. The effect of service innovation on service quality is discussed in the context of private sector mainly. The thesis provides evidence that service innovation contributes to service quality and delivery to customers by public service innovation. The findings of the thesis confirmed a positive relationship between service quality and service innovation. Thus, highlight the level of support for public service organisations towards innovation to improve the delivery of service. The results imply that the service organisations that prosper at service innovation have the potential to increase performance during the provision of services for the customers. The research expands the findings to public service organisations to suggest that innovation improvement and quality improvement that this thesis illustrates increases the value of the customers as well as their satisfaction. In this case, the findings of this thesis contribute to performance and customer satisfaction to public service organisations; hence, its theoretical implications.

9.5 Practical Contributions

The present research makes several practical contributions to the literature. First, the capability of the manager to resolve the tension between exploration and exploitation plays a significant role to influence organisational performance. Similarly, public service managers require the application of various leadership styles to sustain ambidextrous organisations. This study makes a practical contribution that helps the managers to understand the need to integrate knowledge from customers, competitors, suppliers, and other service organisations among the staff from different departments in the organisation. Leadership scholars posit that managers should manage their staff efficiently by creating conditions conducive for the employees to complete the explorative and exploitative tasks; thus, facilitate innovation. The thesis presents a tool to the practical contribution for the managers to contribute to innovation via exploration and exploitation. In this case, the knowledge acquisition activities of the managers enhance innovation using exploration and exploitation.

Second, the thesis contributes to the NPM practices in public service organisations, which impact service quality. The study helps to highlight the influence of these NPM practices to advance service delivery by focusing on the needs of the customers. Similarly, the thesis makes a practical contribution that helps in the implementation and adoption of the NPM functions via surveys for public service organisations in the context of organisational analysis. The practicality of this approach applies to the Omani public sector that struggles from the perception of lagging behind compared to the private sector in the context of service delivery. Previous studies demonstrate that NPM has the primary objective to improve service delivery in the public sector. The public service organisations shifted to the electronic forms of governance increase accessibility of the services.

Third, previous studies on public sector innovation focus on factors that enhance or hinder public service innovation. The results demonstrated that the barriers to public sector innovation entail but are not limited to the legal frameworks, organisational structure, organisational culture, and red tape and others. The findings of the study illustrate that the bureaucratic system of management that facilitate public service innovation limit innovative abilities. For example, the criticism of bureaucratic management in the Omani public sector initiated the adoption and implementation of the NPM model to reinvent public management roles. NPM represents central agenda that focuses on the objectives and values through performance orientation, cost orientation and efficiency of the services. As such, the practical contribution of the findings illustrates the focus of the new reform agenda to adopt innovation to improve services while reducing the cost. In this case, the adoption and implementation of

NPM improve accountability and enhance efficient innovation help the public service manager to manage ideas effectively. The NPM contributes to the management practice through the concept of NPM-oriented service delivery to contribute to the innovativeness of the organisations. In this case, the primary concept involves letting the public managers innovate. This primary condition stresses management autonomy in public service organisations to enable innovation and increase the value of management. On the same note, the other condition that NPM contributes to involves making the public manager innovative through oversight by a supervisory authority. The thesis provides practical guidelines to improve service quality through service innovation. The public managers are given managerial incentives to pressure them to innovate.

Fourth, the study contributes to the practical tools that help in the measurement of service quality in light of efficiency and performance as the public service organisations seek sustainability of the quality services. The SERVQUAL model measures service quality that the service organisation offers. Similarly, the elements of the SERVQUAL model based on the demands of the customers represent a significant dimension of service quality. The thesis contributes further to the previous studies that evaluated the service quality in public service organisations to generate outcomes such as the successful application of the SERVQUAL model to assess service quality in the public sector.

To this end, the study provides a deeper understanding of the change factors like global competitive, competitions and market-orientation, information technology and increase of customer demand to improve service quality, which influence the public service organisations significantly.

9.6 Practical Implications

The practical implications underline the managerial specifications for enhancing service delivery in public service organisations. The thesis provides a significant implication for management practice. First, organisational ambidexterity is an important aspect and required capability that service unit (operational/functional) can develop. The thesis provides the public service manager with the knowledge that is important to the management practice based on organisational ambidexterity. Managers should use both exploration and exploitation capabilities to balance resources allocation in order to improve organisational performance. Furthermore, the public service managers play a significant role to sustain the effective ambidexterity management by motivating the staff to balance the explorative activities and exploitative activities to ensure delivery of quality services. This approach enables the manager to empower employees in a way that involves the staff by making them feel like part of the decision-making process, thus boosting performance in the service innovations. Effective ambidexterity management helps public service managers to understand the public sector and the contingencies to boost performance and sustain high-quality delivery of services. Moreover, managers should be aware that they need to develop and balance between different strategic directions, i.e. exploring into the future and at the same time exploiting current strategy simultaneously to improve performance and enhance their quality of services. It is also important to note that maintaining organisational slack is essential as it stabilise the internal operations of the service units and should create a balance and seamless pursuit of exploration and exploitation. The demand for service innovation applying organisational ambidexterity has brought big impacts on the delivery of quality services as customers nowadays wanted to be served with both improvements in existing services and at the same time, provision of totally new services. The findings on exploration and exploitation contribute to the strategic directions that the managers require for organisational performance in the public sector. The valid and reliable measurement scales is beneficial for these managers to assess their organisational performance and delivery of service to customers.

Second, the research assists the practitioners in developing and enhancing service innovation to attain greater performance by utilising the NPM approach. The findings of this thesis inform the managers in public service organisations about the strengths (e.g. application of private-sector techniques such as performance indicator, and performance criteria to improve service delivery) and disadvantages (e.g. unresolved issues in service delivery for traditional public services for the digitally knowledge-based information) of NPM because context plays a significant role to enhance public service reforms. Since NPM will not deliver quality service if the specific settings do not apply, this thesis helps the manager to make decisions that apply to the conditions available. As such, the adoption and implementation of NPM remain anchored on the variations of the public service settings that are unique to the service organisations. The public service management should recruit competent members in the reform team with cognitive abilities to anticipate the issues that may emerge from organisational culture and the procedures. The managers in the public service should ensure that the members of the reform team possess the capabilities and skills to ensure a successful implementation of the NPM reforms and innovation activities. Moreover, increased innovative activities enhance higher performance when input control is decreased to suggest that both result control and managerial autonomy increase. Managerial autonomy stimulates innovation by adopting the innovative behaviour that lets the public managers have independence about devising new ways to handle their business. The public managers are given managerial incentives to pressure them to innovate. Previous literature on the NPM doctrine state that public service organisation needs to adopt the managerial autonomy to improve the NPM-focused delivery of service to make the firms innovative in nature. The managers should concentrate on handling service users as a customer. As such, the NPM concept illustrates that public service organisations increase performance as long as it encourages a culture of creativity and managerial independence with high result control.

Third, the managers have the ability to define the concept of creative culture and service innovation in the service organisations from the knowledge generated in the findings of this thesis about the mediating role of service innovation in the relationship between exploration and exploitation and service quality and between NPM and service quality. Previous studies state that incentivisation represents an important feature of NPM that emphasise incentives and PRP that could encourage the employees to take risks and enhance self-motivation in regard to motivation. Similarly, the managers should focus on applying the generic practices of quality improvement like total quality management. The practical implications underline the managerial specifications for enhancing service delivery in public service organisations. The thesis provides practical guidelines to improve service quality through innovation.

Fourth, the study found that the adoption of innovation in the public sector will improve the quality of service provision. At the same time, public sector organisations are regarded as an institution of service where customer expect how the services should be provided to them in a way that satisfies them and achieves their varying expectations. Thus, the manager should respond to the demand of the public sector organisations to innovate in providing services to the customer through the introduction of methods and models such as applying the model SERVQUAL to assess service quality in the public sector. The process of service innovation aims to facilitate service productivity (through the procedure of service delivery designed to lower cost) and increase service quality (via the initiative to satisfy the previous demands of the customers). Also, the promotion of service innovation which involves introducing new services and improving/refining the current services does not guarantee the achievement of the financial performance. Compared to the private sector, public service organisations do not emphasise on more financial performance context. However, service innovation has a responsibility to navigate service delivery that the customers perceive as high quality to attain the goal of financial performance.

9.7 Limitations and Recommendations

The thesis contributes to the public administration literature about the relationship between organisational ambidexterity and NPM by investigating the service innovation and how it relates to service quality. The theoretical framework helps to investigate whether organisational ambidexterity and NPM influence service quality positively via innovation in public service organisations. However, there are several limitations. First, NPM reform has several effects and relies on a collection of factors and situations, which limits the ability of evidence to support the generalisations. As an illustration, the interview in stage two of pre-study 1 conducted with only five practitioners working in government organisations and were selected as representative of the final survey respondents. These individuals gave their feedback and comments on the items of the questionnaire based on their expertise and qualifications. However, this cannot be applied to all public sector because the public sector is a very diverse sector in Oman. Similarly, Omani public sector lacks a homogenised application of NPM methodology, and each organisation has its own customised settings, conditions, and different strategies of implementing NPM in that differ from other organisations. This makes generalisability difficult to attain. Furthermore, the effects of NPM differ globally, and some nations have not converged to the NPM model, and there is strong variation. For example, Sweden and New Zealand have depicted a 'high impact' nation and the United States as a 'medium impact' country while the United Kingdom highlighted as an extreme case, while Germany and France remain anti NPM. NPM reforms are not applicable in any organisation because sometimes NPM functions according to the available conditions, the situation as well as settings; hence, NPM should fit the settings and situations to deliver in the public sector. The resolution for the limitation can be made by longitudinal studies to validate the implementation of NPM reforms under different settings to minimise generalisations in this thesis.

Besides, NPM reforms can contribute positively to public service organisation; however, deficient administrative ability or unsuitable background can deter NPM reforms. Thus, future study possibly is to revalidate the reliability of the developed scale by collecting and analysing other set of data in different regions in Oman, because the validation of the scale was on data collected from public service organisations in Muscat region, which perhaps can limit the generalisability of the findings to other regions. Besides, the study covered ministries and authorities within the Muscat region. Consequently, the results might differ for other types of public organisation, such as public hospitals, public schools and colleagues or other types of entities under the ambarella of the public service organisation. Also, context contributes significantly to public service reform; thus, further research helps to evaluate the extent to which the finding can undergo generalisation for public service and other kinds of organisations in different countries. As such, additional research is needed for the identification of the exact types of management or organisations suitable for the adoption and implementation of NPM practices.

The literature about exploration and exploitation activities that influence service innovation remains widely available and mostly utilised in the private sector. Hence, there is limited research at the organisational level for public service. Also, scholars and practitioners have conducted little public service research about the capabilities of public organisations to attain organisational ambidexterity. As such, it is suggested that more research should be conducted about the antecedent of organisational ambidexterity in the public sector. Similarly, even fewer studies have focused on the influence of the practices on the perception of the customers and achievement satisfaction for public service organisations. Future studies should focus on the customers' role, such as the development of instruments to measure customer satisfaction as a variable. Also, the need for research that discuss drivers and factors that effects staff and manager’s ability to innovate, e.g. the effects of incentives, contract agreements, salaries that encourage staff and managers to works towards implementing and enhancing innovation and performance.

Previous literature points out that leadership skills and style play a significant role in the development and growth of any organisation. Future research may investigate the role of leadership skills or style variables as a moderator. For instance, investigating the impact of leadership style as a moderator for the relationship between NPM and service innovation while explaining the contribution of the managers' roles to the performance of public service innovations. Conversely, the impact of organisational culture variables as a mediator represents a potential for research in understanding the connection between NPM and service innovation and their influence on public service performance.

Despite its limitations, this thesis serves as a starting point for examining the effects of organisational ambidexterity and NPM on service quality through the mediation role of service innovation in the context of the public sector which considered the first in the public administration/management literature.

9.8 Summary

The conclusion provides a background for the thesis and the findings to the extent of the relationship between organisational ambidexterity, NPM, and service quality as well as between service innovation and service quality. This chapter highlighted the theoretical and practical contributions of the thesis. Similarly, this chapter highlights the theoretical and practical implications for the thesis based on the connection with organisational ambidexterity and NPM through the service innovation and its effect on service quality. Most importantly, the chapter points out the role of the managers in the public service organisations. Furthermore, the chapter describes the limitations and the future recommendations that might extend the knowledge in relation to organisations ability to pursue exploration and exploitation, and the NPM reforms and its significant effects on public service quality through service innovation.

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Appendices

8.1 Appendix 1: Round Two Outputs

Items	Responses	Comments
Performance Targets		
~~3. Performance on the level of individuals or organisational units is assessed or measured~~	4	This also have high score but its similar t so have to choose one only
7. Outputs and outcomes are measured	5	This question have the highest responses, will go for this one.
Efficiency		
11. Focuses on **increasing** ~~productive~~ **efficiency** through e.g. greater managerial discretion over the selection of inputs, short-term labour contracts, and inter-agency competition ~~and a greater reliance on economic incentives~~	5	1. Removed the word "productive" as it i term mostly related to the private sector. 2. Added abbreviation "e.g." as I believe the three items starting with inputs are on serving as examples. 3. Removed the term "economic incentiv avoid double barrelled questions.
Disaggregation		
17. Increased outsourcing and privatisation	4	
Decentralization		
24. Focuses on creating decentralised organisational structures and processes	4	
23. Focuses on giving managers increased autonomy	5	
Cost cutting		
16. Focuses on improving public sector financial management via output budgeting ~~accrual accounting, better contract management~~ and more comprehensive	6	Removed "accrual accounting, better con management"
Policies		
30. Organisational units have discretion to implement policies as long as outcomes are realised	6	
Reward		
26. Performance information is used to incentivise individuals or organisational units to perform better	4	
27. Focuses on incentivizing individual and organisational performance via more rigorous performance specification and measurement, and the transparent reporting of results	6	
Customer responsiveness/needs		
12. Implements customer satisfaction measurement	5	
14. Focuses on increasing the responsiveness of public agencies to consumer/client preferences	5	

8.2 Appendix 2: Round Three Output

Items	Scholars remarks
1. Outputs and outcomes are measured	
2. Focuses on increasing efficiency through e.g. greater managerial discretion over the selection of inputs, short-term labour contracts, and inter-agency competition.	
3. Increased outsourcing 4. Increased private ownership 5. Entering into Public-Private Partnership	It is problematic that you use the word 'and' and 'or' in several indicators. This complicates the analysis, as it will no be clear what respondents miss if they answer 'no' to a specif question. Privatisation was changed to private ownership so that its mo applicable to public sector in Oman. Public-Private Partnership.
6. Focuses on creating decentralised organisational structures and processes	
7. Focuses on given organisation increased autonomy	You might want to include autonomization, it is not only abo privatisation but in general executive organisations being at arm's length but not privatised
8. Focuses on giving managers increased autonomy	
9. Focuses on improving public sector financial management via output budgeting, and more comprehensive reporting	
10. Organisational units have discretion to implement policies as long as outcomes are realized	Furthermore, I think indicator 11 has nothing to do with you scale. That will become visible when you start using this sca
11. Focuses on incentivising performance using rigorous performance specification and measurement	"Focuses on incentivizing individual and organisational performance via more rigorous performance specification an measurement, and the transparent reporting of results" 1. removed "individual and organizational level" … 2.changed the word "via more" and added the word "using". 3. deleted and the "transparent reporting of results" to avoid double barrelled questions.
12. Performance information is used to incentivise individuals or organisational units to perform better	
13. Implements citizen ~~customer~~ satisfaction measurement	Why not citizen preferences?
14. Focuses on increasing the responsiveness of public agencies to citizen ~~consumer/client~~ preferences	Why not citizen preferences?

8.3 Appendix 3: Practitioner Details

No.	Name	Job Title	Organisation name
1.	H.E. Dr. Fuad Jaffer Al Sajwani	Former minister	Ministry of Agriculture and Fisheries
2.	Dr. Salim Sultan Al Ruzaiqi	CEO	Ministry of Technology and Communications
3.	Dr. Yousef Abdullah al-Balushi	Director of Transfer of Science, Knowledge and Technology Office	Ministry of Foreign Affairs
4.	Dr. Ahmed Mohamed Alamry	Strategic Planning Advisor	Ministry of Civil Services
5.	Dr. Mohammed Khamis AlFarsi	Advisor	Ministry of Manpower

8.4 Appendix 4: Final Research Questionnaire

MANAGEMENT IN THE OMANI PUBLIC SECTOR SURVEY

استبيان عن الإدارة في القطاع العام العماني

هذا الاستبيان يختص فقط بالموظفين العاملين في القطاع الحكومي

إذا كنت تعمل في جهة حكومية يرجى التكرم بتعبئة الاستبيان أدناه. يهدف هذا الاستبيان لاستطلاع رأيك بخصوص الخدمات المبتكرة ومستوى جودة هذه الخدمات في القسم الذي تعمل به.

شكراً لك على المشاركة في هذا الاستبيان. يرجى التكرم بالاجابة على جميع الأسئلة. نحن نضمن لك عدم الكشف عن هويتك وبقاء إجاباتك سرية واستخدام هذه الاجابات فقط لغرض هذا البحث.

إذا كانت لديك أية أسئلة أو استفسارات بشأن الاستبيان أو حول المشاركة في هذا البحث، يمكنك التواصل معي من خلال 20170318@student.buid.ac.ae

This questionnaire is onlyfor public sector employees

If you work in public sector/for government please fill this questionnaire. This questionnaire is about your views of innovative services and service quality in your department.

Thank you for participating in this survey. Please answer all questions. You are guaranteed anonymity and your answers will remain confidential, and they will be used only for the purpose of this research.

If you have any questions or concerns about the questionnaire or about participating in this research, you can contact

1. About your organisation عن المؤسسة التي تعمل بها

Name الأسم

What type of organisation do you work for? أي نوع من المؤسسات تعمل بها حالية

- Ministerial – Service Ministries
  مؤسسة وزارية (مثل الوزارات الخدمية) ☐
- Non- Ministerial – Authorities
  مؤسسة غير وزارية (مثل الهيئات) ☐
- Other (please specify):
  أخرى (يرجى تحديد الجهة التي تعمل لديها)

Organisation name أسم المؤسسه التى تعمل بها

Are you working in? هل تعمل في:

- Muscat مسقط ☐
- Outside Muscat خارج مسقط ☐

What is your organisation sector القطاع الذي تنتمي اليه مؤسستك

- Government حكومي ☐
- Semi-Government شبه حكومي ☐
- Other (please specify):
  أخرى (يرجى تحديد القطاع الذى تعمل به):

What type of department you are working for? في أي نوع من الأقسام تعمل

- Operational department – Such as products and services for customer service department ☐
  دائرة العمليات التشغيلية - مثل الاقسام الخاصة بالمنتجات والخدمات الخاصة بخدمة العملاء
- Functional department – Such as human resources, sales, quality control and marketing ☐
  دائرة وظيفية - مثل الاقسام الخاصة بالموارد البشرية والمبيعات ومراقبة الجودة والتسويق
- Other (please specify):
  أخرى (يرجى تحديد القسم الذي تعمل به):

Department name? أسم الدائرة التي تعمل بها؟

What position do you currently hold? المستوى الوظيفي للوظيفه التي تعمل بها؟

- Top hierarchical level – Top management such as board of directors and general manager ☐
  أعلى مستوى في الهرم الوظيفي (الإدارة العليا-مثل مجلس الادارة و المدير العام)
- Second hierarchical level - Middle management such as manager ☐
  المستوى الثاني في الهرم الوظيفي (الإداره الوسطى مثل المدير)
- Third hierarchical level – Lower management such as team leader ☐

المستوى الثالث في الهرم الوظيفي (الإدارة الدنيا مثل قائد الفريق)
Other (please specify): أخرى (يرجى تحديد المستوى الوظيفي):

Job Title المسمى الوظيفي

What is the approximate overall number of employees in your department?
ما هو العدد الإجمالي التقريبي للموظفين الذين يعملون في القسم الذي تعمل به

< 10	☐
10-19	☐
20-29	☐
> 30	☐

Please indicate your level of agreement with the following statements يرجى الإشارة إلى مستوى موافقتك على البيانات التالية							
2. Activities associated with external opportunities الأنشطة المرتبطة بالفرص الخارجية							
	Strongly Disagree غير موافق بشده	Moderately Disagree غير موافق الى حدا ما	Slightly Disagree غير موافق قليلا	Neutral محايد	Slightly Agree أوافق قليلا	Moderately Agree أوافق باعتدال	Strongly Agree أوافق بشده
My department القسم الذي أعمل به							
Challenges outmoded traditions/practices/sacred cows يتحدى التقاليد والممارساتالقديمة و المسلمات	1	2	3	4	5	6	7
Has enough flexibility to respond quickly to changes in customer needs and demands يتمتع بقدر كاف من المرونة التي تمكنه من الاستجابة السريعة لاحتياجات وطلبات العملاء المتجددة	1	2	3	4	5	6	7
Reacts rapidly to changes in public needs (e.g., through shifting organisational priorities) يستجيب بسرعة للتغيرات في احتياجات الجمهور (فعلى سبيل المثال يقوم بإعادة ترتيب الأولويات الخاصة بالمؤسسة بناء على هذه التغيرات)	1	2	3	4	5	6	7
Supports the reconfiguration of department activities to respond to external changes يدعم إعادة تهيئة /ترتيب الأنشطة للاستجابة للتغيراتالخارجية	1	2	3	4	5	6	7
3. Performance-oriented reforms الاصلاحات التي تهدف الى تحسين الاداء							
	Strongly Disagree غير موافق بشده	Moderately Disagree غير موافق الى حدا ما	Slightly Disagree غير موافق قليلا	Neutral محايد	Slightly Agree أوافق قليلا	Moderately Agree أوافق باعتدال	Strongly Agree أوافق بشده
My department ... القسم الذي أعمل به							
يتم فيه تقييم المخرجات والنتائج **Measures** outputs and outcomes	1	2	3	4	5	6	7
يركز على زيادة الكفاءة Focuses on improving **efficiency**	1	2	3	4	5	6	7
يعتمد بشكل رئيسي على الاستعانة بمصادر خارجية (أي التعهيد أو إسناد الأعمال لشركات خارجية) Relies extensively on **outsourcing**	1	2	3	4	5	6	7

يدخل في شراكة بين القطاعين العام والخاص Enters into Public-Private **Partnerships**	1	2	3	4	5	6	7
اطر العمل والهيكل التنظيمي يتبنى اللامركزية Has **decentralised** organisational structure and processes	1	2	3	4	5	6	7
يعطي المدراء الاستقلالية في اتخاذ القرارات Gives managers **autonomy** to make decisions	1	2	3	4	5	6	7
به إدارة مالية فعالة فعلى سبيل المثال تقوم هذه الإدارة بخفض التكاليف Has strong **financial management** e.g. minimizing costs	1	2	3	4	5	6	7
يتم فيه تحديد أهداف الأداء Sets performance **targets**	1	2	3	4	5	6	7
يقدم الحوافز للموظفين Offers **incentives** to employees	1	2	3	4	5	6	7
يستجيب لتفضيلات ورغبات العملاء **Responds** to customer **needs** and preferences	1	2	3	4	5	6	7
يتم فيه قياس مستوى رضا العملاء Measures customer **satisfaction**	1	2	3	4	5	6	7
4. Service innovation الابتكارفي الخدمة							
	Strongly Disagree غير موافق بشده	Moderately Disagree غير موافق الى حدا ما	Slightly Disagree غير موافق قليلا	Neutral محايد	Slightly Agree أوافق قليلا	Moderately Agree أوافق باعتدال	Strongly Agree أوافق بشده
My department ... القسم الذي أعمل به							
يشجع الابتكارفي إدارة البرامج / المشروعات Encourages innovation in program/project management	1	2	3	4	5	6	7
يؤكد على الابتكار في تقديم الخدمة Emphasises service innovation	1	2	3	4	5	6	7
يبحث باستمرار عن طرق جديدة لخدمة عملائنا بشكل أفضل Constantly seeks new ways to better service our customer	1	2	3	4	5	6	7
يغير/يعدل أساليب الخدمة لتلبية متطلبات العملاء Changes/modifies service approaches to satisfy customer requirements	1	2	3	4	5	6	7
يتم فيه تقديم خدمات جديدة باستمرار Consistently introduces new service	1	2	3	4	5	6	7
5. Service quality مستوى جودة الخدمة							
	Strongly Disagree غير موافق بشده	Moderately Disagree غير موافق الى حدا ما	Slightly Disagree غير موافق قليلا	Neutral محايد	Slightly Agree أوافق قليلا	Moderately Agree أوافق باعتدال	Strongly Agree أوافق بشده
My department ... القسم الذي أعمل به							
يستخدم أحدث المعدات في تقديم الخدمة Employs up-to-date equipment in service provision	1	2	3	4	5	6	7
يمكن دائما الوثوق به عند تقديم الخدمات	1	2	3	4	5	6	7

Is always reliable when providing services							
تتم الاستجابة الفورية لطلبات العملاء عند تقديم الخدمات لهم Promptly responds to customer requests when providing services	1	2	3	4	5	6	7
يقدم خدمات موثوقة تدعم ثقة العملاء Provides services in a trustful relationship to our customer	1	2	3	4	5	6	7
يهدف دائمًا إلى تلبية احتياجات العملاء عند تقديم الخدمات لهم Always aims to satisfy customer needs when providing services	1	2	3	4	5	6	7
يقدم الخدمات للعملاء بكفاءة Provides services efficiently for customers	1	2	3	4	5	6	7
6. Activities associated with operational efficiency الأنشطة المرتبطة بالكفاءة التشغيلية							
	Strongly Disagree غير موافق بشده	Moderatel y Disagree غير موافق الى حدا ما	Slightly Disagree غير موافق قليلا	Neutral محايد	Slightly Agree أوافق قليلا	Moderately Agree أوافق باعتدال	Strongly Agree أوافق بشده
My department ... في القسم الذي اعمل به							
نتعاونلدعم اهداف المؤسسة Collaborates to support organisational objectives	1	2	3	4	5	6	7
نستخدم الموارد بكفاءة Uses resources efficiently	1	2	3	4	5	6	7
ندعم تحقيق الأهداف المتعلقة برفع الكفاءة Supports the achievement of efficiency-related objectives	1	2	3	4	5	6	7
عادة ما نتخذ القرارات التي تدعم الاستخدام الفعال للموارد Usually makes decisions that facilitate the efficient utilisation of resources	1	2	3	4	5	6	7
ننظم مهام العمل لتحقيق الكفاءة Organises work tasks to achieve efficiency	1	2	3	4	5	6	7

8.5 Appendix 5: Cook's Distance

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	19.5451	40.7644	35.4777	3.48733	157
Std. Predicted Value	-4.569	1.516	.000	1.000	157
Standard Error of Predicted Value	.307	1.630	.570	.231	157
Adjusted Predicted Value	18.8908	40.8280	35.4700	3.52720	157
Residual	-12.47142	8.46748	.00000	3.40247	157
Std. Residual	-3.618	2.457	.000	.987	157
Stud. Residual	-3.678	2.639	.001	1.007	157
Deleted Residual	-12.88587	9.77433	.00766	3.54557	157
Stud. Deleted Residual	-3.840	2.693	-.001	1.018	157
Mahal. Distance	.247	33.877	3.975	5.210	157
Cook's Distance	.000	.215	.009	.023	157
Centered Leverage Value	.002	.217	.025	.033	157

a. Dependent Variable: SERVQUAL

8.6 Appendix 6: Multicollinearity Statistics

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	EXPLOR	.592	1.691
	NPM	.455	2.198
	SERVINNOV	.378	2.646
	EXPLOIT	.545	1.836

a. Dependent Variable: SERVQUAL[a]

8.7 Appendix 7: First Exploratory Factor Analysis (Pattern Matrix)

Pattern Matrix[a]

	Factor					
	1	2	3	4	5	6
EXPLOR1						
EXPLOR2				.707		
EXPLOR3				.801		
EXPLOR4				.908		
NPM1	.591					
NPM2	.597					
NPM3						
NPM4						
NPM5	.606					
NPM6	.613					
NPM7	.625					
NPM8	.555					
NPM9	.664					
NPM10	.651					
NPM11	.530					
SERVINNOV1					.674	
SERVINNOV2					1.055	
SERVINNOV3						.536
SERVINNOV4						.934
SERVINNOV5						.442
SERVQUAL1		.376				
SERVQUAL2		.582				
SERVQUAL3		.787				
SERVQUAL4		.933				
SERVQUAL5		.723				
SERVQUAL6		.540				
EXPLOIT1			.949			
EXPLOIT2			.863			
EXPLOIT3			.805			
EXPLOIT4						
EXPLOIT5			.488			

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalisation.

a. Rotation converged in 7 iterations.

8.8 Appendix 8: Reliability Statistics

Exploration

Inter-Item Correlation Matrix

	EXPLOR2	EXPLOR3	EXPLOR4
EXPLOR2	1.000	.593	.549
EXPLOR3	.593	1.000	.700
EXPLOR4	.549	.700	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EXPLOR2	11.52	5.315	.622	.387	.810
EXPLOR3	11.69	4.342	.730	.552	.705
EXPLOR4	11.53	5.648	.704	.518	.742

Exploitation

Inter-Item Correlation Matrix

	EXPLOIT1	EXPLOIT2	EXPLOIT3	EXPLOIT4	EXPLOIT5
EXPLOIT1	1.000	.739	.710	.422	.618
EXPLOIT2	.739	1.000	.644	.467	.517
EXPLOIT3	.710	.644	1.000	.567	.594
EXPLOIT4	.422	.467	.567	1.000	.545
EXPLOIT5	.618	.517	.594	.545	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EXPLOIT1	24.73	10.841	.749	.676	.827
EXPLOIT2	25.01	10.218	.704	.587	.831
EXPLOIT3	25.01	9.237	.767	.610	.813
EXPLOIT4	25.27	9.533	.592	.409	.869
EXPLOIT5	24.97	10.640	.683	.490	.837

New Public Management

Inter-Item Correlation Matrix

	NPM1	NPM2	NPM5	NPM6	NPM7	NPM8	NPM9	NPM10	NPM11
NPM1	1.000	.694	.365	.430	.305	.612	.382	.538	.386
NPM2	.694	1.000	.401	.542	.367	.607	.441	.491	.357
NPM5	.365	.401	1.000	.533	.322	.338	.304	.403	.369
NPM6	.430	.542	.533	1.000	.302	.376	.495	.472	.378
NPM7	.305	.367	.322	.302	1.000	.411	.391	.429	.393
NPM8	.612	.607	.338	.376	.411	1.000	.489	.538	.544
NPM9	.382	.441	.304	.495	.391	.489	1.000	.495	.473
NPM10	.538	.491	.403	.472	.429	.538	.495	1.000	.492
NPM11	.386	.357	.369	.378	.393	.544	.473	.492	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
NPM1	43.02	48.968	.651	.567	.858
NPM2	42.89	49.192	.692	.600	.854
NPM5	43.52	50.841	.522	.348	.870
NPM6	43.40	50.485	.618	.482	.861
NPM7	43.54	51.840	.500	.282	.871
NPM8	42.90	49.177	.692	.560	.854
NPM9	43.99	50.731	.603	.417	.862
NPM10	43.40	50.870	.682	.477	.856
NPM11	43.41	50.642	.590	.412	.863

Service Innovation

Inter-Item Correlation Matrix

	SERVINNOV1	SERVINNOV2	SERVINNOV3	SERVINNOV4	SERVINNOV5
SERVINNOV1	1.000	.756	.573	.455	.514
SERVINNOV2	.756	1.000	.719	.595	.627
SERVINNOV3	.573	.719	1.000	.765	.645
SERVINNOV4	.455	.595	.765	1.000	.705
SERVINNOV5	.514	.627	.645	.705	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SERVINNOV1	22.94	18.913	.666	.577	.889
SERVINNOV2	22.87	18.138	.807	.707	.853
SERVINNOV3	22.66	19.828	.797	.696	.860
SERVINNOV4	22.83	20.216	.729	.664	.873
SERVINNOV5	23.11	18.725	.721	.568	.874

Service Quality

Inter-Item Correlation Matrix

	SERVQUAL2	SERVQUAL3	SERVQUAL4	SERVQUAL5	SERVQUAL6
SERVQUAL2	1.000	.477	.593	.591	.468
SERVQUAL3	.477	1.000	.648	.631	.498
SERVQUAL4	.593	.648	1.000	.695	.563
SERVQUAL5	.591	.631	.695	1.000	.607
SERVQUAL6	.468	.498	.563	.607	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SERVQUAL2	23.92	11.443	.629	.421	.853
SERVQUAL3	24.28	9.665	.679	.490	.849
SERVQUAL4	23.93	10.566	.771	.601	.819
SERVQUAL5	23.95	10.895	.779	.610	.820
SERVQUAL6	23.82	11.395	.633	.419	.852

8.9 Appendix 9: CFA Factor Loadings

Standardised Regression Weights: (Group number 1 - Default model)

			Estimate
NPM11	<---	NPM_F	.633
NPM10	<---	NPM_F	.721
NPM9	<---	NPM_F	.622
NPM8	<---	NPM_F	.779
NPM7	<---	NPM_F	.506
NPM6	<---	NPM_F	.635
NPM5	<---	NPM_F	.529
NPM2	<---	NPM_F	.768
NPM1	<---	NPM_F	.745
EXPLOR4	<---	EXPLOR_F	.788
EXPLOR3	<---	EXPLOR_F	.884
EXPLOR2	<---	EXPLOR_F	.684
EXPLOIT5	<---	EXPLOIT_F	.741
EXPLOIT4	<---	EXPLOIT_F	.618
EXPLOIT3	<---	EXPLOIT_F	.818
EXPLOIT2	<---	EXPLOIT_F	.793
EXPLOIT1	<---	EXPLOIT_F	.855
SERVQUAL6	<---	SERVQUAL_F	.717
SERVQUAL5	<---	SERVQUAL_F	.859
SERVQUAL4	<---	SERVQUAL_F	.809
SERVQUAL3	<---	SERVQUAL_F	.730
SERVQUAL2	<---	SERVQUAL_F	.696
SERVINNOV5	<---	SERVINNOV_F	.787
SERVINNOV4	<---	SERVINNOV_F	.806
SERVINNOV3	<---	SERVINNOV_F	.858
SERVINNOV2	<---	SERVINNOV_F	.835
SERVINNOV1	<---	SERVINNOV_F	.710