11-2019

AN EMPIRICAL INVESTIGATION INTO THE PRACTICE AND MEASURES OF KNOWLEDGE TRANSFER BEHAVIOUR, ROLE OF CONSULTANTS, CLIENTS ASSOCIATED FACTORS AND THEIR RELATIONSHIP IN ABU DHABI NATIONAL OIL COMPANY (ADNOC)

Mustafa Sayar Al Hosani

United Arab Emirates University

College of Business and Economics

AN EMPIRICAL INVESTIGATION INTO THE PRACTICE AND MEASURES OF KNOWLEDGE TRANSFER BEHAVIOUR, ROLE OF CONSULTANTS, CLIENTS ASSOCIATED FACTORS AND THEIR RELATIONSHIP IN ABU DHABI NATIONAL OIL COMPANY (ADNOC)

Mustafa Sayar Al Hosani

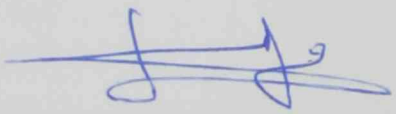
This dissertation is submitted in partial fulfilment of the requirements for the degree of Doctorate of Business Administration

Under the Supervision of Dr. Abdul Karim Khan

November 2019

Declaration of Original Work

I, Mustafa Sayar Al Hosani, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this dissertation entitled "*An Empirical Investigation into the Practice and Measures of Knowledge Transfer Behaviour, Role of Consultants, Clients Associated Factors and their Relationship in Abu Dhabi National Oil Company (ADNOC)*", hereby, solemnly declare that this dissertation is my own original research work that has been done and prepared by me under the supervision of Dr. Abdul Karim Khan, in the College of Business and Economics at UAEU. This work has not previously been presented or published or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my dissertation have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this dissertation.

Student's Signature:  Date: 12-Jan-2020

Declaration of Original Work

I, Mustafa Sayar Al Hosani, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this dissertation entitled "*An Empirical Investigation into the Practice and Measures of Knowledge Transfer Behaviour, Role of Consultants, Clients Associated Factors and their Relationship in Abu Dhabi National Oil Company (ADNOC)*", hereby, solemnly declare that this dissertation is my own original research work that has been done and prepared by me under the supervision of Dr. Abdul Karim Khan, in the College of Business and Economics at UAEU. This work has not previously been presented or published or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my dissertation have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this dissertation.

Student's Signature: _____ Date: _____

Advisory Committee

1) Advisor: Dr. Abdul Karim Khan

Title: Associate Professor

Department of Leadership and Organizational Agility

College of Business and Economics

2) Co-advisor: Dr. Maqsood Ahmad Sandhu

Title: Associate Professor

Department of Leadership and Organizational Agility

College of Business and Economics

3) Member: Dr. Marina Selini Katsaiti

Title: Associate Professor

Department of Leadership and Organizational Agility

College of Business and Economics

Approval of the Doctorate Dissertation

This Doctorate Dissertation is approved by the following Examining Committee members

1) Advisor (Committee Chair): Dr. Abdul Karim Khan

Title: Associate Professor

Department of: Leadership and Organizational Agility

College of: Business & Economics

Signature:..... Date: 3/11/2019

2) Member Name: Dr. Ghulam Ali Arain

Title: Associate Professor

Department of: Leadership and Organizational Agility

College of: Business & Economics

Signature:..... Date: 7-11-2019.

3) Member Name: Dr. Prospera Tedam

Title: Assistant Professor

Department of: Social Wellbeing

College of: Humanities and Social Sciences

Signature:..... Date: 3/11/2019

4) Member Name (External Examiner): Professor Essam Sheheab

Title: Professor

University of: Cranfiled University

Signature:..... Date: 3/11/2019

This Doctorate Dissertation is accepted by:

Dean of the College of Business and Economics: Professor Frank Bostyn

Signature _____ Date 5/1/2020

Dean of the College of Graduate Studies: Professor Ali Al-Marzouqi

Signature _____ Date 30/1/2020

Copy 2 of 19

Abstract

The study is aimed to identify the role of different factors effecting knowledge transfer behaviour between at Abu Dhabi National Oil Company (ADNOC), which is UAE National Oil Company. Extending the existing work on knowledge transfer, the researcher has incorporated the source, recipients and process related factors to examine knowledge transfer behaviour among consultants and clients. The moderating role of learning management system was also analysed. The study follows a quantitative approach to test the hypothesized relationships and the sample consists of 446 employees from ADNOC Company.

Findings of the study suggest that there is a significant direct impact of independent recipient oriented factors of absorptive capacity and motivation to learn, on the knowledge transfer behaviour. Moreover, it presents evidence to support indirect impact including partial mediation of arduousness of the relationship between the impact of recipients' motivation to learn and knowledge transfer behaviour, full mediation of arduousness of the relationship between the impact of sources' credibility and knowledge transfer behaviour and a significant moderation impact of learning management system on the relationship between recipients' absorptive capacity, in context of this study.

Apart from the above mentioned findings, the study also presents contextual non-findings. These non-findings include an insignificant but negative impact of sources' credibility on the knowledge transfer behaviour and an insignificant impact on the recipients' retentive capacity on the organizational knowledge transfer behaviour, in terms of direct impact. The study has also presented an indirect impact on non-finding of insignificant moderating impact. This non-finding was in terms of insignificant moderation of LMS on the relationship between recipients' retentive capacity and organizational knowledge transfer behaviour.

Keywords: Institutional justice, institutional behavior towards citizenship, ideal of institutional solidarity, perceived institutional conflict, ideal of institutional solidarity, exchange of leadership members, concrete institutional support, mechanisms for exchanging social roles.

Title and Abstract (in Arabic)

تحقيق إستقصائي فيما يتعلق بتطبيقات وقياسات سلوك نقل المعرفة ودور الإستشاريين والعوامل المرتبطة بالعملاء وعلاقاتهم بشركة بترول ابوظبي الوطنية "ادنوك"

الملخص

تهدف هذه الدراسة إلى تحديد دور العوامل المختلفة التي تؤثر على النهج المتبع لنقل المعرفة في شركة بترول أبوظبي الوطنية (أدنوك)، وهي شركة البترول الوطنية لدولة الامارات العربية المتحدة . أما فيما يختص بتوسيع نطاق العمل الحالي لعملية نقل المعرفة، فقد قام الباحث بإعادة دمج المصدر واالمتلقين والعوامل المرتبطة بالعملية لفحص النهج المتبع في نقل المعرفة بين الاستشاريين والعملاء. كما تم تحليل الدور المتوازن لنظام إدارة التعلم. تتبع هذه الدراسة مقاربة كمية لاختبار العلاقات المفترضة وتتكون كل عينة من عدد 446 موظفًا من شركة أدنوك.

تشير نتائج الدراسة إلى أن هناك تأثيرًا مباشرًا ومهمًا للعوامل المستقبلة الموجهة نحو القدرة الاستيعابية والدافع للتعلم على النهج المتبع في نقل المعرفة، علاوة على ذلك فقد تم تقديم أدلة لدعم التأثير غير المباشر بما في ذلك الوساطة الجزئية لقوة العلاقة بين تأثير دافع االمتلقين على التعلم والنهج المتبع في نقل المعرفة والدور الوسيط والمتكامل لقوة العلاقة بين تأثير مصداقية المصادر والنهج المتبع في نقل المعرفة والتأثير المعتدل لنظام إدارة التعلم على العلاقة بين القدرة الاستيعابية للمتلقين في سياق هذه الدراسة.

وبصرف النظر عن النتائج المذكورة أعلاه، فإن الدراسة تقدم أيضا النتائج غير السياقية. تتضمن هذه النتائج غير المؤثرة تأثيرًا ضئيلًا ولكنه سلبيًا لمصداقية المصادر على النهج المتبع في نقل المعرفة وذو تأثير ضئيل على قدرة المتلقين الاستبقائية على سلوك نقل المعرفة التنظيمي من حيث التأثير المباشر. قدمت الدراسة أيضًا تأثيرًا غير مباشر على عدم وجود أهمية الدور المعتدل لنظام إدارة التعلم على العلاقة بين القدرة الاستبقائية للمتلقين والنهج المتبع في نقل المعرفة بالمؤسسة.

مفاهيم البحث الرئيسية: العدالة المؤسسية، السلوك المؤسسي تجاه المواطنة، مثالية التضامن المؤسسي، التعارض المؤسسي المحسوس، مثالية التضامن المؤسسي، تبادل الاعضاء القياديين، الدعم المؤسسي الملموس، آليات تبادل الادوار الاجتماعية.

Acknowledgements

Foremost, I would like to express my sincere gratitude to my Supervisor Dr Abdul Karim Khan for the continuous support of my DBA study and research, for his patience, motivation, enthusiasm and immense knowledge. His guidance helped me in all the time of research and writing of this thesis.

My Sincere thanks also goes to ADNOC staff for offering me the opportunity to launch the questionnaire and to get their responses on time, and leading me working on diverse exiting projects.

I thank my fellow colleagues at UAE University, Dr. Abdulla Al Awadhi & Dr. Fareed Al Amiri for the stimulating discussion. Also, I thank my friends in ADNOC and ADNOC Refining to Mr. Ahmed Al Shaiba Al Hameli & Mr. Tariq Al Hosani for enlightening me the first glance of research.

Last but not the least, I would like to thank my family for their support throughout my life.

Dedication

To my parents… the reason of what I become today. Thank you for your good support and continuous care...

To my family…who always believed in me, sometimes more than I personally do….

Table of Contents

List of Tables

List of Figures

List of Abbreviations

ADNOC	Abu Dhabi National Oil Company
AR	Arduousness of Relationship
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
H	Hypothesis
ICT	Information Communication Technology
KM	Knowledge Management
KT	Knowledge Transfer
LMS	Learning Management System
RAC	Recipients Absorptive Capacity
RM	Recipients Motivation
RRC	Recipients Retentive Capacity
SC	Source Credibility
SR	Structure Regression

Chapter 1: Research Background and Overview

1.1 Introduction

In the wake of the twenty first century, with the technological evolution of the world economy, the business environment went through a permanent change, like never before. Suddenly, knowledge has emerged as the most important asset for the business organizations. With the rapid advancements in the technologies revolutionizing the world, consistently. It became essentially vital to manage the ever evolving knowledge, in a productive manner. Although, knowledge management was in place by the end of the last century, especially in the oil and gas sector, as described by Grant (2013). However, the pace of advancements in the last couple of decades, made it necessary to be able to access and transfer the organizational knowledge, as quickly as possible. This rapid evolution has also increased the frequency of the problems faced by the organization as well, which took knowledge management to a whole new level. In order to make the optimal utilization of the technological evolution, passive knowledge management became very quickly obsolete. Along came an era of interactive or integrated knowledge management, with a focus on actual knowledge transfer behaviour when and where it is needed. This Just-In-Time approach to knowledge transfer behaviour, very quickly evolved into real time knowledge transfer behaviour, with the advancement of technology.

In the current age of specialization aimed at the achievement of optimization, a unique niche was created, especially at the highest levels. There is a need for the availability of the expertise and most up to date knowledge at the best price. A rise has been given to consultancies, which have always been there in one way or the other. However, the ability of these consultancies to source the highest levels of expertise,

availability and creation of knowledge, capable of transforming organizational deficiencies into their competitive advantage. By taking care of the weaknesses, consultants allow the organizations to direct their efforts towards their strengths, just like a team. The ability of these consultancies to penetrate an organization and take care of their problems in a seamless way has given rise to the employment of these consultancies by larger organizations in the recent times.

This integration of consultancies into the organization has also transformed organizational knowledge management practices. More importantly, the emphasise was shifted to knowledge transfer behaviour. With the advancement in technology, tools like LMS were developed and quickly became an essential part of organizational knowledge management system. The ability of these systems to enable the organizations to transfer knowledge on the need basis and continuously evolve it over time, has caused a seamless integration of LMS into the organizations. These integrated systems increased the significance of knowledge transfer behaviour in the organizations, as whatever the knowledge was being transferred into the organization got immediately integrated into the organizational knowledge management system. LMS has also enabled the organizations to optimally utilize the external knowledge sources, especially consultants. With the integration of LMS into the organizational systems, the knowledge being acquired from the consultants got integrated and made available to the people in need of this newly transferred knowledge. Therefore, it is important to study the organizational knowledge transfer behaviour in this context, which has somehow been overlooked in the recent studies.

1.2 Motivation for the Research

The researcher is undertaking a leadership role in the organization and this study is directly related to the professional work nature of the researcher. While learning the researching skills and academic methods in the doctorate program, the researcher has successfully identified a research problem that provided an opportunity to comprehensively review the research problem of knowledge transfer behaviour, in context of this study. Through this study, the researcher has addressed a potential optimality problem at work, as well as presented researching skills learned and aimed to be tested in this study. Being a life-long student of human capital and talent development management, the researcher has identified the knowledge transfer behaviour as problem in the organization, and how it is affected, especially in the case of external knowledge transfer between the consultants and the organizations. The researcher has also highlighted the technological evolution and its role in the organizational knowledge transfer behaviour. Therefore, the study is to respond to the research questions identified by the researcher.

1.3 Research Problem and Associated Questions

In this comprehensive and complex study on the subject matter of knowledge transfer behaviour, the researcher has intended to answer certain research-questions, aimed at analyzing the impact of source, recipients' and organization oriented factors on the process of knowledge transfer behaviour in an organization. It is also important to note that the researcher has also incorporated the indirect impacts among the factors affecting the process of knowledge transfer behaviour in an organization. These indirect impacts include the mediation of recipients' oriented factors like credibility of relationship between source and recipient(s) and recipients' motivation to learn. Apart

from these interacting factors, the researcher has also incorporated a factor, which is somewhat rare or rather ignored in the past but turns out to be a very significant factor of learning management system, in the context of the effectiveness of the process of knowledge transfer behaviour. As the researcher has intended to answer the research questions relating to the impact of these sources', recipients' and organizational factors along with their interactions including moderation of LMS between the relationships of independent factors and dependent factor of knowledge transfer behaviour, through this study. Moreover, the author has also intended to base the answers to the following research questions on the empirical evidences, which have provided a solid foundation for further studies, in the context of subject matter under consideration. Based on the research questions, the researcher has formulated a number of hypothesis to be tested during the study. These research questions are listed below:

1. What are the relationships/impacts of consultants' (or source here-onwards), clients' (or recipients here-onwards) and organizational factors on the process of knowledge transfer behaviour in an organization?

This question has been divided into supplementary questions that the researcher has intended to answer in this research, as follows:

2. What is the impact of recipients' oriented factors of, recipients' absorptive capacity, recipients' retentive capacity, recipients' motivation to learn and arduousness of relationship, on the effectiveness of the process of knowledge transfer behaviour in an organization?

Moreover, the researcher has even further divided this question into sub questions, which the researcher has directly reflected in the hypotheses, being tested in this study, in order to answer following sub-questions in this study:

2.1 What is the relationship between the recipients' oriented factor of recipients' absorptive capacity and knowledge transfer behaviour?

2.2 What is the relationship between the recipients' oriented factor of recipients' retentive capacity and knowledge transfer behaviour?

3. Does recipient oriented factor of arduousness of relationship play a mediating role in the relationship between sources' oriented factors and the process of knowledge transfer behaviour?

4. Does process oriented factor of learning management system moderate the relationship between the recipients' oriented factor of recipients' absorptive capacities and recipients' retentive capacity, and the effectiveness of the process of knowledge transfer behaviour in an organization?

The question has also been divided into sub – questions, which the researcher has responded in this study, as follows:

5. Does the learning management system moderate the relationship between the recipients' oriented factor of recipients' absorptive capacities and the effectiveness of the process of knowledge transfer behaviour in an organization?

6. Does the learning management system moderate the relationship between the recipients' oriented factor of recipients' retentive capacity and the effectiveness of the process of knowledge transfer behaviour in an organization?

Spreading upon the details of the above mentioned research questions, the researcher has presented answers all of these questions, within the context of the United Arab Emirates, economy. More precisely, the study has answered all the above mentioned questions based on observations and responses from the oil and gas sector of Abu Dhabi, particularly within the National Oil Company- ADNOC. As described earlier, the very rapid growth rate of United Arab Emirates` economy, coupled with the severity of the local human resources shortage problem, as illustrated by Al-Ali (2008), in his study among many others, is definitely not the recipe for sustainability, in the longer run. The issue of limited productive national human resources, along with all other challenges, has strained recovering economy from the financial meltdown of 2008, to its limits. Furthermore, despite all the tremendous efforts of the government, the challenges remain enormous. Al-Ali (2008) has highlighted that public sector of Abu Dhabi is also at its limit to absorb national human resources. Therefore, ADNOC undertook the absorption of the local human resources, with largest share and highest administrative burden on account of effectiveness, while the private sector `s national human resource acquisition was rather limited. In this respect, the researcher has addressed the problem of the local workforce shortage, through potential solutions-exploration and evaluation, particularly in the field of knowledge transfer behaviour, efficiency and how it can contribute to what extent, in the most desirable human capital development element, in the domain of United Arab Emirates, in general, and, with special attention, in the oil and gas sector of Abu Dhabi, in ADNOC, in particular.

1.4 Research Aims

The researcher has set the objectives of this study around the process of knowledge transfer behaviour, in order to make major contributions to the Human

Capital development in organizations. The study has aimed at bringing out empirical evidences of the factors contributing and/or affecting the optimization of the process of knowledge transfer behaviour in an organization, a key to successful human capital development and leading to succession planning. In turn, it contributes to the sustainability of an organization. The importance of the process of knowledge transfer behaviour becomes even more significant when it comes to an organization like ADNOC, the national oil company of Abu Dhabi and truly the single most important entity in the country, in terms of fueling the United Arab Emirates economy. In addition to its` exceptional contribution to the economy of the United Arab Emirates, ADNOC has also shared some sizeable and laborious task of employment of generations of national work force of the United Arab Emirates, as described by Al-Ali (2008). As the productivity of the human capital is fundamentally based on the effectiveness of the process of knowledge transfer behaviour, this will in turn lead to the optimization of the enormous task of employment of the national work force. By quantifying the importance of contribution or impact of the factors affecting the process of knowledge transfer behaviour, the researcher has aimed to achieve insights into the process of knowledge transfer behaviour and presented practical implications of these insights, leading to the optimization of the process of knowledge transfer behaviour in the Abu Dhabi National Oil Company.

The topical theme of this study is to focus on the process of knowledge transfer behaviour in an organization, from the perspective of being essential tool of human resource management in an organization, in order to achieve the short and long term objectives of the firm. ADNOC has its objectives that entirely aligned with the national human capital development objective(s) of the United Arab Emirates. Considering this macro level alignment of the organization under consideration, with the national

objectives, the optimal productivity of the process of knowledge transfer behaviour in the organization is implied. Owing to this direct and vital role of ADNOC, the researcher has indirectly aimed to contribute to the optimal productivity of the national human capital development in the United Arab Emirates. More specifically, the researcher has achieved this through an empirical demonstration of the relationship(s) between the factors contributing to the productive knowledge transfer behaviour in an organization. This indeed has contributed to the optimization of national human capital development and succession planning, by laying out the areas to concentrate on, in order to optimize the effectiveness of the process of knowledge transfer behaviour in the organization under consideration in this study. This has also immensely contributed to the effectiveness of the source, recipients, process oriented independent and mediating factors as well as the impact of moderating factor of learning management system in an organization.

The study is aimed to generically bridge the knowledge gap, between the global theories of the process of knowledge transfer behaviour and essentially extend the existing knowledge, in the area of knowledge transfer behaviour. At the same time, it is also an attempt to incorporate and integrate those theoretical models, in order to achieve a more comprehensive model of factors affecting the process of knowledge transfer behaviour in an organization. The study has combined the theoretical models presented in different existing studies, while the researcher has incorporated somewhat recent developments in the field(s) of knowledge management and knowledge transfer behaviour, in the form of learning management system, into the existing theories. The study has also incorporated learning management system, as a moderating factor in the model, which has not been thoroughly studied as it should have been, in the existing literature, particularly in the regional context of the Gulf and the United Arab Emirates.

Moreover, the researcher has aimed to present this study as a preliminary model for the process of knowledge transfer behaviour, focusing on the factors contributing to the productivity of the process of knowledge transfer behaviour, specifically incorporating the contextual aspects of UAE oil and gas sector with great focus on ADNOC. The model of this study is intended to lay a foundation to optimize the productivity of the process of knowledge transfer behaviour, by measuring the impact of contributing factors.

The study also has its theoretical aspects and characteristics. As one of the most rapid and mainly oil dependent expansion of the economy, the United Arab Emirates has faced a serious shortage of national skilled labor force. With the advancements in the energy sector, the need to optimize the productivity of this sector and to expand the economy, the United Arab Emirates has been a stable magnet for expatriate skilled labor. This has increased the diversity in the country from one end, and has gradually strained the economy and infrastructure in the country from another end. The gravity of the issue can be assessed by a single simple fact that population of the country consists of almost four times more expatriates than the nationals. The local workforce is not yet fully ready to cope with the ever changing and diverse business requirements, and unable to compete in the private sector, in the country. This has resulted in high strain on the public sector. Due to lavish lifestyle of the national population and their relatively high remuneration expectations, the public sector is economically stretched to its limits. There is an urgent need that the national labor force be highly skilled to compete in the market. As such, the study has contributed to the solution of this chronic problem i.e. lack of national skilled labor.

In consideration to the above issues and concerns, the researcher has described the aims of the study as follows:

1) Identification of the factors that potentially contribute to and/or affect the process of knowledge transfer behaviour in an organization, including source, recipients, process oriented independent and mediating factors, as well as the moderating impact of learning management system in an organization. The aim of the researcher in this study has been to provide an insight into the areas vital for the optimization of the process of knowledge transfer behaviour in an organization, in general and especially in the regional context of the United Arab Emirates.
2) The researcher has aimed to extend recommendations, regarding an appropriate mix of factors to incorporate productive knowledge transfer behaviour, which leads to effective succession planning, by optimization of the human capital development in an organization. In turn, it results in the sustainable performance in all the areas of the organization. This also addresses the broader perspectives of sustainable succession planning, in general and through the initiatives like Emiratization, specifically in case of the United Arab Emirates, including but not limited to oil and gas sector, while focusing on ADNOC.
3) The study also aimed at provision of the quantifiable evidence-based results on the relationship, in terms of different factors contributing/affecting the knowledge transfer behaviour in an organization, including their interactions. These quantifiable evidences have presented the guidelines to direct the efforts of organizations to improve the process of knowledge transfer behaviour in the organization under consideration. At the same time, it has also presented a contextual framework for the regional goals of succession planning through effective human capital development through optimization of the process of

knowledge transfer behaviour in the region, supported with the uniqueness of efforts of the researcher to deal with the issues related to the process of knowledge transfer behaviour, in such an unforeseen detail and complexity, which is rare globally, in general and unique especially in the regional context.

4) The researcher has also aimed in this study, at the identification of the implications, in terms of recommendations, which have been established by answering the questions which have been intended to be answered, based on the results from this study. The study has also served as a preliminary framework for the further studies, which might be aimed at answering the questions raised and needed to be answered in this study.

1.5 Applications and Significance

The research model in this study is one of the more comprehensive model for knowledge transfer behaviour within an organization, based on the integration of factors from pre-existing models. The proposed research is also one of a kind study in context of the UAE. The study has its implications, in terms of productive Emiratization in leading organizations in UAE, in general. It also has its implications, in terms of productive Emiratization leading to successful and sustainable succession planning in ADNOC, in particular. Moreover, the study has also provided preliminary foundation for further research on succession planning and/or Emiratization, in alignment with the special contextual requirements of the UAE, as introduced above, in general and effective knowledge transfer behaviour, incorporating the moderation of learning management system, in particular.

The study has generated certain implications for the boards of directors, managements and especially human resource leadership, to potentially incorporate its

findings to ensure the success of knowledge transfer behaviour and to transform the transferred knowledge, in order to achieve both short and long term objectives of ADNOC, in particular and other business contributors to the economy, especially in UAE. Moreover, it has also provided potentially significant guidance to all stakeholders including but not limited to policy-makers, succession planners, employees and researchers for developing new appropriate policies, while incorporating the findings of this study into their plans and execution, in order to achieve their goals, with respect to knowledge transfer behaviour. As anticipated, conclusions of this study have defined a mix of appropriate dynamic factors and their priorities, in order to achieve successful knowledge, transfer for companies, in order to enable them to encounter different economic conditions, by means of achieving as well as sustaining their desirable performance and continuously improving on it.

The key contribution of this study is two-fold. Firstly, it has incorporated most significant factors from several existing models presented in different studies from different researchers, in different contexts e.g. the model presented by Szulanski (1985) was in generic organizational knowledge transfer behaviour context, while more recent study by Ko et al. (2005) was based on ERP implementation context. This diversity has presented the researcher with an opportunity to bridge the gap among different perspectives, while focusing on the organizational perspective, which is the key to the success of the knowledge transfer behaviour. Secondly, it has incorporated the learning management system into the model for knowledge transfer behaviour, a significant contributing factor, though seriously overlooked and under emphasized in both scholarly as well as professional research domains, in terms of knowledge transfer behaviour context, to the best of researcher's knowledge. Moreover, its incorporation as a moderator itself has signified the implication of learning management system into

the success of knowledge transfer behaviour, especially in UAE context, let alone in energy sector focusing on ADNOC. Hence, led to an extension of the existing knowledge, as well as initiated a debate for the future studies. The research model of the knowledge transfer behaviour in the organization has been tested by conducting an econometric approach for data analysis and diagnostic tests to warrant that all the underlying assumptions for a robust and reliable research model have been fulfilled sufficiently. Therefore, the research method incorporated use of the rigorous parametric test methods.

Finally, being an employee (in leadership role) of the organization under consideration, the researcher has a genuine will to share the findings of this study with many interested groups of stakeholders and decision-makers, such as government as policy-maker, board of directors, management leaders in ADNOC, in particular and succession planners (especially in terms of Emiratization) in UAE, in general. From an academic standpoint, the study has represented a reliable scholarly reference in domains including but not limited to knowledge transfer behaviour, succession planning and learning management system, upon which further studies are expected to extend the model to other regional or global contexts.

1.6 Research Context: The United Arab Emirates

Knowledge is most probably the only constant in the dynamic world of modern business. As highlighted by Drucker (1993), all other (traditional) factors of production become secondary and can be straightforwardly procured in the modern globalized business world, provided there is productive knowledge. In order to sustain business, organizations must generate, retain, procure and acquire knowledge as well, in order to remain relevant in the market. Such acquired knowledge must be acquired,

as well as retained in the organization, in order to sustain productivity in the organization. Companies use external sources, e.g. consultancies etc. in order to acquire knowledge vital for their continual progression and in order to sustain their continuous productivity, knowledge must be transferred from the sources of knowledge to the recipients in the organizations. The phase of knowledge transfer behaviour is, the key to sustainability and continuous progression of an organization in modern business market.

UAE is one of the fastest growing gulf countries and major source of its rapid growth is its strong oil and gas sector. Abu Dhabi is the capital and largest emirate in this country of Seven Emirates. Abu Dhabi Emirate also has almost all the oil reserves of the country, which are managed by Abu Dhabi National Oil Company (ADNOC) and its subsidiaries, as described by Shihab (2001). Therefore, it is safe to say that sustainability of such rapid growth of the country is hugely dependent on the sustainable performance of its oil and gas sector, mainly contributed by ADNOC. The importance of sustainability of performance of oil and gas sector increases even more, during the recent and ongoing oil price crisis (for UAE and other oil dependent economies). As an oil dependent economy, these slumped oil prices have a major impact on the GDP of the country (Hamilton, 2008). In such low tide times, the importance of knowledge transfer behaviour and its retention is even more crucial to the ADNOC in particular, and to the UAE economy, in general.

1.7 Ethical Considerations in the Research Study

Since the organization under consideration in this study is a national company of the Abu Dhabi, in the UAE, the information related to this research is very confidential and has only been availed, with appropriate authentications and approvals

from the right authorities. Therefore, apart from critical ethical aspect of unbiasedness, there are confidentiality aspects as well, which has been considered during this study. However, the following ethical principles will help in working out a mutually beneficial research:

1.7.1 Objectivity/Un-Biasedness

The researcher has avoided or minimized any bias in the data collection, empirical design, data analysis, personal opinion/self-experiment, or any other part of the study where objectivity could negatively affect the results and aims. This aspect is also very important from the researcher's perspective as being an employee of the company in a leading role and has a potential for intrinsic/automatic bias. For this reason, special attention has been given to this ethical aspect in the study.

1.7.2 Cautiousness

The researcher has avoided conversional mistakes or errors, while collecting the data from the original sources, in order to build on reliable data. Again being internal employee this aspect of cautiousness becomes increasingly important.

1.7.3 Respect for Intellectual Property

The researcher has appreciated the efforts of others and the copyrights; especially those of the other researchers, and has avoided the use or reproduction of their findings without proper citing of the original sources and/or acquiring an authorization.

1.7.4 Honesty

The researcher has maintained all data, findings, methods, procedures and publication free of any misrepresentation, falsification, or fabrication.

1.7.5 Openness

The researcher has finalised the study and shared the findings with the stated stakeholders where it is applicable. The main point of the research and its feasibility and/or possibility is based on expectancy of this research being mutually beneficial not only from pure academic perspective but with the direct implications of the findings in the practical aspects of the organization under consideration.

1.8 Dissertation Structure

This dissertation has been structured as a thesis, to present a theoretical model with evidences based on case study oriented empirical analysis. It has consisted of all major sections of a scholarly writing, which included (but not necessarily limited to) the following points.

The dissertation has started with an introduction and background of the study, with research question(s) intended to be answered and hypotheses being tested in the study, thus presenting the research model, as first section. This section followed by a theoretical foundation of the research model, which has included a detailed review of the existing literature on the factors included in the research model, including independent, dependent, mediator and moderator factors and led to research model development. Next section has presented a discussion and reasoning of methodology being employed, methods and sample design, describing the approach being used in the study, including data collection. Following sections/chapters have presented

empirical findings, leading to discussion on results, in terms of support and/or rejection of the research hypotheses and has concluded with implication of these support and/or rejection of research hypotheses in the study, in terms of contribution/extension to the existing theoretical framework, as well as in terms of future research, based on the findings and limitations of this study.

The study has aimed to establish a relationship between the factors contributing to the productive knowledge transfer behaviour in an organization. These factors included source, recipient and process oriented independent and mediating factors, which have been identified in other studies as well, in some form or the other. However, the researcher has also aimed to establish and identify the moderator impact of learning management system, on the relationships between knowledge transfer behaviour and absorptive and retentive capacity of the organization.

Based on the aims and objectives of the study, the following deliverables have been achieved/delivered in this research:

- The moderation of learning management system on the relationship among dependent variable of knowledge transfer behaviour and independent variables of recipient's absorptive and retentive capacity.

The deliverables of the thesis are as follows:

- Literature review and preparation of overall thesis structure including but not limited to key portions of methodology, findings and discussion on findings.

Thesis writing strategies, included introduction, summary, conclusion, recommendations, future studies and references.

1.9 Definitions of Key Terminologies

Table 1.1 shows the definitions of key terminologies.

Table 1.1: Key terminologies

Constructs	Definitions
Recipients' Motivation to Learn	Originally defined by Deci and Ryan (1985), in business context with their self-determination theory and further employed by many studies ever-since, including one of the fundamental study incorporated in this research (Ko et al., 2005), in their survey tool, a recipients' motivation to learn is to draw satisfaction from acquiring the knowledge from the sources of knowledge being transferred.
Recipients' Absorptive Capacity	As defined by Ko et al. (2005), in their survey tool, absorptive capacity is "the ability for a recipient to recognize the value of external information, assimilate it, and apply it".
Recipients' Retentive Capacity	As defined by Zaltman et al. (1973), in their survey tool, recipients' retentive capacity is "the ability of a recipient to institutionalize the utilization of new knowledge".
Arduousness of Relationship	As defined by Szulanski (1996) and further quoted by Ko et al. (2005), in their survey tool, an arduousness of relationship is the one, which is emotionally laborious and distant between the source and recipients of the knowledge.
Sources' Credibility	Originally defined by McCroskey et al. (1974), in business context and further employed by many studies ever-since, including one of the fundamental study incorporated in this research, Ko et al. (2005), in their survey tool, a sources' credibility is an attitude that a recipient has about a source along multiple dimensions, including trustworthiness and expertise.
Learning Management System	García-Holgado and García-Peñalvo (2016) have defined LMS as ,"The elements used to process and manage information within an organization."
Knowledge Transfer Behaviour	Carlile and Rebentisch (2003) has defined Knowledge transfer behaviour as "an area of knowledge management, which is concerned with the movement/transfer of knowledge across the boundaries created by specialized knowledge domains,"

1.10 Summary

At the end of this chapter, the researcher has presented a layout of the rest of the document, after highlighting the significance of this study and presenting a justification of this study, a comprehensive review of the existing literature is presented in the next chapter, upon which the researcher has established a theoretical foundation of this study, on the existing literature. The next Chapter has concluded with development of the research model for this study. In the Third Chapter of the study, the researcher has presented a detailed discussion on the methodology employed by the researcher of the study, in order to achieve the objectives of this research. Chapter Four is based on the in depth analysis of the data collected in this study. Finally, the document concludes with a comprehensive discussion on the conclusions reached in this study, as well as the implications of those conclusion, from both scholarly and professional perspectives, while highlighting the limitations of this study.

Chapter 2: Literature Review

2.1 Introduction

The purpose of this chapter is twofold. In one hand, the researcher has critically reviewed the existing material on different constructs of the research. While on the other hand, this chapter also serves as an opportunity to identify a potential knowledge gap and/or opportunity to extend the existing knowledge, which has resulted in the rise of a potential research question. So, in this section, along with critically reviewing the existing literature in the field of the study, the researcher also has an opportunity to justify the undertaken research, to answer the research question raised, due to knowledge gap and/or need for extension in the existing knowledge.

The researcher has proposed an empirical case study analysis, aimed at the knowledge transfer behaviour at ADNOC, a leading oil & gas company in Abu Dhabi. The researcher has proposed to perform an empirical research, based on the research model, originally presented by Szulanski (1996), where the author has identified factors effecting knowledge transfer behaviour, in terms of best practices, in an organization. Szulanski (1996) has proposed that contrary to traditional belief to blame lack of knowledge transfer behaviour primarily to motivational factors, the major barriers to internal knowledge transfer behaviour include knowledge-related factors such as the recipient's lack of absorptive capacity and a difficulty of relationship between the source and the recipient. This preliminary work was furthered by Ko et al. (2005), where they have presented an ERP-oriented model, an IT implementation perspective rather than generic perspective, as presented by Szulanski (1996). They have identified three groups of factors effecting knowledge transfer behaviour in an organization including source (consultancy) oriented factors, recipients

(recipients/firm) oriented factors and finally process-oriented factors. Ko et al. (2005), has established their work primarily on the models proposed by Szulanski (1996) and Nelson and Cooprider (1996), for knowledge transfer behaviour, in an organization. In their model Ko et al. (2005) has established, based on the work mainly by Aladwani (2002) among others, that in IT-oriented projects/scenarios, knowledge transfer behaviour is not effected by causal ambiguity as proposed by Szulanski (1996), in generic scenarios. Rather they have established that, shared understanding, as identified by Nelson and Cooprider (1996), in their work on IT-oriented scenarios, plays a key role in knowledge – transfer. So Ko et al. (2005) has dropped causal ambiguity in their ERP implementation oriented research model and has embraced shared understanding into their research model.

Finally, the researcher has proposed to incorporate an additional factor of learning and development, identified in recent research work of Islam et al. (2015), in their cross-cultural comparative study of factors effecting knowledge-transfer, especially in public organizations. This additional factor of learning & development will also be incorporated in the research model after an extensive literature review to support the findings of Islam et al. (2015).

So initially, the researcher has proposed a research model based mainly on Ko et al. (2005) research model, as incorporated by Ko et al. (2005), in their research model and finally the additional factor of learning and development, as proposed by Islam et al. (2015). The proposed model will further be refined, after comprehensive literature review of the factors incorporated in the model and findings of especially the work of Ko et al. (2005). As they have identified some of the factors in their model, which have an insignificant impact on the knowledge transfer behaviour. Accordingly,

researcher has dropped such factors from Ko et al. (2005) model after a comprehensive literature review and comprehensive evidences from existing literature to support their findings.

The following is the preliminary literature review, focused on the factors identified in the initial research model. Different components of the research model include, knowledge transfer behaviour, as a dependent factor. Other included factors can be broadly categorized into three categories. Organizational or recipient's factors include recipients' retentive capacity and absorptive capacity. While source or consultancy related factor is credibility of the source. These relationships are mediated by organization oriented factors including difficulty of relationship between source and recipients and motivation to learn. Furthermore, the researcher has identified a moderator of learning management system, having impact on the relationships between recipients' absorptive and retentive capacity and dependent variable of knowledge management.

2.2 Knowledge Management

Over the course of time business, along with the techniques involved with it, have evolved and reached at the current globally integrated and incorporated level. In such a dynamic, fast-paced and globally competitive environment, a business can only survive by effectively managing both the available and potential knowledge. Therefore, knowledge management is one of the most important aspects of the modern, globalized and resource-sharing businesses. By the effective management of the organizational knowledge, the businesses can sustain and grow their competitiveness in the modern and ever – evolving business environment. As effectiveness of knowledge management has an impact on all the phases, aspects and departments of

the business. During the recent times, efforts have been made to develop and enhance the understanding of the process of knowledge management, with an aim to exploit its potentials and many studies have contributed to this cause, especially during the last decade and a half. In the following portion, the researcher has presented a critical review of these past studies, in the area of knowledge management.

Efforts have been made to develop and enhance the understanding of the process of knowledge management. The preliminary steps include efforts to define the construct of knowledge management in order to identify its main characteristics and differentiate it from the other related constructs. One such initiatives to conceptualize the process of knowledge management have described knowledge as a fluid containing framed experience, values, contextual information and insights, which provide a framework for both evaluating and incorporating new expertise and insights. They have also identified the origins and applications of such a mixture (knowledge) in the minds of those who know. This analogical description has its benefits like bringing an increased coverage and inclusiveness to the construct of knowledge management. Grant (2013) has contributed to the cause, by characterizing knowledge by its transferability, aggregation, appropriation and specialization. These characterizations have led to the conclusion that knowledge can be utilized throughout the organization. As transferability means that the organizational knowledge can be transferred inside the organization, among personnel and even different units of the organization. The characterization of appropriation means that the organizational knowledge can be appropriated as per the circumstances. Finally, the characteristic of specialization means that intensity and depth of the knowledge can be adjusted as per requirements. Another type of characterization and categorization have identified two broader categories of knowledge and described these categories as individual knowledge and

organizational knowledge. They have distinguished their classification of knowledge, in terms of its contribution to the organizational competitive advantage. The individual category of knowledge in this categorization entirely resides in the individual employee's mind, whereas the organizational type of knowledge generally exists in two forms in any organization, namely implicit knowledge and explicit knowledge.

Yahya and Goh (2002) have further distinguished explicit and tacit types of knowledge as two generic types or dimensions of organizational knowledge in an earlier study. They have described the first dimension, namely explicit dimension of organizational knowledge, as more tangible in a sense that it is structured, documented, and shared through information technologies. They have specifically identified such knowledge in a tangible form as an explicit type of knowledge. The idea of this categorization is also emphasized in other studies including the one presented by Nguyen and Mohamed (2011), where the authors have supported the idea based on the structured and codified nature of the explicit knowledge, adding to the tangibility of the knowledge falling under this category. The idea of structured knowledge and its utilization has also been supported by Singh (2008), where the author has highlighted the emphasis and need for utilization of explicit knowledge in both, practice and theory. In his study, the author has described explicit knowledge as a tool exploited by the management to manipulate the organizational knowledge. This exploitation includes transfer to the other employees and incorporation into the decision making to provide the foundation to the judgment of the decision makers.

The second dimension of organizational knowledge identified by Yahya and Goh (2002) in their study is entirely intangible. They have described this second dimension as only prevalent in employees' minds and it is integrated into their

behaviour and perceptions. This type of organizational knowledge is identified as tacit knowledge. Later studies have further enhanced the construct. One such study is presented by Perez and Pablos (2003). They have described that tacit knowledge is generated through the experience of daily work. Nguyen and Mohamed (2011) have extended the theme by identifying that tacit knowledge is highly personal, hard to formalize and difficult to communicate or share with the others.

Apart from identification of explicit and tacit categories of the organizational knowledge, efforts have been made to emphasize the interaction between the two types of organizational knowledge. Perez and Pablos (2003) have identified the significance of the interaction of both the types of organizational knowledge, in the containing firm and potential of such interaction(s) to serve as a competitive advantage over other firms. They have also described that such interaction of two dimensions of organizational knowledge, facilitated through knowledge management is a key element in the achievement and sustainability of the organizational competitive advantage. In the recent studies, they have emphasized on the interdependence of both the dimensions of organizational knowledge, in order to lead the organization to the path of success. Therefore, the tactical knowledge management process in an organization, as described by Filius et al. (2000), is comprised of knowledge acquisition, knowledge documentation, knowledge transfer behaviour, knowledge creation and knowledge application. The idea is supported by Darroch (2003), as he has described knowledge management in terms of a multi-dimensional construct, which has a large number of integrated attributes. Many knowledge management studies including Perez and Pablos (2003) have established a direct relationship between a firm's sustainable competitive advantage and their ability to innovate and productively utilize its innovations, in terms of intellectual resources. Garavan et al.

(2001), among many other studies have identified knowledge as a capital and has emphasized on the importance of knowledge management process, in terms of maximizing the productivity of this type of capital. Such maximization of productivity of knowledge is only possible when knowledge generators take part throughout the process of knowledge management.

2.3 Knowledge Transfer Behaviour

As described by Darroch (2003), knowledge management is a multi-dimensional construct. One of the major characteristic of organizational knowledge which increases the value of knowledge management in an organization is its transferability, which was initially identified by Grant (2013) in his preliminary study on the subject matter of knowledge management and its transfer in an organization. The idea was further enhanced by Filius et al. (2000), in their effort to describe and/or define knowledge management. They have identified knowledge transfer behaviour as a part and partial of knowledge management process. In fact, the ability of organizational knowledge to be transferred makes it even more critical for a firm to manage organizational knowledge effectively. It is also important for an organization to contain the knowledge, whether originated inside the organization, through the process of learning and innovation or acquired externally through consultations and other methods of outsourcing knowledge. Containment of the Organizational knowledge is important, and companies must take extra care to contain the organizational knowledge and avoid any organizational knowledge drain, which can potentially lead to exploitation of the drained/lost organizational knowledge, by the competitors and even in the worst case scenario, even loss of organizational competitive advantage. The researcher has presented here, a review of this

characteristic of transferability of the organizational knowledge, in terms of knowledge acquisition in an organization. This review also includes the factors that affect the process of knowledge transfer behaviour in an organization.

As identified by Grant (2013) transferability is the characteristic of organizational knowledge which makes it even more vital for an organization to effectively manage knowledge transfer behaviour, in order to attain and retain competitive advantage in the organization. Knowledge transfer behaviour is an area of knowledge management which is concerned with the movement/transfer of knowledge across the boundaries created by specialized knowledge domains, as described by Carlile and Rebentisch (2003). This would mean that any piece of organizational knowledge may move across business processes, units and/or departments, to increase the productivity of the business for the organization. For example, marketing research information may affect the product and promotions of an organization, focusing on more productive ones and leaving less productive ones behind. This may impact the whole business ranging from financial decisions to team building decision to operational decisions. The relevance and importance of knowledge transfer behaviour is more visible in the modern, dynamic and globalised business environment. This also serves as a refining element in an organization, as dynamic organizational units capable to evolve in line with the evolution of the organizational objective may survive and sustain their position in the organization, while stagnant and more traditional and/or conservative elements of the organization, which are unable to align themselves with the organizational objectives might become out-dated and discarded through this refinement process.

Knowledge transfer behaviour is essentially a two-way process, from source of the knowledge intended to be transferred to the recipient(s) of that knowledge and from the recipient(s) of the organizational knowledge to the source of the intended knowledge transfer behaviour regardless of the direction of movement of the organizational knowledge. The fact is highlighted by Van Den Hooff and De Ridder (2004), where they have described that knowledge transfer behaviour involves either actively communicating to recipients what source knows or active consultation of the recipients with the source(s) in order to learn what is needed to be known. In the former case, the transfer of the knowledge is initiated by the knowledgeable or source of knowledge, upon the assessment and realisation of the lack of organizational knowledge, vital for the business. In the latter case, however, the process is initiated by the recipients of the knowledge, upon self or otherwise, realization of lack of knowledge or skills set necessary to function productively in an organization. This initiation leads to the next and one of the critical stages of knowledge transfer behaviour process, when the actual knowledge sharing takes place. The importance of the knowledge sharing stage in the process of knowledge transfer behaviour is emphasized in many studies including (Nonaka & Takeuchi, 1991). The importance of knowledge sharing stage is even higher, considering the organizational culture of knowledge sharing that leads to fostering collaboration and establishes actual communication in an organization. So, this knowledge sharing can ultimately and potentially lead to enhancement of organizational innovation, as identified by Liebowitz (2002), among many others.

Due to the importance of the stage of knowledge sharing in the knowledge transfer behaviour process, it is essential to highlight the context of this study, in terms of knowledge sharing. As highlighted by Argote and Ingram (2000), although this

knowledge sharing in an organization occurs at individual level, however, knowledge sharing in the context of organizational knowledge goes way beyond that of an individual level. It also includes sharing of knowledge at higher and/or in a broader perspective than the perspective of an individual in terms of knowledge sharing. The author has recognized that the broader perspective of organizational knowledge sharing also includes continuous exchanges of organizational knowledge at the group levels, team levels, and/or departmental levels. The context of such knowledge sharing can even be extended to the business unit and/or division level in order to incorporate an integrated knowledge sharing environment in an organization. The idea is also supported and enhanced by in a later study by Liebowitz (2002), where the author has recognised the importance of such organizational knowledge sharing and have described it a potential source of organizational innovation which can determine the sustainability of an organization. The authors have also emphasized the relationship between such an environment of knowledge sharing and organizational innovation, which is the key to the sustainability of a business in the modern dynamic and ever evolving business environment.

The critical nature of organizational knowledge is beautifully, in their study on the subject matter, where they have recognized knowledge as the only meaningful resource in the modern, globalised and dynamic business environment. They have based their argument on the global availability of all the conventional factors of production originally identified by Losch (1954). The author in this study has presented the discussion within the domain of generic commercial knowledge, which is described by Ko et al. (2005), to include both explicit and tacit knowledge. Earlier in a study on the subject matter of organizational knowledge Lozinsky (1998) has identified that this organizational knowledge embodies into activities associated with

configuring and testing modules, installing software, hardware, and thereby benefitting employees which are the recipients of the training in preparation for ongoing operation, maintenance and support in an organization. The idea is furthered by Ko et al. (2005) in the similar context and they have defined knowledge transfer behaviour as the communication of knowledge from a source so that it is learned and applied by a recipient. This knowledge can be in the form of learning activities to the application of knowledge by the recipient(s). It can also include performing those activities independently or under the supervision of a mentor which is generally the source of such organizational knowledge, intended to be communicated during these training sessions. The knowledge communicated by the source to the recipient(s) in an organization is primarily tacit in nature, as described by Markus and Tanis (2000). The tacit type of knowledge is always difficult to codify and document for later review or communication. This complexity in the transfer of tacit type of organizational knowledge increases the importance of organizational knowledge transfer behaviour even more and makes an organizational learning culture vital for the sustainability of an organization, as identified by Liebowitz (2002). For such organizational tacit knowledge, if not transferred to the decedents or in the worst case scenario, transferred outside the organization (e.g. to the competitors etc.) can significantly affect the competitiveness of the organization. This can in turn, result in the loss of competitive advantage of the organization, significantly affecting the sustainability of the organization, in the modern dynamically competitive and ever evolving business environment.

Another key aspect of knowledge transfer behaviour process is the learning involved as a result of the intended organizational knowledge transfer behaviour. Learning is the real output of the process of organizational knowledge transfer

behaviour and it actually determines the productivity of the knowledge transfer behaviour process itself. It is important to be able to gauge both the intended and actual learning achieved during the process of knowledge transfer behaviour. The approach towards the measurement of learning has also evolved, over the course of time. This evolution in the measurement of learning can be traced back to the traditional approach towards the measurement of the learning. Starting right from the initial direct approach, originally presented in one of the classics of psychology by Thorndike & Woodworth (1901). With the advancements in psychology along came a shift through the 'computational metaphor' of cognition, which have emerged during the "cognitive revolution" of the 1960s as described and reviewed in one of the most cited book Gardner (1987) on the subject matter of perception, over its ten versions. The author, a noted Harvard cognitive scientist has described this shift in the approach towards the measurement of the learning, from direct and specific to more cognition oriented study of the subject matter of measurement of learning and has presented an interdisciplinary study of nature of knowledge, first of its kind. This would mean that instead of measurement of learning in a more direct and in specific criterion focused mainly on the memory of the learner, the author has presented that the measurement of learning is more meaningful and productive in terms of the understanding of the knowledge intended to be transferred and achieved by the learner. The more recent theories of analogical reasoning, like the one presented by Hummel and Holyoak (2003). This type of approach towards learning through knowledge transfer behaviour is vital for the adaptability of the personnel to the ever evolving business systems in the modern business environment. The authors have aimed at the achievement of generalization and rational inference through a connectionist system, which they have based on distributed representation of constructs. This approach towards the understanding of

the learned behaviour of the workforce is significant in order to understand the interconnectivity of different constructs and units in the system. In this way the decision makers can influence (if not control) the behaviour of the personnel and can gradually transform the organizational culture to become more knowledge oriented by working on the smaller and most influential units of the organizational system. This modern theory of learning through knowledge transfer behaviour is also in line with the dynamics of the modern business environment of the world just has changed and its effective management is a vital aspect of the modern businesses. By employing this connectionist approach towards learning, the decision makers can incorporate the culture of innovation in the organization, which is critical for the sustainability of the modern business organizations. They have highlighted the collective and coordinated learning approaches. Where the learning occurs in an integrated manner and the behaviour of the learners are affective collectively and systematically. This is still a relatively new and developing approach towards the management of learning through the process of knowledge transfer behaviour and has many aspects still considered as unchartered territory, especially in the events of negativity and impact demoralization of the workforce.

Another important aspect of knowledge transfer behaviour is based on the communication-oriented issues, which are related to concreteness and abstraction as described by Scheiter et al. (2010) in their review of the subject matter. The understanding of the impact of these aspects has also evolved, in the process of knowledge transfer behaviour and has also received considerable importance. Concreteness, as described in the review of the subject matter, is being clear and specific in terms of communication during transferring knowledge. On the other hand, abstraction is the opposite to concreteness and refers to a more generic and broad

description of the constructs, during the process of knowledge transfer behaviour, in their study on the subject matter. In order to achieve productivity of the process of knowledge transfer behaviour through the achievement of optimal levels of learning is possible only with a right mix of both concreteness and abstraction. As in terms of transferring knowledge regarding many scenarios oriented and system specific constructs, a relatively high level of concreteness might help develop a better understanding of those constructs. However, while transferring knowledge regarding the generic aspects of the business and/or organization, a higher level of abstraction combined with the analytical approach and critical thinking, might be more productive to develop a better understanding of the recipient(s) of the intended knowledge transfer behaviour. This in turn, can potentially increase the productivity of the process of knowledge transfer behaviour in an organization. However, the decision makers must consider the trade-off between the two. As increased level of concreteness can potentially lead to a lack of coverage as it increases the focus of communication. Similarly, an increased level of abstraction might increase the coverage but makes the communication more generic in nature. This can result in a lack of focus on the significant aspects of the intended knowledge transfer behaviour. This in turn can lead to ambiguity and/or lack of clarity of especially in case of instructions related to more specific constructs of the intended knowledge to be transferred, in the process of organizational knowledge transfer behaviour. The implications of achieving the right balance between these aspects of concreteness and abstraction in the organizational communication are significant due to their ability to influence learning itself, hence directly affecting the productivity of the process of knowledge transfer behaviour.

The evolution of these approaches has increasingly significant aspects and practical implications, which have transformed these evolutionary updates and/or

upgrades, from a luxury to an absolute necessity for the sustainability of modern businesses. There are also increasing practical implications of these shifts in the approach towards learning, which ultimately impact the practices and approaches towards the achievement of the success of the process of knowledge transfer behaviour. These practical implications are noted and differentiated by Day and Goldstone (2012) in their extensive literature review of the subject matter, the authors in their study have described that under the traditional approach, the process of knowledge transfer behaviour is considered as the recruitment of previously known, structured symbolic representations in the service of understanding and making inferences about new, but at the same time structurally similar cases and/or instances. In other words, traditionally all the learning and decision making is based on the historical knowledge. Many studies have also highlighted the importance of surface similarities, as noted by Singley and Anderson (1989) among many others. This traditional approach has rapidly gone obsolete especially in recent times, as current businesses or even the businesses in recent past have evolved rapidly and organizations have come across unprecedented circumstances. These dynamic and rapidly evolving circumstances of the modern businesses need ever - evolving and dynamic decision making. These requirements of modern business organizations have strained the learning and knowledge management process as well, to evolve in order to match the needs of the modern businesses. This has led to a debate towards the conclusion, as presented in many recent studies including Day and Goldstone (2012) among many others, where the authors have acknowledged that the traditional approach towards knowledge transfer behaviour faces some serious challenges in the modern learning environment in general and in the modern culture of innovation and organizational evolution, in particular. These studies even acknowledge this evolution by highlighting

the major criticism over the past, notably issues raised in the work of Lave (1988). In particular, Lave and colleagues emphasized the social and interactive nature of learning, which is increasingly prevalent in the modern, dynamic, interactive and integrated environment of business organizations.

After reviewing the literature on the subject matter in a comprehensive manner, Day and Goldstone (2012) has presented their own observations and opinion on the dynamics of learning and has described that learning typically takes place in "communities of practice," where interactions are based on the intentions of achievement of mutually shared interests and goals. These shared interests and goal orientations of the practices are the very definition of a modern business organization. This perspective of learning in general and in terms of organizational knowledge transfer behaviour in particular, is an extension of the work on collaborative learning presented by Lave (1988), and has been described as an interpretation of old perspective into new ways by Day and Goldstone (2012). The authors have laid out their framework of knowledge transfer behaviour as starting at the perception, through cognition and finally being transferred. The framework presented by the authors have somewhat bridged the gaps between traditional and modern approaches towards knowledge transfer behaviour. A bridge long awaited and arguably the most desirable for the ever-evolving learning, let alone the knowledge itself. The knowledge which is later extended to the organizations in order to effectively manage the learning in these organizations through increased productivity of the process of organizational knowledge transfer behaviour.

Another important aspect of the organizational knowledge transfers behaviour, the subject matter that organizational need for inter-organizational knowledge transfer

behaviour can be identified by means of the identification of their knowledge insufficiency about the relevant aspects in the organizations. In other words, their lack of sufficiency of the knowledge can also be assessed through their short– falls or lack of competitiveness. This lack of competitiveness of an organization may potentially highlight the need for knowledge transfer behaviour, which might be fulfilled by arranging training or consultancy sessions, in order to fulfill the need for knowledge transfer behaviour internally. On the other hand, following the set trends of the market leaders by other competitors is also a form of inter – organizational learning. The authors have also highlighted that inter-organizational knowledge transfer behaviour is actually the process of organizations learning from each other. This inter-organizational learning may be considered as being composed of two sub-processes:

1. Inter-individual learning between individuals from different organizations.
2. Once the individual recipient has acquired the needed knowledge, the conversion of individual learning into organizational learning through organizational internal mechanisms.

In this study, author has presented an analysis of the factors affecting the process of knowledge transfer behaviour in an organization. Therefore, the framework of this study will include knowledge transfer behaviour process as a dependent factor, while independent factors in this study can be broadly categorized into three categories. Organizational or recipient-oriented factors include recipients' retentive capacity and absorptive capacity. Source or consultancy related factor includes credibility. These relationships are mediated by organization-oriented factors including arduousness of relationship between source and recipients, as well as recipient’s motivation to learn. Furthermore, the researcher has identified a moderator

of learning management system, a factor having an impact on the relationships between recipients' absorptive and retentive capacity with dependent variable of knowledge management.

2.3.1 Knowledge Transfer Behaviour as a Dependent Factor

In this study, the researcher has focused on the impact of different factors on the process of knowledge transfer behaviour. This would lead to an incorporation of the process of knowledge transfer behaviour, as a dependent factor, in the research model employed by the researcher for this study. This incorporation of knowledge transfer behaviour in the research model means that the researcher has presented a dependence of the productivity of the process of knowledge transfer behaviour on various independent factors, as presented in many studies including Szulanski (1996) among others. The researcher has generally categorised these independent factors into three broad categories. Two of these categories can be found in many existing studies. These pre – existing categories of the factors contributing to the productivity of the process of organizational knowledge transfer behaviour include source-oriented factors and recipient oriented factors, as presented in many existing studies including Ko et al. (2005) among others. Additionally, the researcher has incorporated a fresh perspective of organization or process oriented factor contributing to the productivity of the process of organizational knowledge transfer behaviour. This additional factor of learning management system (LMS) is a relatively new construct and it is a product of modern and integrated business environment. The researcher has intended to empirically measure and analyse the impact of these independent factors on the dependent factor of the process of knowledge transfer behaviour. These findings from the existing literature emphasize on the dependence of knowledge transfer behaviour

on the above mentioned independent factors. Therefore, incorporation of these findings from the past literature, into the theme of this study leads to the development of the first major hypothesis that the researcher aims to test through this study. These findings include that the process of knowledge transfer behaviour is dependent on the source, recipient and organizational/process oriented factors, which is in line with the finding of both Szulanski (1996) and Ko et al. (2005), among others.

Following is a review, presented by the researcher, of all independent factors incorporated in the study and how they relate or inter-relate, establishing a foundation for the framework of this study.

2.4 Factors Affecting Knowledge Transfer Behaviour

The researcher has divided independent variables affecting the process of knowledge management into three main categories in the research model, which is derived from the past studies mainly from the study presented by Ko et al. (2005), on the subject matter of factors affecting the process of knowledge transfer behaviour in an organization. The authors have based their study mainly on the findings presented by Szulanski (1996), one of the classics on organizational knowledge transfer behaviour and Nelson and Cooprider (1996), a study based on ERP implementation in an organization. The study presented by Ko et al. (2005), is fusion of traditional organizational knowledge transfer behaviour and the modern/digital organizational knowledge transfer behaviour in both the traditional and modern business environments.

2.4.1 Recipient Oriented Factors

The first category of the independent variables, having an impact on the process of knowledge transfer behaviour in an organization, is the one related to the recipient(s) or the organization receiving the transferred knowledge from the process of organizational knowledge transfer behaviour. The variables in this category include recipients' absorptive capacity, recipients' retentive capacity, recipients' motivation to learn and the arduousness of the relationship between the recipient(s) and the source(s) of the organizational knowledge being transferred in the process of knowledge transfer behaviour in an organization. These factors/variables are very important for two reasons. One main reason is that recipient(s) organization is one of the parties involved in the process of knowledge transfer behaviour. Second main reason for the significance of these factors is that recipient(s) organization is actually the one, meant to retain and utilise the transferred knowledge and incorporate the acquired knowledge, through the process of knowledge transfer behaviour, into its business practices and aiming to transform into a learning organization. This increases the significance of the factors included into this category even more. Following is a comprehensive review of the past literature on the factors included into this category.

2.4.1.1 Recipients' Absorptive Capacities

When it comes to knowledge transfer behaviour, especially focusing on the recipient oriented factor, the first independent variable, and arguably the one having one of the most significant impact on the dependent variable in this study, is the absorptive capacities of the recipients. It is a common notion that one cannot add to the container beyond its capacity. Similar is the case with the learners, with the exception that humans are beings capable to increase their capacity to absorb

knowledge being transferred. Although, it's an ongoing process but for a given point in time the capacity of the recipient of knowledge being transferred is limited to its current level of knowledge and skills set, considering the rest of aspects being the same. The issues related to the role of the recipients' absorption capacity in the effectiveness of the process of knowledge being transferred has been discussed in many studies in the existing literature. One of the recent studies on the subject matter have highlighted that significance of the absorption capacities of the recipients, especially in terms of managing the external knowledge flow. This perspective of absorption capacity of recipients has an elevated impact on the sustainability of the modern business organizations, as the external knowledge is a key source of organizational innovativeness. In the modern and consistently dynamic and evolving business environment, it is also a fact that no single organization can handle the innovation in their field. Therefore, the knowledge must be outsourced and this is the point where the recipients' absorption capacity comes into play. Other studies have identified the role of recipients' absorption capacities even as a moderator. One such study which has compared different roles of the recipients' absorption capacity include Van Den Bosch et al. (2003), where the authors have evaluated different models by incorporating different roles of the recipients' absorption capacities and their impact on organizational learning, which is in fact a function of organizational knowledge transfer behaviour. The authors have compared the models incorporating the role of the recipients' absorption capacity as a moderator, mediator and as a significant contributing factor to organizational learning and innovation. The authors have also commented on the key antecedents of the construct, which include prior related knowledge/skills set and organizational factors including 'structure of communication

and knowledge distribution' and have identified it as a potentially multilevel and multidisciplinary construct.

The researcher has established the theoretical foundation and has identified the absorption capacity of the recipients of the organizational knowledge as a pre-requisite for the process of knowledge transfer behaviour. It has been identified in many studies including the classics like Cohen and Levinthal (1990) among others that in order to have an effective acquirement of and productivity of the organizational knowledge being transferred, there is a need for the base-line requirements on the part of the recipients of the knowledge intended to be transferred. Other studies have stressed that these requirements must be fulfilled in order to have productive results of any transfer of the knowledge and to transform such communications in an organization mutually productive. One of such critical requirements is the absorptive capacity of the recipients. As defined by Cohen and Levinthal (1990), absorptive capacity is the ability of a recipient of knowledge and/or information, to recognize the true worth of out-sourced knowledge, assimilate it, and finally apply it. In order give the appropriate level of importance to any activity, the first step is always to understand the importance of that activity. Once, the importance of an activity is rightly recognized, only then appropriate priorities can be assigned to that activity. Such prioritization of the activities will lead to the appropriate attention of the recipients, establishing the foundation for the productivity of the activity of knowledge transfer behaviour. The ultimate result of appropriate attention of the recipients is the productivity of the knowledge transfer behaviour activity. The appropriate level of prioritization is the first and key step towards the successful incorporation of the acquired knowledge in the organization, completing the process of knowledge transfer behaviour. In a way the right prioritization initiates a chain reaction as follows. Higher the productivity of

the knowledge transfer behaviour, higher will be assimilation and/or reproduction/practice of the transferred knowledge. Higher the degree of practice of the transferred knowledge, better are the chances of its productive application. This application of the acquired knowledge in the organization, in order to solve the problem, is actually the reason the knowledge was originally acquired for. Hence, resulting in increasing the productivity of the transferred knowledge.

One of the major antecedents of the recipients' absorptive capacity identified in many studies, is that it is based on the initial level of the recipients, both in terms of knowledge as well as skills sets. The authors have also highlighted that in a way, a direct relationship between the recipients' prior related knowledge/skills set and their absorption capacities. Therefore, higher the initial level of knowledge and skills set of the recipients, higher the absorptive capacity of the recipient is expected to be and vice versa. This aspect of recipients' absorptive capacity is also recognized by Ko et al. (2005) in their study of the antecedents of the knowledge transfer behaviour in ERP implementation context. They have suggested that absorptive capacity of a recipient is mainly dependent on his/her existing level of knowledge. The authors have recognized this mapping between the absorptive capacity and prior level of knowledge, in their comprehensive empirical study. The authors in their study have examined the antecedents of knowledge transfer behaviour in the context of an inter-firm complex information systems implementation environment, one of the key instances of inter-firm knowledge transfer behaviour. As the implementation of the ERP systems play a key role in the performance improvement of businesses. Hitt et al. (2002) have described that the implementation of ERP system improve businesses' performance through a tight integration of resources and activities as processes. The authors have also identified that such a tight and complicated integration of the organizational

resources is dependent on the productive use of ERP systems. The productive use of the ERP systems in an organization can be integrated in such a way that it can highlight any lack of prioritization. In their study Ko et al. (2005) have drawn from the knowledge transfer behaviour, information systems, and communication literatures. The authors have developed an integrated theoretical model in their empirical study and have identified that recipients' absorptive capacities have a significant impact on the extent and success of knowledge transfer behaviour.

Many studies including Hamel (1991), have established a positive relationship between knowledge transfer behaviour and absorptive capacities of the recipients. The author has identified this positive relation in terms that higher the absorptive capacities of the recipient firms, higher and more effective will be the process of knowledge transfer behaviour. In their study, Smith et al. (2006) have concluded that lack of recipients' absorptive capacity; in terms of in-house expertise add to the challenges related to knowledge transfer behaviour, as it would mean that the recipients lack the pre-requisites or the basic knowledge necessary to understand and absorb the intended knowledge transfer behaviour. This will put a serious strain on the achievement of the goal of successful knowledge transfer behaviour to the recipient firms. As any such lacking in pre-requisites for productive knowledge transfer behaviour will result in either prolonged/intensive training or minimal to no productive knowledge transfer behaviour at all. On the other hand, this lack of pre-requisites may also result in discouraging both recipients and source(s) of knowledge. As highlighted by Hamel (1991), this may ultimately affect the productivity of knowledge transfer behaviour activities and can significantly decrease the probability of a productive knowledge transfer behaviour. Hence, these observations validate the suggested direct relationship between the absorptive capacities of the recipients and knowledge transfer behaviour.

This implies that a higher level of absorptive capacities of the recipients, may result in a productive knowledge transfer behaviour, while a lower level of absorptive capacities of the recipients, may have a negative impact on the productivity of the knowledge transfer behaviour. This may result in a lack or even absence of productive knowledge transfer behaviour in an organization.

Another study has identified a highly probable cause of this lack of in-house expertise in terms of prerequisites. Their study have identified that lack of in-house expertise leading to a lacking in the recipients' absorptive capacity can be caused by poor retention rate of employees as well, in an organization. As employees being one of the key sources of business success, their intrinsic and extrinsic both types of knowledge are an asset to the organization. Although most of the skills set and expertise can be outsourced but that hardly fulfils the basic job requirements in general. Over the time organizations invest in their employees in terms of both time and efforts to develop mostly tacit knowledge, which is basically an integration of both intrinsic and extrinsic knowledge contained or obtained by the employees into the organization he and/or works for. This tacit knowledge is the real asset of an organization, which is both, time consuming (as it takes time to learn the culture and environment of an organization) and hard to obtain for the newly hired employees in an organization. Therefore, with poor retention, firms lose their human resources along with the knowledge contained by these personnel. The issue is highlighted in many studies, where authors have discussed the issues and has an extended evaluation of the employee's turnover and its impact on an organization in terms of loss of knowledge, hence affecting the absorptive capacities of the recipients of the transferred knowledge in an organization. In their study on the significance of knowledge transfer behaviour in the modern globalised world, Bender and Fish (2000) have emphasised on the

retention of the employees and have highlighted the knowledge retention in terms of employees' retention in an organization, as a key to sustainability in the modern globalised business environment.

Later studies including Lacity and Willcocks (1998) have added the factors like difficulties in keeping up with changing technologies, as potential causes of the lack of recipients' retention capacities, which in turn, can potentially affect the achievement of overall knowledge transfer behaviour goals. One of the key features of the modern and dynamic business environment is the ever-evolving technology. This evolution is at times so rapid and significant that it can impact the sustainability of an organization in the industry, in a matter of mere years if not months. Modern organizations are always under immense strain to keep themselves up to date, which is not possible without the regular upgradation of the knowledge and skills set of the employees in an organization. This continuous upgradation might not necessarily align with the attitudes and temperaments of many personnel in an organization, which is itself a hindrance in the sustainability of an organization. The issue coupled with the necessity of continuous upgradation can potentially become the biggest limitation of the absorptive capacity of the recipients, an organization. The issue is highlighted in many studies including Ko et al. (2005), where authors have identified the impact of ever changing technologies in the modern businesses on the absorptive capacities of employees in an organization. The issue is described in context of security technologies among others in many studies.

The researcher in this study has incorporated recipients' absorptive capacities as an independent variable, contributing to the effectiveness of the organizational knowledge transfer behaviour in an organization. There are many studies in the

existing body of literature, which have identified such a role of recipients' absorption capacities in the process of knowledge transfer behaviour. These studies have identified the significant impact of recipients' absorption capacity on the process of knowledge transfer behaviour by employing a holistic approach. The authors have highlighted that the implications of the any lack of absorption capacity of the recipients can result into a lack of their ability to priorities different activities. A lack of prioritization can lead to a lack of attention or motivation towards the acquisition of intended knowledge transfer behaviour related to those activities. A lack of attention or motivation to learn leads to a lack of acquirement of the intended knowledge transfer behaviour. Even if it is assumed that somehow, either by intensive training or extrinsic motivation, the knowledge gets transferred (which is highly unlikely in the first place), the transferred knowledge is least likely to be incorporated into the operations and the activities of problem solving, it was initially intended to be acquired for. Hence, limiting the attainment of the actual purpose of intended knowledge transfer behaviour. This will result in the serious issues with the effectiveness of the process of the knowledge transfer behaviour in an organization. As the lack of absorption capacities of the recipients of the intended knowledge transfer behaviour leads to the productivity of the process of organizational knowledge transfer behaviour. Due to the attainment of goals and objectives intended to be achieve from the process of organizational knowledge transfer behaviour get compromised.

All the factors identified earlier, including lack of prior knowledge and organizational factors contribute to the lack of absorptive capacities of the recipient firms, limiting the extent and/or even success of knowledge transfer behaviour, affecting the overall productivity of the process. In their study based on information system implementation projects, Aladwani (2002) have emphasised on the importance

of recipients' absorptive capacity by their finding, where the author has found recipients' absorptive capacity as one of the most important determinants of positive knowledge transfer behaviour project outcomes. This aspect in generic human resource management perspective is also highlighted in many studies including Minbaeva et al. (2003), where authors have highlighted the impact of recipients' absorptive capacity on the process of knowledge transfer behaviour. The similar findings are also presented by Chang et al. (2012) in the context of expatriate knowledge transfer behaviour and impact of the recipients' absorptive capacity on the performance of an organization, in terms of productivity of the process of knowledge transfer behaviour. These findings presented by the authors are directly related to the context of UAE, considering the fact that a vast majority of workforce in the UAE consists of expatriate workers. Therefore, the findings presented by Chang et al. (2012) highlighted the significant contribution of the absorption capacities of the expatriate workers to the effectiveness of the process of organizational knowledge transfer behaviour.

Finally, an important and somewhat recent aspect of the recipients' absorption capacities in the modern business environment, that the researcher has considered to incorporate into the discussion is the one presented in more recent studies on the subject matter. These studies have highlighted the implications of the lack of knowledge absorptive capacities of the recipients on the effectiveness of the process of knowledge transfer behaviour in terms of its direct effect on the organizational innovation. The authors have highlighted that the dynamism of the modern business environment has exceedingly stressed the organizations to continuously evolve and innovate in order to compete or even survive in the exceedingly contingent times. As highlighted before, not all the innovation is containable into any single organization,

therefore the organizations must acquire knowledge externally. This knowledge acquisition of the organizations is strictly and directly dependent on the effectiveness of the organizational knowledge transfer behaviour, which is constrained by the absorptive capacity of the recipient organization. Therefore, the recent studies like Engelman et al. (2017) has emphasised on the significant role of the organizational absorptive capacity of the recipient organization. The authors have identified a direct impact of the absorptive capacity on the effectiveness of the organizational knowledge transfer behaviour, which is vital for the continuous evolution and innovation in an organization. Therefore, this direct impact has extended implications and can be translated into the sustainability and even survival of the organizations in the modern and contingent business environment. In the recent studies, an increasingly significant emphasise on this extended and holistic implications of the recipient firms' absorptive capacities on the sustainability and even survival of the modern business organizations. This emphasise get even stronger when the contingencies like recent financial and oil price crises are integrated into the equation. In context of the UAE, the complete depiction of the implications of absorption capacities is only possible, when its impact on the sustainability and survival is considered, in the contingencies of financial crises of 2008 followed by income crises also known as oil price crises, for an economy heavily dependent on the expatriate workforce in order to support its productivity and sustainability.

The implications of such strong and repeated findings are vital and one of the reasons that the researcher has included recipients' absorptive capacities as one of the independent factors affecting the process of knowledge transfer behaviour in an organization, in this study. All the discussion presented above has provided the researcher with a solid foundation to incorporate the absorption capacities of the

recipients of the intended organizational knowledge transfer behaviour into the research model employed in this study. Concluding the discussion presented above the researcher has included the absorption capacities of the recipient firm as the independent factor contributing to the effectiveness of the process of organizational knowledge transfer behaviour, the dependent factor in this study.

H 1: There is a positive relationship between recipients' absorptive capacities and knowledge transfer behaviour.

2.4.1.2 Recipient's Retentive Capacity

In any organization, seeking to transfer organizational knowledge, acquisition of the knowledge is one of the main of the many important aspects of the effective knowledge transfer behaviour. Once the knowledge has been acquired, the next important step is to retain and sustain it in the organization. The researcher in this study has identified through repeated findings from the existing body of literature, in the earlier section that recipients' absorptive capacity is one of the major factors affecting the process of knowledge transfer behaviour in an organization. The researcher has also identified that one of the major factors determining the absorptive capacity of both individuals as well as the organization and in turn, the productivity and in fact the success of the process of knowledge transfer behaviour, is the recipients' retentive capacity. Szulanski (1996) in his study on the subject matter, including many other studies in the historical literature have identified that the retention capacity of the recipients is such an important factor that it affects the productivity of the process of knowledge transfer behaviour directly. The author has described the retentive capacity of the recipients as the actual utilization of the acquired knowledge in the recipient firms. Druckman and Bjork (1991), in their study on the subject matter of the

organizational knowledge transfer behaviour, have identified that the effectiveness of transferred knowledge is only prevalent, when it is retained by the recipients. The authors have described retention of the knowledge in an organization as the ability of an organization to systematically institutionalize the utilization of acquired knowledge. In other words, the authors have described the effectiveness of knowledge transfer behaviour in terms of actual benefits from the knowledge being acquired in the firm.

The benefits from the absorbed knowledge in an organization will be in the form of the fulfilment of the originally identified need for the knowledge being transferred. This is only possible through the utilization of the acquired knowledge in terms of improvements in the business practices, leading to improved productivity of the business. Such utilization is achieved when the transferred knowledge is incorporated into the practices of the business. Therefore, knowledge is not only acquired but also utilized for the intended problem solving from the absorbed knowledge. As highlighted by Szukanski (1996), transferred knowledge is not useful, until and unless, the recipient firms devise ways to actually utilise the acquired/transferred knowledge for the improvements in their business practices. Such a utilization of the strategically acquired knowledge leads to an improvement of business performance in general. Therefore, it can be concluded that the productivity of the process of knowledge transfer behaviour in an organization is strictly limited to the level of retentive capacity of the recipient organization. In simple words, the benefit of the acquired knowledge in an organization is only when the knowledge is being utilised for the purposes of problems solving, for which its acquisition was originally planned to be intended. Such utilization of the acquired organizational knowledge is described by the authors in the body of existing literature as recipient

organizations' knowledge retentive capacity in the organization, in their review of the case study on knowledge transfer behaviour. As highlighted above, it will include retention of both the personnel as well as the implementation of the transferred knowledge into the practices of the business and continually improving them based on the incorporated knowledge.

An incorporation of the acquired knowledge in the business practices of the organization has two fold benefits for the organization. At one hand, it will refine the existing business practices in the organization and on the other hand, it will help identify any need(s) for bridging any knowledge gap. Therefore, an emphasis on the integration of the acquired organizational knowledge is evident in many studies in the body of existing literature. On such study is presented by Goh (2002), where the author has stressed on the integration of the transferred knowledge in order to achieve continual improvement in an organization. The author has also described that the acquired organizational knowledge, once integrated into the business practices of an organization will improve the existing practices in an organization, as well as highlight the otherwise unforeseen loopholes in the organizational system. These loopholes, which usually end up wasting a lot of organizational resources in terms of factors of production, highlight further need for organizational knowledge acquisition or an organizational knowledge gap and so on. Once identified, organizations can incorporate the identified knowledge gaps into their knowledge transfer behaviour plans for the future. This cyclical (or spiral) process will continuously refine the existing practices and help evolve them into the most compatible ones for the business. This perspective of the organizational knowledge retention capacity of a firm and its direct contribution towards the effectiveness of the process of organizational knowledge transfer behaviour in a firm is highlighted and emphasised in many studies

in the existing body of literature. One such study includes Sutherland and Jordaan (2004), where authors have identified recipient organizations' retention capacity as a major factor contributing to the productivity of the process of organizational knowledge transfer behaviour in a firm.

The phenomenon is exceedingly evident in the instances of innovation and change management in the organizations. These are key strengths of modern businesses to thrive into today's dynamic and exceedingly competitive environment of modern business. Many studies on innovation including Nord and Tucker (1987) among others, have identified that persistence of higher performance is a function of knowledge retentive capacity of recipients. These findings significantly increase the emphasis on the retentive capacity of the recipients, as authors have directly related continuous improvement and high performance with the retentive capacity of the recipients. Therefore, the findings of Nord and Tucker (1987), imply that the use of the acquired knowledge is directly related to higher performance of an organization. As higher the utilisation of acquired knowledge, higher will be the consistency in the above average performance of the recipients, especially in case of innovation. By linking the findings of Sutherland and Jordaan (2004) and Nord and Tucker (1987), it can be concluded that the incorporation of the acquired organizational knowledge, into the business activities will allow the organization to excel their existing activities and highlight the shortcomings of the organizational system. This identification of the highlighted issues will lead to incorporation of the identified knowledge gap into the future plans and the lacking knowledge can be acquired in the organization through training and other knowledge transfer behaviour activities in the organization. Once the lacking knowledge will be acquired, it will again be incorporated into the organizational system and so on. In this way, the organization will devise a mechanism

to continually improve their organizational system and incorporating the up-to-date and latest organizational knowledge into their business practices. One of the best modern business practices is in the form of innovation and the whole process is actually an example of organizational change management.

The theme of the relationship between continual improvement through recipients' retentive capacity and knowledge transfer behaviour to support this continual improvement has repeatedly been highlighted and emphasized in the body of existing literature on the subject matter of organizational knowledge transfer behaviour and organizational knowledge retentive capacity. One such study, which is based on the collaborations between United States and Japanese automotive industries is presented by Kotabe et al. (2003). The authors have identified the factor of recipient organizations' retentive capacity, having implications in terms of productivity of knowledge transfer behaviour. Authors have identified that the retention capacity of the organizations, recipients of the organizational knowledge intended to be transferred, as a key factor effecting the productivity of the transferred knowledge in an organization, through managing vertical relationships, which ultimately lead to the achievement of continual improvement. The relationship is empirically tested and validated by Kogut and Zander (1992) in their study on the subject matter. They have highlighted that both knowledge transfer behaviour as well as speed of knowledge transfer behaviour are affected by the recipients' absorptive capacity. These findings are in line with the findings in the body of the existing literature on the subject matter of change management and total quality management. The literature in change management and total quality management has also repeatedly confirmed that the effectiveness of the change management leading to the successful total quality management is only possible through the effective management of vertical

relationships. Gulati et al. (2005) have concluded in their study on the subject matter of innovation and change management in terms of effective vertical relationship management in the environment external to the organizations. This empirical testing and validation has significantly strengthened the support for the relationship between recipients' absorptive capacity and knowledge transfer behaviour.

Similar findings are presented by others on planned organizational change management. Organizational change management being one the key objectives of the modern businesses, aimed to be achieved through the process of knowledge transfer behaviour, in order to sustain in the modern and highly dynamic business environment. In their study on change management in organizations have identified the relationship between successes of plans of organizational change management to the retentive capacities of the recipients. This relationship signifies the relationship between the recipients' retentive capacity and the productivity of knowledge transfer behaviour, in terms of effective management and implementation of organizational change. As execution of any such plans of organizational change management is possible only through a successful knowledge transfer behaviour in an organization. Authors have also identified that higher the retentive capacities of the recipient firm, chances of success of planned change are bound to be higher as the output of the process of the organizational knowledge transfer behaviour is in terms of effective management of intended organizational change. This shows a direct relationship between organizational retention capacities of the recipients. Therefore, it can also be concluded that a higher level of the retention capacities of the recipients will positively affect the organizational change management, in case of success of the process of organizational knowledge transfer behaviour. The idea is supported and emphasised by many studies, where the author has identified the retentive capacities of the

recipient organization as a key factor contributing to the establishment of an organizational learning, through an effective process of knowledge management and transfer. These findings signify the role of recipients' retentive capacities, in the continual improvement of the firm leading to total quality management in an organization, one of the possible and more desirable outcomes of the process of organizational knowledge transfer behaviour itself.

Another aspect of the lack of retentive capacities of the recipients of transferred knowledge is highlighted by Zaltman et al. (1973). In their study on the domain of organizational change management, the authors have noted that in the event of the absence of retentive capacity of the recipient organizations, the inertial difficulties to organizational change might become extreme and result in a loss of efforts on part of the recipient organizations. This loss of efforts can result from the translation of inertial resistance into an excuse for non – exercise of newly acquired knowledge and potentially lead to reversion of the workers in the recipient organization to the old practices. These outcomes are very significant in terms of determining the utility of the transferred organizational knowledge itself. In the absence of a well devised mechanism for incorporation of acquired knowledge into the practices of the business, the benefits of any organizational knowledge being transferred can be very easily and systematically lost through resistance to change, internal to the business. Therefore, it is important to highlight that the recipients' absorptive capacities are the key to any sort of utility of the transferred organizational knowledge, what so ever. One very important finding related to this resistance to change in the organizations is presented by Syed-Ikhsan and Rowland (2004) in their study on the performance of organizational knowledge transfer behaviour in public organizations, while incorporating the resistance to change. The authors in this study have presented both,

some of the most important findings on the subject matter of the recipient organizations absorptive capacity and at the same time, these findings are also directly related to this study. The reason behind the significance of the findings of the authors is that the researcher in this study is also focusing on a public organization to study the impact of factors on the effectiveness of the process of organizational knowledge transfer behaviour.

It is very important to present here, a review of the findings in the study presented by Syed-Ikhsan and Rowland (2004). The authors have acknowledged that the public sector is globally notorious for its lack of productivity and their resistance to any measures to increase their efficiency and productivity. The authors have also recognized that in most of the cases, any change what so ever, that takes the employees of the public sector, out of their existing comfort zone is simply rejected by the employees in the public sector. This is also highlighted by the researcher in this study, but in context of the knowledge transfer behaviour, which is the essence of change management. The issue gets worsened due to the negligence from the researchers and scholars from around the world which needs higher level of consideration and attention. Authors have highlighted this lack of review of performance of knowledge transfer behaviour in public sector in the body of existing literature. In their study the authors have identified the relationship between the performance of knowledge transfer behaviour and organizational factors, indicating the resistance to the knowledge transfer behaviour. The theme of this study is also somewhat similar but extended, as the researcher has incorporated all the organizational factors, recipients oriented factors and source oriented factor in this research model. Overall, Syed-Ikhsan and Rowland (2004) have concluded through empirical testing that there exists a higher degree of resistance to the organizational change in the public sector, which

is in line with the general beliefs prevailing and found in the body of existing literature. At the same time, it also implies that recipients' retentive capacity is significant as it enables the organizations to incorporate the transferred organizational knowledge into its business activities to address the problems, through organizational change, for which the process of knowledge transfer behaviour was originally initiated.

The above discussion, at one end highlights the significance of the recipient organizations' retentive capacities in terms of its contribution to the effectiveness of the process of organizational knowledge transfer behaviour, in context of the public organizations in general and especially in context of public organizations in the oil and gas sector of the UAE. On the other end, it also highlights the severity of the lack of attention the issue of organizational retentive capacity in the public organizations has received. Although many studies in the existing literature have implied that a resistance to change is one of the main hindrance to the development of a learning organization. However, its implications and elevated significance in context of public organizations around the world is seriously under addressed in body of existing literature. Studies have highlighted that a learning organization incorporates the acquired and/or transferred knowledge into the organizational practices in order to sustain in the modern and dynamic business environment. The authors have also implied that it is important for an organization to develop its retentive capacity in order to maximize the systematic utilization of the acquired knowledge in order to optimize the productivity of the process of organizational knowledge transfer behaviour in an organization. As highlighted above, the issue becomes even more important and has significant implications, especially in the case of public organizations where the implications are even extended. As majority of the public organizations' productivity is not only in terms of monitory benefits but also in terms of utility for the nations it is

incepted to serve. Therefore, it becomes even more important to investigate the impact of retention capacities of a public organization on the process of knowledge transfer behaviour, which contributes to the effective change management. Hence, the sustainability and productivity of the public organization, in terms of both the economic aspects as well as in terms of productive serviceability of the public, can be mapped to the retention capacity of the public organization, though the effectiveness of the process of intended organizational knowledge transfer behaviour in the public organization. These implications of recipients' retentive capacities make it an important organizational factor contributing to the effectiveness and continually productive utilization of knowledge transfer behaviour. Based on the repeated evidences of significant contribution of organizations' retentive capacity, from the body of existing literature, the researcher has included recipients' retentive capacity as an independent factor affecting the productivity of the organizational knowledge transfer behaviour process in an organization, especially in case of a public organization. The researcher has selected a public organization for this study. It will handle both the issues of implications of recipients' retentive capacities on the effectiveness of the process of knowledge transfer behaviour and serve to much needed bridge the knowledge gap especially in case of public organizations, on the subject matter, as identified by Syed-Ikhsan and Rowland (2004), in their study on the subject matter, conducted in the public sector.

In order to incorporate the implications of the organizations' retentive capacity, the researcher has used the following hypothesis to test the relationship between the organizations' retentive capacity and the effectiveness of the process of intended organizational knowledge transfer behaviour, in context of oil and gas sector public organization in the UAE.

H 2: There is a positive relationship between recipients' retentive capacities and knowledge transfer behaviour.

2.4.1.3 Recipient's Motivation to Learn

On the recipient's side, motivation to learn is more systematically linked with the knowledge transfer behaviour than at the source side. This is mainly due to the reason that the recipients are the ones who are going to actually utilize the knowledge being transferred. The implications of motivation to learn go beyond the acquisition of the knowledge and can influence the process of organizational knowledge transfer behaviour, in a holistic manner. Motivation to learn enables the recipients of the transferred knowledge to go an extra mile by incorporating the acquired knowledge into the business practices of the organization. This incorporation of the acquired knowledge in turn, ensures success and effectiveness of the process of knowledge transfer behaviour. This systematic integration is based on different aspects of the recipient firm and the personnel targeted for knowledge transfer behaviour. These aspects range from organizational culture and climate to the personalities, temperaments and interests of the recipient firms' personnel as described by Argote (1999). The author has identified a positive relationship between motivation to learn and knowledge transfer behaviour, in a study on the subject matter. These findings are repeatedly acknowledged and incorporated in many studies in the domain of organizational knowledge transfer behaviour. As the motivation to learn of the personnel in an organization is affected by the organizational culture/climate and in turn, motivated personnel contribute to the development of a highly efficient organizational climate, in terms of systematic integration of the organizational knowledge being transferred into the business activities. However, this positive relationship between recipients' motivation to learn and the productivity of the process

of knowledge transfer behaviour was originally identified by Szulanski (1996) in his study on factors affecting the process of knowledge transfer behaviour in an organization.

Another aspect of the recipients' motivation to learn in terms of effectiveness of the process of organizational knowledge transfer behaviour is in terms of its contribution to the development of a culture that facilitates and promotes innovation. The studies have highlighted the implication of recipients' motivation to learn in terms of its impact on the effectiveness of the process of organizational knowledge by establishment and promotion of innovative organizational culture, include Osterloh and Frey (2000). The authors in their study on the subject matter have incorporated the impact of motivation to learn on the productivity of the process of organizational knowledge transfer behaviour, in the context of different organizational forms. However, the implications of the innovation in today's dynamic and ever evolving business environment are very vital for the sustainability of the modern businesses. Another study have identified a relationship between different forms of the organizations in terms of the organizational knowledge transfer behaviour. The authors have highlighted in their study, the impact of motivation to learn on the vertical knowledge transfer behaviour among parent and subsidiary organizations, internally. The authors have also identified a strong positive relationship between the recipients' motivation to learn and the productivity of the process of knowledge transfer behaviour, even in an organizations' internal learning context. These findings highlight the penetration of the impact of recipients' motivation to learn on the process of organizational knowledge transfer behaviour in an organization. These findings have also highlighted the significance of the impact of recipients' motivation to learn on the

productivity of the process of organizational knowledge transfer behaviour in an organization, both internally and externally.

Other studies in the body of existing literature have provided a further insight into the relationship between effectiveness of the process of organizational knowledge transfer behaviour and the recipients' motivation to learn in terms of their types. These studies include the one presented by Ko et al. (2005), where the author has mapped this relationship from the recipients' perspective. The authors in their study have highlighted that the different types of knowledge can be mapped to different types of motivation. The authors have stressed at the significance of this mapping, which is related to the type of organizational knowledge targeted to be transferred. The authors have also identified that different type of knowledge require different levels of motivation, as tacit type of knowledge transfer behaviour is normally associated with intrinsic motivation. Considering the fact that tacit type of knowledge is more abstract in nature and hard to code and commonly reoffered to as expertise of the personal in an organization. Therefore, the process of transfer of the tacit type of organizational knowledge is more effective if the recipients are intrinsically or internally motivated. On the other hand, being more concrete in nature, an ease in codification, which leads to its readily transferability. Transfer of explicit knowledge is more closely related to extrinsic motivation, as highlighted by Ko et al. (2005).

Many studies have also highlighted a differential impact of different types of recipients' motivation to learn. These studies include Ko et al. (2005), in which the authors have incorporated differential effects of intrinsic and extrinsic motivation to learn for recipients into their study. Other studies have acknowledged the presence of differential organizational cultural impact on the promotion of different types of

motivation to learn leading to effectiveness of different types of organizational knowledge transfer behaviour. The authors in their study have acknowledged that the knowledge oriented organizational culture will promote intrinsic motivation to learn into the personnel, which might be backed by extrinsic motivation. One such study incorporating recipients' motivation to learn into knowledge transfer behaviour process, identifies these distinctions, along the entire continuum is presented by Vallerand et al. (1992). The authors in their study have extended the self-determination theory, originally presented by Deci and Ryan (1985) and Vallerand et al. (1992) on the subject matter, have furthered the idea of distinction between intrinsic and extrinsic motivation. Considering the continuum presented by Vallerand et al. (1992), organizations must put an effort to first identify the type of knowledge, intended to be transferred. Once identified, organizations must systematically incorporate the type of identified organizational knowledge intended to be transferred into their organizational knowledge transfer behaviour plan. After systematic incorporation of the identified type of knowledge into their organizational knowledge transfer behaviour plan, firms should put an effort to match it with the type of motivation. Once the continuum of motivation to learn is matched with the type of knowledge planned to be transferred, organizations must act accordingly, in order to achieve a successful knowledge transfer behaviour and attain the highest levels of productivity from the process of knowledge transfer behaviour in an organization. Such incorporation of recipients' motivation to learn into the process of knowledge transfer behaviour can prove to be the key to the achievement of sustainability through the organizational transformation into a learning organization. A learning organization is the one which incorporates learning into it business process and activities leading towards innovation, which is necessary for the success of a modern business in the current dynamic markets, as highlighted by many

studies on subject matter of role of recipients' motivation to learn on the process of organizational knowledge transfer behaviour including the one presented by Kalling (2003). The author has identified a key role of mapping between the recipients' motivation to learn level, and the organizational knowledge type intended to be acquired through the process of knowledge transfer behaviour in an organization, in order to attain sustainability of the business.

Dividing the positive relationship between motivation to learn and knowledge transfer behaviour further into systematic categories Osterloh and Frey (2000) have concluded that intrinsic motivation to learn is linked with the transfer of tacit knowledge. Similar findings have already been presented by Vallerand et al. (1992), who have categorically identified the whole continuum, ranging from intrinsic motivation to learn at one extreme and the extrinsic motivation to learn on the other, in the field of motivation and learning. The theme is furthered by Ko et al. (2005) in their study on the factors affecting the process of knowledge transfer behaviour. They have also concluded that intrinsic motivation to learn has a major role to play in the transfer of tacit knowledge, which is a more contained and hard to transfer type of knowledge. Vallerand et al. (1992) has identified different types of intrinsic motivation, which is generally considered as self-motivation to learn of the personnel. Authors have divided the type of intrinsic motivation into different categories, based on their sources or personal causes which motivate people to acquire knowledge. These categories include motivation to know, motivation to accomplish and motivation to experience. In case of motivation to know or learn, people are motivated to acquire knowledge out of their desire to know or learn. This knowledge quench makes them motivated internally to participate in the process of organizational knowledge transfer behaviour on the proactive basis. Motivation to accomplish is the

type of intrinsic motivation, when people are motivated with deep desire to accomplish their intellectual and performance goals. The personnel are motivated to acquire the transferred knowledge, as a mean to achieve the desired objectives or goals. Finally, a motivation to experience is the type of intrinsic motivation, in which people are motivated to be part of the knowledge transfer behaviour process productively. They want to experience the intellect or develop expertise in the skills set, which are intended to be acquired through the process of organizational knowledge transfer behaviour. However, as described by the self-determination theory, presented by Deci and Ryan (1985), no matter the source of the intrinsic motivation, it is going to have a positive impact on the knowledge transfer behaviour, especially in case of tacit knowledge transfer behaviour. These findings have also been recognized in many studies including the one presented by Osterloh and Frey (2000), were among others.

In the existing body of literature, amid the significance of the implications of extrinsic type of motivation on the effectiveness of the process of organizational knowledge transfer behaviour, many studies have identified this as a second generic type of motivation. Many studies have highlighted the impact of extrinsic motivation on the process of knowledge transfer behaviour. One such study is presented by Calder and Staw (1975), where the authors have identified in their study, the ways in which the impact of extrinsic motivation is observable on the process of organizational knowledge transfer behaviour. Authors have identified that extrinsic motivation is also very important and has a positive impact on the process of knowledge transfer behaviour. The authors have described extrinsic motivation as the one, which is driven by external drivers. In their study, authors have also identified compensation as a primary vehicle to incorporate this indirect form of motivation into the employees. The authors have described that money is a vehicle, which can be used to extrinsically

motivate the employees, which are not self-motivated or do not get involved in the process of organizational knowledge transfer behaviour, by themselves.

Contrasting to intrinsic motivation, in extrinsic motivation the employees are satisfied by achieving their own personal goals, independent of the activity itself. In other words, by linking compensation to the knowledge transfer behaviour success, the recipient organizations can motivate their employees to achieve satisfaction by achieving monetary benefits, which are possible through success of the process of knowledge transfer behaviour. However, this indirect/extrinsic type of motivation is more successful in case of explicit knowledge transfer behaviour, than tacit knowledge transfer behaviour, as identified by Osterloh and Frey (2000), in their study on the impact of different types of motivation on the process of knowledge transfer behaviour, in an organization. This would mean that extrinsically motivated recipients can also lead to facilitation of a successful transfer of organizational knowledge, especially when knowledge is explicit in nature.

In the existing body of literature, studies have also revealed that motivation is an important factor that affects the success of the process of knowledge transfer behaviour in an organization. However, as repeatedly highlighted in many studies, including one recent study presented by Hau, Kim, Lee and Kim (2013), on the subject matter of mapping among different types of motivation and knowledge transfer behaviour. In their study in context of social capital, the authors have described that intrinsic motivation is positively related with the success of implicit knowledge transfer behaviour and extrinsic motivation is positively related to the success of explicit knowledge transfer behaviour. The authors have furthered the earlier findings and introduced reciprocity in terms of productivity of one type of motivational

measures with the non-matching type of knowledge intended to be transferred. The authors have highlighted negative implications of a mismatch among types of motivation and measures to motivate the personnel in an organizational setup. As the mapping of reward on the intrinsic motivation is counterproductive and in turn negatively impact the process of tacit knowledge transfer behaviour. However, such organizational rewards have a positive impact on extrinsic motivation and contribute to the success of explicit knowledge transfer behaviour. These findings significantly increase the role of recipients' motivation to learn in the success of the process of knowledge transfer behaviour in an organization. Like a double edged sword, while the right mapping of motivational measures can lead to motivating the personnel in an organization and create the right type of motivation in them, which can potentially lead to an increased level of effectiveness of the process of organizational knowledge transfer behaviour. This right mapping of motivational measures over the matched type of motivation intended to be achieved in employees and in turn leads to the success of the process of organizational knowledge transfer behaviour, at one side. At the same time, any mismatched motivational measures can also result in the failure to achieve the organizational objectives from the motivational measures. This failure to achieve the right type of motivation, matched with the intended type of knowledge transfer behaviour can result in a misalignment between the expectations of the management and personnel of the firm. This mismatch of the expectations at one end can result in the loss of efforts of the management and at the same time can demotivate the employees, in the worst case scenario. This demotivation or even motivations mismatch between the type of motivation and the intended knowledge transfer behaviour from the process of knowledge transfer behaviour can seriously affect the process of organizational knowledge transfer behaviour in an organization. Therefore,

recipient firms should put an extra effort to identify the type of knowledge being transferred and need to incorporate right type of motivation among the employees. The right type of motivation is the one match with the right type of the organizational knowledge intended to be transferred, in order to achieve optimality, the process of organizational knowledge transfer behaviour.

Significance of the above mentioned alignment of the type of motivational measures and the type of organizational knowledge intended to be transferred in a public organization is even higher. The reasons ranging from the length of hierarchies and higher number or personnel needed to be trained in larger groups of batches. Training programs in public organizations are intensive and pricy as both scope and significance of the work employees are intended to perform. The cost of failures or even non-productive organizational knowledge transfer behaviour programs are even higher than the cost of training or knowledge transfer behaviour activity itself. Moreover, many of the training programs in public organizations are outsourced. The utilization of external sources of organizational knowledge transfer behaviour makes it critical to have an effective process of knowledge transfer behaviour in order to attain the objectives from the process. The implications of failure of the process of organizational knowledge transfer behaviour are wide and have profound impact in terms of wasted efforts in terms of both cost and demoralization of the participants. One of the major causes which can be associated with this major loss of organizational resources can be mapped to failure to match the type of organizational knowledge and the type of motivational measures incorporated into the knowledge transfer behaviour plan, as highlighted by Osterloh and Frey (2000), in their study on the subject matter. This increased level of significance of the implications of the organizational personnel motivation on the outcome of the process of organizational knowledge transfer

behaviour in case of public organizations makes it even more important to study the relationship between the two. In case of governmental organizations, the outcome of the organizational activity is to provide wider coverage of the population, in terms of provision of the goods or services, directly or indirectly. The direct servicing of the population is mainly the goal in case of healthcare and other utilities. However, in case of infrastructure and natural resources trading related governmental corporations serve the population both directly and indirectly. These organizations at one side serve the population by providing their goods and services to the public and at the other side, these corporations earn the income for the government. This income is then spent on the population of the country, serving the population in an indirect manner. This context of the implications of the motivation on the public sector is even more significant in context of public organizations in the UAE. As the organisation in this study is ADNOC, the main bread winner for the nation. The UAE being one of the Arabian Gulf nations, traditionally has a huge dependence on the income from the sale of oil. ADNOC being the main company handling the energy resources of the country, has a significant role to play in the nation building. Therefore, any inefficiency and/or lack of productivity in ADNOC can potentially impact the whole nation. For these reasons and findings in the existing literature in terms of the implications of the organizational motivation on the productivity of the process of organizational knowledge transfer behaviour, it can be concluded that the recipient organizations' employees' motivation has a significant impact on the success of the process of organizational knowledge transfer behaviour. Moreover, it is also evident from the existing literature that a mapping of right type of employees' motivation and the right type of organizational knowledge intended to be transfer is also very significant role in the success of the process of organizational knowledge transfer behaviour.

Based on all the above discussion, on the role of motivation, its different types and the significance of matching the right type of motivation to acquire the right type of knowledge, in the success of the process of knowledge transfer behaviour in an organization, author has incorporated the role of recipients' motivation to learn into the research model as an independent factor, in order to identify the factors affecting the process of knowledge transfer behaviour in a public organization, in context of the United Arab Emirates.

H 3: There is a positive relationship between recipients' motivation to learn and knowledge transfer behaviour.

2.4.2 Source Oriented Factors

In the research model presented by the researcher, author has divided the independent variables into three different categories. As discussed above the first category includes the independent factors affecting the process of knowledge transfer behaviour in an organization, which are related to the recipients of the knowledge. The next category of the independent factors, affecting the process of knowledge transfer behaviour in an organization is the factors which belong to another group of independent factors that the researcher has proposed to incorporate into this research model. This category of independent factors is based on issues related to the source of the knowledge being transferred or consultancy, which is involved in the process of knowledge transfer behaviour in an organization, in this research model. These factors are also important and affect the process of knowledge transfer behaviour in an organization and have been recognized in various studies including Ko et al. (2005), among others.

Based on the review of various past studies on the subject matter, the researcher has identified and included the most important factors into the category of sources' oriented factors, into the research model. These knowledge sources' oriented independent factors affecting the process of knowledge transfer behaviour in an organization include credibility and motivational factors. Following is a comprehensive literature review, aimed at covering these aspects of the source(s) of knowledge being transferred/consultancy involved in the process of knowledge transfer behaviour in an organization.

2.4.2.1 Source Credibility

One of the most important factors affecting the process of any exchange has always been the credibility of the source of the product of exchange. The significance of this aspect of the source becomes even higher, in case of services where product is not a physical commodity, in the study one of classics on the subject matter. The author has highlighted that in case of a credible source compared with a less credible source, the former source will always have a greater impact on the attitudes of the recipients than that of the later source. A credible sources testimony will always weigh higher than that of the less credible sources, when it comes to attitude change of the recipients. Credibility of the source is a key factor which has a vital impact on the entire coordination between the source and recipients, during the process of knowledge transfer behaviour in the organization. As the credibility of the source plays a vital role in development/determination of the attitude of recipients towards the process of knowledge transfer behaviour, in general, as well as, towards source itself, in particular. The factor of source credibility in the process of organizational knowledge transfer behaviour in an organization is presented by Grewal et al. (1994), where they

have defined sources' credibility, as an attitude that a recipient of knowledge develops towards the source(s) of knowledge. This learned attitude of the recipients is based on the information acquired from many sources and many factors contribute towards the development of such attitude of the recipient(s), which might include but not limited to ratings, reputation and past experiences etc. The source(s) with high ratings and reputation is perceived to be more credible, even before the actual experience and receives an elevated level of attention from the recipients, which is a key to success of the process of knowledge transfer behaviour in any domain. Hence, most of the high rating source(s) of knowledge(consultants) result in a much higher success rate in terms of productivity of knowledge transfer behaviour than their low rated counterparts, in their study on the factors related to the source(s) of the knowledge transfer behaviour. They have also described that the higher success rate of the highly rated source(s) of information might simply due to the appropriate attitude(s) of the recipients towards their efforts for knowledge transfer behaviour.

The factor of perceived credibility is also highlighted by many authors in their studies including the one presented by Anderson and McLean (1974). In their study on knowledge management, authors have related the sources' credibility to a recipients' willingness to communicate and collaborate with a source. The idea is highlighted in many recent studies where the authors have highlighted the significance of the perceived value/credibility of the knowledge transfer behaviour by a credible source. The more credible the source is perceived by the recipients, more attentive and willing to acknowledge the recipients tend to be, towards the efforts of the source, resulting in elevated levels of understanding and coordination. This can potentially lead towards an increased degree of success in the achievement of the goals of knowledge transfer behaviour. This success is extended in nature, ranging from the

successful transfer of knowledge to the practice and incorporation of the acquired knowledge into the business activities. This successful acquisition of knowledge coupled with its further incorporation into business practices, result in the increased productivity of the process of knowledge transfer behaviour, especially, the tacit knowledge but not limited to it. Such incorporation of transferred knowledge into the business practices, also increases the productivity of explicit knowledge as well. These findings are highlighted in many studies on the subject matter, including the one presented by Ko et al. (2005) in their multifactor study of the impact of these factors on the knowledge transfer behaviour. Another study on the factors of knowledge transfer behaviour presented by Szulanski (1996), has also highlighted in these findings. The author in his study of factors affecting the productivity of the transferred knowledge in an organization has highlighted the sources' credibility as a major independent factor contributing to the successful knowledge transfer behaviour in an organization.

There can be many reasons for the perception of credibility of the source(s) of knowledge being transferred. These reasons can include, third-party rating, which is the external grading of the source(s) based on certain standard criterion set by the international standardization, through extensive research in the field. Such external ratings and/or expert opinions can cause the recipients to elevate their perception of the credibility of the source. These external third party ratings prove to be one of the major source(s) of recipients' perception about the credibility of the source of knowledge being transferred, in their study on the subject matter of significance of rankings in the establishment of perception of source's credibility. Another reason which can contribute to the perception of credibility of the source is the reputation of the source(s) of transferred knowledge. As described by Archibald (2013), reputation

is achieved honour and/or dignity of the source. It might be achieved by extensive reception and/or acknowledgement of the sources' expertise/efforts. Based on these acknowledgements the recipients' perception of the credibility of the source of knowledge being transferred can be elevated. Finally, the recommendations and/or past experience(s) can also lead to the increase in the credibility of the source of knowledge. No matter how it is achieved, the elevated levels of recipients' perceived credibility of the source of knowledge will increase the sources' reception and/or willingness of the recipients to communicate, which is especially important in case of tacit, as well as explicit knowledge transfer behaviour. Once the right attitudes and attention of the recipients are achieved, the chances of the success of the process of knowledge transfer behaviour in an organization also increase.

However, on the other hand, as highlighted in many recent studies on the subject matter of knowledge sources' credibility and its impact on the process of knowledge transfer behaviour, it can also cause creation of the barriers in the achievement of goals of the process of knowledge transfer behaviour, in the otherwise scenario. These barriers can potentially range from the hindrances in the success of the process of knowledge transfer behaviour itself to the implications or perceived importance of the transferred knowledge. These barriers in the process of knowledge transfer behaviour can potentially lead to the lack of practice of the acquired knowledge and result in seriously reduced productivity or even loss of benefits, achievement goals from the transferred knowledge, in the otherwise scenario. These barriers can lead to serious circumstances and lack of knowledge transfer behaviour or loss of its productivity based on non-practice of the transferred knowledge. Considering the counter productivity of the entire process of knowledge transfer behaviour, caused by these barriers, which originate from the very basic sources' factor

of credibility, organizations must put an extra effort to increase and maintain the recipients' perception of the significance of the process of knowledge transfer behaviour and the transferred knowledge itself, by taking measures to ensure the sustained credibility of the knowledge transfer behaviour source(s). The issue is stressed in many recent studies including the one presented by Sarkki et al. (2015). In their study, authors have highlighted and stressed the significance of maintaining and even adding to the recipients' perceived credibility of the source(s) of the transferred knowledge, in order to achieve the desired results and objectives from the process of knowledge transfer behaviour. These goals of increasing the recipients' perception of the credibility may range from simply informing the recipients' of transferred knowledge in an organization, to a fully integrated incorporation of the transferred knowledge into the business practices in an organization, in order to change the organizational culture and transforming it into a continuously improving and learning organization.

Based on the above review of the past literature on the significance of the recipients' perceived credibility of the transferred knowledge source in an organization, although it is vital for the success of the process of knowledge transfer behaviour in an organization to maintain the credibility of the transferred knowledge source(s) in an organization. It is equally important on the knowledge source(s) side to not only retain but also sustain the recipients' perception of their credibility, in order to achieve the mutually beneficial and coordinated objectives of the process of knowledge transfer behaviour in an organization. This makes recipients' perception of transferred knowledge sources' one of the most important source-oriented factors affecting the process of knowledge transfer behaviour, in an organization.

H 4: There is a positive relationship between sources' credibility and knowledge transfer behaviour.

In the following paragraphs the researcher highlights the role of arduousness of relationship between source-oriented/recipient oriented factors and knowledge transfer behaviour.

2.4.2.2 Arduousness of Relationship

The last, but by far not the least recipients' oriented factor having an impact on the process of Knowledge transfer behaviour in an organization that has been repeatedly highlighted in the past literature is the arduousness of the relationship between recipient(s) and source(s) of the intended knowledge to be transferred. Many studies have mentioned the significance of this factor and how it affects the productivity of the process of knowledge transfer behaviour in an organization. The construct was initially identified by Nonaka (1994) in the study on the subject matter, in context of organizational knowledge transfer behaviour, where the author has identified that during process of transfer of knowledge, frequent and numerous interactions might be required and success of these interactions largely depends on the quality of the relationship between source and recipients. As the process of knowledge transfer behaviour, especially transfer of intrinsic type of knowledge, might require close and continues coordination between the source and the recipients. A good and healthy coordination, between source and recipient, leads to a successful knowledge transfer behaviour. However, if the ongoing coordination has the element of arduousness of the relationship into it, the chances of success in effective knowledge transfer behaviour are reduced dramatically. Such impact of arduousness of the relationship between the recipient(s) and source(s), is also identified by Argote (1999)

among many others, where the author has established that the relationship between source(s) and recipient(s) of intended knowledge to be transferred, is one of the key factors effecting the transfer of knowledge between the two. In turn, it will have a significant impact on the productivity and even success of the process of the transfer of the intended knowledge in an organization. Although the impact of arduousness of the relationship is more significant in case of the transfer of tacit type of knowledge. However, this factor still has a sizeable impact even in case of transfer of explicit type of knowledge, as identified in many studies.

Many studies have acknowledged the observations presented by Szulanski (1996) where the author has identified arduousness of relationship as the one which is emotionally laborious and/or distant between the source(s) and recipient(s) of the intended knowledge to be transferred. This laboriousness of the relationships between the two parties involved in the process of knowledge transfer behaviour has an even greater impact on the productivity of the process, especially in the modern, dynamic and interconnected world, where most of the coordination is electronic in nature and seriously lacks the physical interaction between the two parties, in many cases. This lack of physical coordination can very easily cause a serious lack of attention in the coordination, in the event of the presence of arduousness in the relationship between the source(s) and recipient(s) of the intended knowledge to be transferred., as identified in many recent studies. In their study the authors have identified this aspect of the relationship between the source(s) and recipient(s) of the electronic knowledge transfer behaviour, in context of global franchises. Similar findings are presented in many studies in generic organizational knowledge transfer behaviour context. One such study is presented by Ko et al. (2005), in which the authors have stressed on the significance of the impact of arduousness of the relationship between the source(s) and

recipient(s) and have described that such arduousness in their relationship gravely affects the process of the intended knowledge transfer behaviour. In their study, the authors have empirically analysed the impact of arduousness of the relationship between the two parties involved in the process of organizational knowledge transfer behaviour and have found a statistically significant impact of arduousness in the relationship between the source(s) and recipient(s). The authors have further described that this significant impact was found to be negative, which means that the higher the arduousness in the relationship between the source(s) and recipient(s) of the transferred knowledge, the lower will be the chances of success in the achievement of organizational goals from the process of knowledge transfer behaviour. In their study, authors have successfully established that the arduousness in the relationship between source(s) and recipient(s) has an inverse impact on the productivity of the process of knowledge transfer behaviour in an organization. These findings are supported and acknowledged in many recent studies including Belmonte, Escalante and Franco (2015), where the authors have endorsed the findings presented by Ko et al. (2005), in the context of change management in the area of renewable energy.

The intensity of the adverse impact of arduousness of the relationship between the source(s) and the recipient(s) of the intended organizational knowledge transfer behaviour on the process of knowledge transfer behaviour in an organization is different in the transfer of different types of knowledge. Moreover, this impact is also affected by the level and type of motivation and the accuracy of the strategic mapping of different types of personnel motivation to different types of intended knowledge transfer behaviour. These aspects of arduousness of the relationship of the source(s) and recipient(s) are also highlighted in many studies including a very recent study on the subject matter presented by Szulanski, Ringov and Jensen (2016), where the

authors have discussed measures to overcome the difficulties in organizational knowledge transfer behaviour. The authors have highlighted that the impact of arduousness of the relationship between the duos is minimal in case of presence of high levels of intrinsic and extrinsic motivation and knowledge being transferred is explicit in nature. The extrinsic motivation causes the source(s) and recipient(s) parties involved in the process of knowledge transfer behaviour, to be motivated towards the achievement of the organizational goals of process of knowledge transfer behaviour, regardless of the task itself. Also, in order to transfer explicit type of knowledge the intensity of coordination is minimal, so are the chances of arduousness of the relationship if any, to cause much damage to the desirable goals of the process of knowledge transfer behaviour. However, the impact of arduousness of the relationship between the source(s) and recipient(s) of the intended knowledge transfer behaviour is most damaging in case of the intended transfer of the tacit type of knowledge, as in this type of knowledge transfer behaviour, the accurate mapping between the right type of strategic motivational measures and the type of knowledge intended to be transferred is the key to the success in the achievement of the desired organizational goals from the process of knowledge transfer behaviour. Many studies have highlighted that in the event of an inaccurate mapping between the two factors affecting the process of knowledge transfer behaviour in an organization can result in the elevated chances of adverse impact of arduousness of the relationship and can even lead to actually seeding and nourishing the arduousness in the relationship, which in case of the tacit knowledge transfer behaviour can lead to seriously falling short of the achievement of desirable organizational objectives from the process of knowledge transfer behaviour in an organization.

The implications of these findings are very significant and can be seen in many perspectives. As identified by Baum and Ingram (1998), in their study on the subject matter, the arduousness of the relationship between the source(s) and the recipient(s) of the intended organizational knowledge transfer behaviour, at one side restricts the ability of source(s) to transfer knowledge, while on the other hand it has an adverse impact on recipient's ability and/or readiness to learn and implement the acquired knowledge and might potentially lead to causing a friction against the achievement of the organizational goals from the process of knowledge transfer behaviour, in terms of both the parties. This friction might be visible throughout the process of knowledge transfer behaviour including before, during and/or after the actual process of knowledge transfer behaviour. Moreover, the adverse impact of arduousness of the relationship between source(s) and recipient(s) of the transferred knowledge is amplified in case of tacit type of knowledge transfer behaviour. These findings have originally been identified and incorporated in the organizational knowledge transfer behaviour context by Szulanski (1996) in his study on the factors affecting the process of knowledge transfer behaviour in an organization. In his study on the subject matter, the author has established that arduousness of the relationship between source(s) and recipient(s), especially in the event of transfer of the tacit type of knowledge, can cause additional hardships in the transfer as well as the implementation and/or incorporation of the strategically transferred knowledge, which can lead to strictly limiting the achievement of the organizational goals from the process of knowledge transfer behaviour in an organization. As identified by Nonaka (1994), the tacit type of knowledge transfer behaviour is especially affected by this factor, because transfer of this type of knowledge typically requires a frequent and numerous interactions, which can easily become least productive in the event of the presence of arduousness in the

relationship between the source(s) and the recipient(s) of the organizational knowledge desired to be transferred, in an organization. Hence, limiting the productivity of the entire practice and efforts of both the parties involved.

H 5: Arduousness of relationship mediates the relationship between source's credibility and knowledge transfer behaviour.

H 6: Arduousness of relationship mediates the relationship between recipients' motivation to learn and knowledge transfer behaviour.

2.5 Learning Management System

Many studies including Martin (2000) have identified learning and development as one of the key components of an organizational culture. The dynamic organizations always thrive to achieve a culture where learning and development is promoted and helps incorporate it into the learned behaviour of their employees, in order to align them with the organizational business objectives in order to achieve the ultimate goal of continual improvement. This is also being highlighted in many recent studies, where the authors have identified the relationship and impact of learning management system and/or researcher and development on the culture of an organization. This is in line with the previous findings highlighting the significance of learning management system in terms of establishment of an appropriate organizational culture that can enable the organization to transform into a learning organization, in order to achieve sustainability in the modern, dynamic and ever-evolving business environment. Fiol and Lyles (1985) have described organizational learning as the way recipient(s) acquire/generate, incorporate and implement knowledge into its business activities and culture. This would mean that such an organization will continuously learn to update/adapt to the changing dynamics of the

business and its objectives in the modern globalized and ever evolving business environment. The authors have also included that recipients' ability to adapt and develop its efficiency by improved utilization of its workforce's skills set. (Huber, 1991) has noted another aspect of learning in an organization and has highlighted the knowledge acquisition from peers as a source of learning. Such knowledge transfer behaviour will only be possible in an organization where learning support and promotion is embedded into the culture of the organization, which leads to an overall climate where knowledge transfer behaviour becomes an automated phenomenon. As learning will occur as soon as the need for any knowledge is identified and wherever there is a deficiency in the skills set of the workforce that cannot be absorbed internally, the external need for knowledge transfer behaviour will be highlighted and become part of the organizational knowledge transfer behaviour plans, seamlessly and effortlessly. Another study on the subject matter presented by Teece et al. (1997) has highlighted that this relationship based learning allows organizations to acquire competencies. An organization which provides a culture that supports learning will enable employees to identify their deficiencies as well as proficiencies of their peers. This will also allow them to avail opportunities to cover their own deficiencies through coordination with the proficient peers. Such an organizational culture will also allow the organization to identify the skills set of the employees and any need to extend/acquire new skills will be automatically highlighted and incorporate into the organizational knowledge transfer behaviour plan.

2.5.1 Definition of the Learning Management System

There have been many attempts to define learning management system in different studies in different contexts. One of the generic definitions of information

system is the basic variation of learning management system. The author has defined such a system as ‘a system that receives information and stores, accesses, transforms, transfers and processes information to produce the desired information services.’ This is one of the earliest definitions incorporated in the definition and functionality of the recent and most advanced learning management system, utilised in the organizations. More recently an even generic definition of the learning management system is presented by García-Holgado and García-Peñalvo (2016) in their study on the subject matter of eLearning. The authors have defined learning management system as ‘the elements used to process and manage information within an organization’. This generic definition is abstract in nature and does not involve a technological component. Therefore, an element can be people, system or even a combination of both.

One of the major uses of learning management system is in the education sector, where online systems are used to facilitate access and utilization of the resources in an optimum way from all the stakeholders involved in the process of learning. One such definition is presented by Fidalgo-Blanco et al. (2014), where the authors have defined learning (content) management system, a variation of learning management system, where learning is managed by optimal utilization of the contents. The authors have defined such learning management system as ‘A system that allows managing the different learning situations that may happen’. The authors have defined the learning management system in the context of educational environment where learning management carries out by defining situations of learning both by the faculty and by the students. They have also highlighted that the learning content management system must identify and organize the most appropriate resources for each learning situation. Fidalgo-Blanco et al. (2014) have also identified that such a learning management system can function essentially in four different layers which vary from

the perspective of their functionality. These layers include a physical layer at the fundamental level, at which only administrator can define and create items structure. At the next level is semantic layer, at which semantic of the learning content management are organized. A teacher level user can organize the ontologies at this level. Next is the conceptual layer, where each user has its own organization and finally, another conceptual layer is established where a two-way cooperative resource addition is made available, in order to facilitate two-way learning. In this way the learning content management system handles and facilitates learning by optimally utilizing resources.

As described by García-Holgado and García-Peñalvo (2016), the proposed solutions that support different problems and goals related to knowledge management are based on the definition and implementation of technological ecosystems. Such system consists of a set of different modules. The purpose of these modules is to provide functionality, which is necessary to manage the external and internal processes of the organization, as well as to support the intra system flow of information. Such a system sets aside the underlying technology and includes a human component, as the users of the learning management system. These users establish the flow of information and other components of the system, so they are also affected by the evolution of the system.

2.5.2 Moderating Role of Learning Management System

Another variation of learning management system and one of the recent ones is known as the social learning management system, which is defined by Avogadro, Calegari and Dominoni (2016), as ‘a tool which favours social interactions and allows scholastic institutions to supervise and guide the learning process.’ Although the

system is relatively new and currently has a limited introduction in the fields of education and professional development, as it has a potential to evolve the currently utilised learning management systems to the next level, where learning can become a part of the socialization of employees in an organization. The authors have identified that the addition of the social aspect to the 'normal' learning management system to the development of educational and potentially professional social networks where the participants interact to learn. Avogadro et al. (2016) have also highlighted that the advantages derived from an augmented interaction is counterbalanced by the quality of the information. As at one side the interaction facilitates learning through socialization but at the same time the quality of the information being exchanged on such a learning management system is somewhat compromised due to the freedom of interaction facilitated by the social learning management system.

This evolution of learning environment from basic information system through learning management systems to augmented social learning management system requires certain cultural changes in an organization or any environment, which facilitates the process of learning. Avogadro et al. (2016) have identified different aspects of such cultural changes necessary for the adoption of social learning management systems. These changes include a deliberate and conscientious blending of social learning into the formal learning process, a restructuring of the learning design, a stimulus incorporation of the development of learning communities, collaborative learning and last but not the least adopting new workspaces both physical and virtual, which not only facilitate but also promote collaborations among peers at the same and different levels. With the introduction of these 'fixes' in the culture of the organization, the learning management system can potentially have evolved to an

augmented and collaborative levels. Hence, a foundation to the development and evolution to social learning management is laid.

Avogadro et al. (2016) have also identified three main groups of roles for the successful evolution to the social learning management system. These roles include formal roles, social roles and editorial roles, which can further be editorial peer or editorial leader. The formal roles are related to the successful achievement of the objectives from the process of learning. The social roles depend on the behaviour of the learners in the social learning management system. These social roles can be divided into two sub divisions, which include the judgemental role and contribution role. While playing judgmental role, the participant rates the productivity of the other participants this include judgement of quality as well as authenticity of the shared information. In terms of contribution role, the participants produce the material of actual productivity individually. Finally, the editorial role relates to the consideration of actions of the learners in terms of the creation of the informal learning materials. While playing the editorial role, participants both produce new learning material as well as supervise the tasks of their peers. Based on their activity, the editorial roles are also divided into two types. First, the participants play a role of editorial peers, in which the participants actually produce the new informal learning material. Secondly, the participants can play the role of editorial leaders, in which the participants supervise the tasks of other editorial peers.

Another aspect of the learning management system in an organization is highlighted by Bukowitz and Williams (1999), where the authors have identified the need of learning strategies enabling knowledge transfer behaviour, hinting the significance of knowledge and learning management system in the process of

knowledge transfer behaviour in an organization. Overall, the strength of a learning management system in an organization is determined by its ability to incorporate the acquired knowledge into the business activities, as well as identification of opportunities to extend the existing skill set of the employees in the organization. The theme is also supported by many studies including Fiol and Lyles (1985), where the authors have described the learning management system to be able to incorporate the acquired knowledge into the culture of the organization. As described in many studies on the subject matter, learning management system has come a long way from its humble start, as a network of scientists and/or researchers, which later went on to evolve into internet, to a fully integrated and real - time updating and/or synchronized system. Although compared to the widespread use and integration of internet into our lives, integration of learning management system into business is still limited. However, with the advent and advancement of mobile technology, there is a boast in the spread of both the tools; it has done little to motivate the businesses to exploit the potentials of learning management system. Authors have identified that lot of efforts have been made to highlight these potentials and ways to exploit it, both in research and/or literature and practicalities. Even though there is still a need to incorporate these potentials into the majority business processes. They have also described that relatively bigger companies have greater levels of integration of learning management system into their businesses. However, there is a visible reluctance among smaller organizations towards the adoption of learning management system.

A very recent study has identified learning management system as an incorporated system that allows an organization to integrate all the components of the business, in order to harness the potentials of perfection in the coordination among business activities in order to achieve a continuous improvement in the business

activities. Many studies including David (2016), have identified such an organization as a learning organization. Learning management system is a major component of a learning organization and it has its critical significance in the process of knowledge transfer behaviour. The authors have also identified that learning management system is the tool that organization utilizes to maximize the productivity of the process of knowledge transfer behaviour, by incorporating the acquired knowledge into the business activities. In other words, productivity of the process of knowledge transfer behaviour is strictly dependent on the productivity of the learning management system. As higher the productivity of the learning management system in an organization, higher will be the integration of the acquired knowledge into the business activities, which is the ultimate goal of the process of knowledge transfer behaviour system, so in turn, higher will be the productivity of the process of knowledge transfer behaviour, in an organization. As highlighted by Sparrow (2015), learning management system is the tool which has proven to be the one for that has the potential to transform a traditional organization into a learning organization, which is the ultimate goal of the modern businesses, especially from the process of knowledge transfer behaviour. There are many industries in the modern business environment, which have extensively utilized the benefits of a learning management system. These industries include airlines, manufacturing, utilities, many services industries, especially education industry, as identified in many studies. Moreover, productivity of oil and gas sector in the past couple of decades have enabled this sector to establish some state of the art learning management systems, which are in existence. These well - established learning management systems have enabled this sector to thrive during the boom in the industry and have allowed the sector to survive during the recent period

of oil price crisis, caused by internal political dynamics, as highlighted in many recent studies on the subject matter.

These factors have increased their significance of this factor in the research model presented by the researcher even more, as learning management system in general, enables an organization to transform itself into a learning organization. The main feature of a learning organization is its adaptability to the ever evolving and very dynamic modern business environment, a key feature contributing to the sustainability of an organization. More specifically, the significance level of the factor of learning management system in an organization, incorporated into the research model presented by the researcher is elevated even higher, as the study is based on the organization, which is the national oil and gas company in the country of research, which is itself mainly an oil dependent economy. Considering the significance of learning management system in an organization and considering its ability to transform an organization into a learning organization, enabling the organization to adapt to the dynamics and uncertainties of the modern business environment, the learning management system proposed to be studied in the research and its incorporation in the research model elevates the significance of the entire research itself. As the findings of this study has the potential to impact the sustainability of the organization under consideration, due to economy of the country is mainly dependent on the sustainability of the oil and gas industry. The sustainability of the organization under consideration hugely impacts the sustainability of the entire country. This not only increases the significance of the learning management system in the proposed research, in the specific organizational context but also in a broader perspective, which significantly increased the scope of the study in terms of the utility of its findings. The scope of the findings can easily be extended to the entire gulf region as most of the countries in the

region are dependent on the sustainability of their oil and gas sector and have similar culture and approach towards business practices in general, as identified in many past and recent studies, where the author has identified and highlighted these aspects of the economies of the countries of Arabian gulf.

The confusion about the role of the moderator variable in a model persists and varying roles and characteristics of predictor variable have been identified by different researchers. This debate can be categorized into two main categories, based on the interaction of the moderator variable with the other variables in the model. Under one category of the debate, the role of the moderator includes an interaction with the predictor variable, even if the hypothesised predictor variable is a significant predictor and/or independent variable. This idea is supported by many researchers in their research on the subject matter, which include Peter and Champoux (1979) among others. On the other hand, the second category of the debaters on the role of the moderator variable includes researchers like Cohen and Cohen (1975). The authors have described that a moderator variable is the factor in the model, which is neither a significant predictor nor independent variable. Moreover, a moderator variable does not relate to any other predictor variables. Contrary to these two major approaches towards the role of the moderator in a model, a third approach towards the role of the moderator in the model is also employed by many researchers. The key studies supporting the third approach towards the role of the predictor variable in the research model include the one presented by Bennett and Harrell (1975) among others. The researchers, who have employed this approach, tend to simply by pass the controversy of the role of the moderator in the model, surrounding the interactions of the moderator variable with the predictors. The researcher who have employed this approach, tend to utilise an analytic procedure in order to examine the differences between individual

factors grouped on the basis of some hypothesized moderator. This confusion has led to a difficulty in terms of comparability of the findings of different studies, making them obscured of even misleading, as described by Dunnette (1972). A more comprehensive description of the moderator in the model is presented by Sharma, Durand and Gur-Arie (1981) in their review of the identification of moderators in the model. The researchers in their study have identified two main types of moderators based on their roles in terms of moderation of the model. They have identified that the first type of moderators are those moderators, which have an influence on the model in terms of their impact on the strength of the relationship among the variable they moderate. While the second type of moderators are those which change the form of the model.

The researcher has employed the research model, in which the role of the learning management system in an organization is that of a moderator. Based on the above discussion, it can be identified as the type of moderator that affects the strength of the relationship in the model. This type of moderator is identified by Sharma et al. (1981) as ‘pure’ moderator, in the model employed by the researcher, the moderator of learning management system affects the strength of the relationship between recipients’ oriented predictor factors and the dependent variable. More precisely, the researcher has employed the model in which the learning management system affects the strength of the relationship between absorptive capacity of the recipients and the effectiveness of the process of knowledge transfer behaviour in an organization. This imply that the stronger the learning management in an organization, the higher will be impact of the recipients; absorptive capacity in an organization on the process of knowledge transfer behaviour in an organization. In other words, a strong learning management in an organization increases the possibility of translating the recipients’

learning capacity of an organization into the effectiveness of the process of knowledge transfer behaviour in an organization. This discussion can be concluded into a summary through the following hypothesis to be tested in this study.

H 7: Learning management system moderates the relationship between recipient's absorptive capacity and knowledge transfer behaviour in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.

The other influence of the learning management system in the model, employed by the researcher is on the relationship between the recipients' retentive capacity and the effectiveness of the process of knowledge transfer behaviour in an organization. The influence can be interpreted in terms such that a strong learning management system in an organization increases the impact of recipients' retentive capacity on the effectiveness of the process of knowledge transfer behaviour in an organization. In other words, a strong learning management in an organization increases the strength of impact of the recipients' retentive capacity in an organization on the effectiveness of the process of knowledge transfer behaviour in an organization. This can be concluded into a summary through the following hypothesis to be tested in this study.

H 8: Learning management system moderates the relationship between recipient's retentive capacity and knowledge transfer behaviour in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.

2.6 Research Model

Based on the above discussion, the researcher has formalized the following research model, as utilized in this study to infer. In the following diagram (Figure 2.1),

the researcher has presented a pictorial representation of relationships and interactions tested in this study.

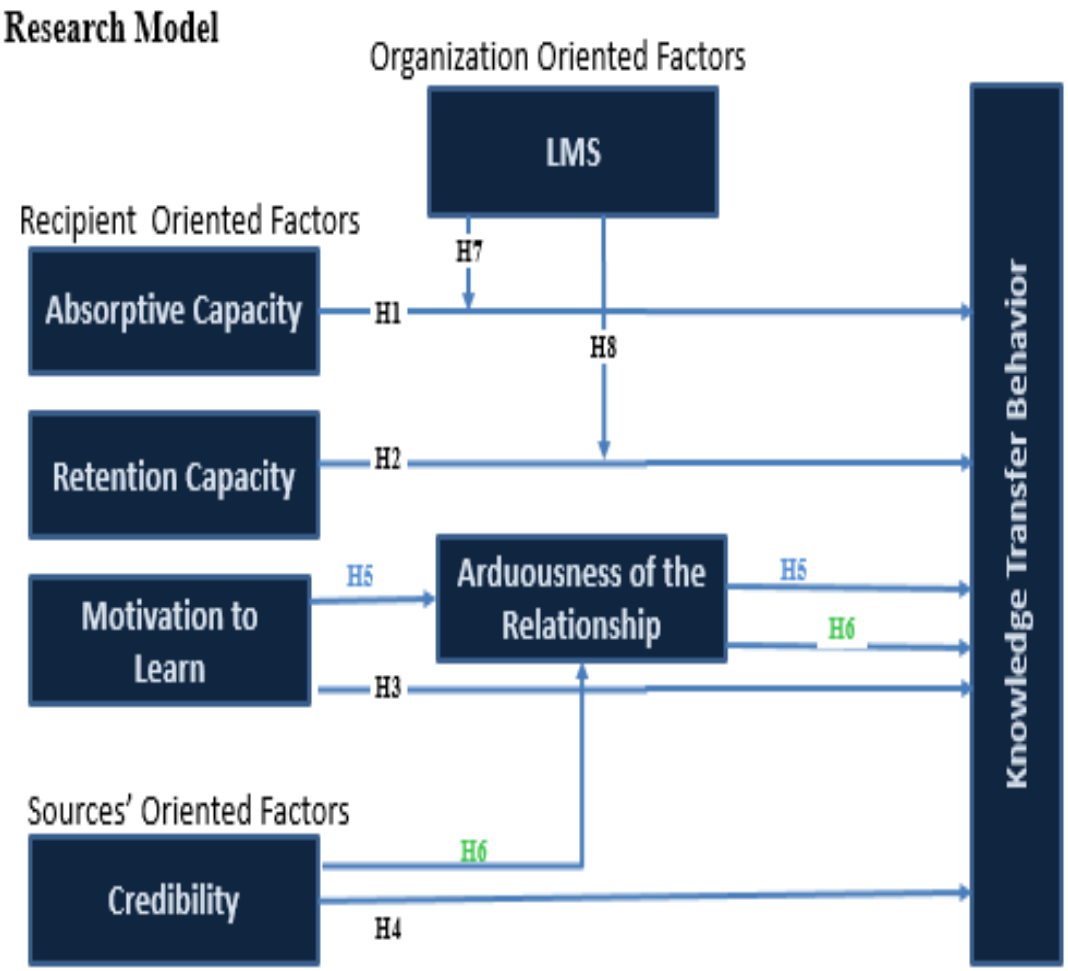


Figure 2.1: Research model

2.7 Summary of Hypotheses

Table 2.1 shows the summary of hypotheses.

Table 2.1: Summary of hypotheses

H1	There is a positive relationship between recipients' absorptive capacities and knowledge transfer behaviour.
H2	There is a positive relationship between recipients' retentive capacities and knowledge transfer behaviour.
H3	There is a positive relationship between recipients' motivation to learn and knowledge transfer behaviour.
H4	There is a positive relationship between sources' credibility and knowledge transfer behaviour.
H5	Arduousness of relationship mediates the relationship between source's credibility and knowledge transfer behaviour.
H6	Arduousness of relationship mediates the relationship between recipients' motivation to learn and knowledge transfer behaviour.
H7	Learning management system moderates the relationship between recipient's absorptive capacity and knowledge transfer behaviour in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.
H8	Learning management system moderates the relationship between recipient's retentive capacity and knowledge transfer behaviour in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.

2.8 Current Practices from other Companies: British Petroleum, Royal Dutch Shell, and Halliburton

Companies in the oil and gas sector have been working hard to adopt knowledge management practices since the 1990s (Edwards, 2008). Some of the key companies that have adopted and have currently established knowledge transfer behaviour include British Petroleum (BP), Royal Dutch Shell, Halliburton, and Exxon Mobil. Accordingly, British Petroleum adopted knowledge management in 1996,

which originated from organisational learning/best practices transfer upstream (Grant, 2013). The company adopted knowledge management as result of the radical organisational decentralisation that required knowledge transfer behaviour as a mechanism for attaining lateral coordination. In regards to the current practices on the development of knowledge transfer behaviour and management, BP emphasises less formal and more people-oriented approach. This means that people at different parts of its project are the drivers of the development of knowledge transfer behaviour and they are free to interact over less formal boundaries. This approach has helped in enhancement of knowledge transfer behaviour, as people seamlessly interact. To make sure that people are effectively developing knowledge transfer behaviour and management, BP has developed a database, After-Action-Reviews, where employees can share both their positive and negative experiences while working in their respective departments for the attainment of organisational goals. The sharing of experiences, both positive and negative, give the organisation an opportunity to improve knowledge sharing experiences for the best realisation of the set goals. Moreover, at BP, there is a virtual teamwork program that facilitates the development of knowledge transfer behaviour and management through behaviour change training, facilitated through video conferencing (Grant, 2013). There has been the facilitation of knowledge transfer behaviour between people through approaches, such as virtual teams that have put in place strong interactions based on the central thrust of the knowledge management programs available in the organisation. In essence, BP has focused on ensuring that knowledge management is highly impactful by avoiding the development of a parallel structure for the management of knowledge transfer behaviour. The focus is to make sure that the existing teams at different levels in the organisation are working accordingly and effectively with each other. For instance,

with the challenges that were identified in the drilling team in regards to making fundamental decisions in the course of their work, BP has established groupware and video links that ensure the real time communication between the drilling teams in different locations, with their contractors, suppliers, as well as business unit managers. Thus, virtual team working has been seen as the fundamental approach to making sure knowledge transfer behaviour is effective through seamless real-time communication. Therefore, BP is a key example of the companies in the oil and gas industry that have made sure there is a proper utilisation of knowledge management for sustainability leading to the development of knowledge transfer behaviour. It is also an example of how LMS has been evolved to match the needs of the organization, undermining the impact of retentive capacities of the employees, while signifying the impact of absorptive capacity of the employees in the organization, in order to effectively develop the knowledge transfer behaviour in the organization. The example of BP is astonishingly consistent with the findings of this study and provides an evidence for the extension of the scope of the practical implications of this study, to the global context, especially in oil and gas sector.

Royal Dutch Shell is also one of the best companies that actively implementing and executing knowledge management in the oil and gas sector since 1995. The origin of the knowledge management was based on organisational learning initiatives to establish knowledge transfer behaviour in the organization by corporate planning, such scenario analysis (Grant, 2013). The motives for the adoption of knowledge management at Royal Dutch Shell was to ensure that strategic planning is effectively implemented in making relevant decisions about resource usage due to the decentralised multinational structure. The poor profitability that Shell experienced in the 1990s' also made the company come under excessive pressure to make effective

use of its dispersed knowledge (Edwards, 2008). The current approach of knowledge management at Royal Dutch Shell is people-oriented and ensures that there is an easier interaction between people at the different projects within the organisation. Similar to BP, Shell has focused on creating a central thrust of its knowledge management program to make sure that its employees have an easy time sharing significant information based on their teams. Knowledge management at Shell is focused on people engaged in different projects and is aimed at sharing significant pieces of information that would ensure that all the resources available will be utilised as effectively as possible. Thus, the profitability generated within the company will be maximised thought the development of effective knowledge transfer behaviour in the employees of the organization. Shell has adopted the communities of practice to promote knowledge transfer behaviour in the company. The company views this practice as the groups of people who are geographically separated, and they can easily share information, insights, and pieces of advice about the common interest. The common interest refers to the company and its different sections that define it. The communities of practice engage in different knowledge sharing areas through benchmarking, competitive intelligence, e-business, commercial safety, environment, information technology, opportunity evaluation consistency, and special interest spheres. Additionally, Shell has key areas that facilitate knowledge sharing, including 4D Networks, Drilling Network, Completions Network, Reservoir Engineering Network, and Geophysics Network (Grant, 2013). All these efforts present another example of evolution in the LMS in order to align it with the organizational needs, in an effort to undermine retentive capacity of the workforce and to shift the emphasise to the absorptive capacity of the employees. These efforts at Shell has resulted in the achievement of the organizational knowledge transfer behaviour in the organization to

an optimal level. The teams across these networks are required to effectively share their knowledge and experience in relation to work and resource management, which is only possible with the prevalence of effective knowledge transfer behaviour among the workforce in the organization. The best practice groups at Shell have been at the centre of knowledge management and promoting the knowledge transfer behaviour in the course of its activities. With this in mind, knowledge management at Shell is mainly associated with training activities and the company has adopted the practice of employing knowledge management specialists in different departments of oil & gas products and chemicals. Thus, the communities of the practice approach, as used at Shell have been crucial in boosting the level of knowledge transfer behaviour, while ensuring that its resources are well-protected.

Haliburton is the third key company that has adopted knowledge management in the course of its operations in the oil and gas sector since 1998 and the origins of knowledge management at the company are based on information technology applications to drilling and seismic analysis. The motive for adopting knowledge management at Halliburton arises from the need to rapidly link the advancing data management with the systems that effectively combine human expertise in its globally distributed operations. It is only possible through the prevalence of knowledge transfer behaviour among the organizational workforce. The company has been regarded as the leader in the development of Information Communication Technology (ICT) solutions for knowledge management geared at improving the efficiency and effectiveness of decision-making, so it is leader in terms of LMS. However, with the difficulties in implementing ICT for upstream activities, the company has prioritised the implementation of programs for the dissemination of the best practice, hence boosting knowledge transfer behaviour. Supporting the personnel through establishment of

effective knowledge transfer behaviour has been vital in helping employees properly implement knowledge management, as part of the practice within the organisation. Similar to Shell, Halliburton has also effectively centred its knowledge management on the communities of practice, resulting in promotion of knowledge transfer behaviour. The presence of the director and assistants at the company has been vital in facilitating knowledge management through quarterly meetings for the deployed teams, resulting in establishment and evolution of knowledge transfer behaviour to the desired levels. Moreover, each community of practice has a knowledge management broker who plays an instrumental role of monitoring and moderating a community portal that helps in the networking of teams working on different projects within the company (Edwards, 2008). This provides support to the significant moderation role of LMS, theorised and supported in this study. The knowledge brokers have an essential role of making sure that there is coordination between the teams in the organisation when it comes to sharing key knowledge aspects concerning their work on different projects. Therefore, the role of LMS at its evolved level is essentially to ensure the development of knowledge transfer behaviour in the organization. The knowledge brokers report to the global operation manager who is supposed to consider the impact that knowledge management has on the proper usage of resources.

Additionally, Halliburton is referred to as knowledge champions, emphasizing the motivational aspects, while at the same time play a crucial role by acting as touch points for the knowledge brokers working as the support for the communities of practice. The knowledge management directors at the companies should have plenty of experience in the fields of business analytics and consultancy. The outside consultants, including software developers and quality experts, are also engaged by the company. The availability of all these individuals is a booster to the success of

development of knowledge transfer behaviour enabling sharing knowledge across the organisation, as well as its international projects. The approach of linking people-to-people at the organisation has been crucial in ensuring that different teams share the information with each other in the most efficient way possible. Therefore, Halliburton remains one of the best examples of the companies that have implemented knowledge management through the achievement of effective knowledge transfer behaviour, for purposes of efficient working among teams.

2.9 Chapter Summary

In this chapter, the researcher has presented a critical review of the existing literature on the factors included in this study. This has helped the researcher to establish a theoretical foundation of this study on the body of existing literature. The researcher has critically evaluated the literature on the constructs as well as their roles identified in this research model. The researcher has provided evidences from the existing literature to support the impact of dependent factors including, recipient oriented factors of recipients' motivation to learn, retentive and absorptive capacity, source oriented factors including, sources' credibility and the arduousness of the relationship between source and recipients of the intended knowledge transfer behaviour. The researcher has also presented evidences from the existing body of literature to support the proposed interaction of mediation impact of arduousness on the relationship between recipients' motivation to learn and organizational knowledge transfer behaviour. Finally, in this chapter, the researcher has presented the genuine moderation impact of LMS on the relationship between the recipients' retentive and absorptive capacities.

After presenting the discussion on every construct and its proposed role in the model, the researcher has concluded discussion on every construct by presenting the relevant hypotheses intended to be tested in this study.

Chapter 3: Research Methodology

3.1 Introduction

In this study, the researcher has employed the philosophy of positivism. The primary reasoning for the employment of positivism in this research is that it is consistent with the aims and objectives of the study. The researcher through this preliminary and comprehensive study has intended to incorporate personal expertise acquired over the course of his career, while serving for ADNOC and its subsidiaries, into the existing body of knowledge, in order to provide useful insights into the practical aspects of the subject matter. Therefore, the selection of this methodology for the research, which has provided the researcher with an opportunity to utilize such incorporation, has a vital role in the success of this study. Bunniss and Kelly (2010) in their review of the research paradigm, formerly in the field of medical research have provided useful insights into the paradigm of Positivism. The authors in their study have highlighted that positivism tends to use quantitative methods. The researcher has also developed this research on the quantitative methodology, as it has proven to be relatively more straightforward to reach and present conclusions. However, on the other hand, the quantitative methodology might not necessarily establish causation, and only provides a foundation for the incorporation and establishment of causality in the analysis. In order to address the issue, the researcher has compiled a surveying tool, which consisted of the items from the existing body of peer-reviewed literature. The peers reviewed tool has a key role in the modern research as it provides the researchers with an opportunity to experiment by utilizing the pre-established research tools/models in the existing literature in similar research models. This helps the researchers to validate (or otherwise) the findings in the existing literature. It also helps

the researchers to establish new tools based on the existing ones by refining them through experimentation. Therefore, by utilizing the peer-reviewed data collection tool based on the existing literature, the researcher has devised a comprehensive tool, necessary to collect the quantitative data for this research. It has also enabled the researcher to utilize the items in the questionnaire, which proved previously to establish causality among the factors are intended to measure, through experimentation and peer review of the existing literature. Despite the fact, that the researcher has employed the quantitative methodology, in line with the Positivism research paradigm, by incorporating the items from the existing tools in the questionnaire, the researcher has ensured the establishment of the required causality among the factors incorporated in this study.

Hart (2017) among others has further described that positivism includes inferential statistics to substantiate the deduction from the results of the research on the selected sample. In line with this description of the author, the researcher has employed inferential statistical methodology, in order to deduce from the quantitative data collected during this study. There are many aspects of the inferential statistics methodology, which make it consistent with the objectives of this study and made it a primary choice of methodology for the researcher to deduce from the findings of this study. These aspects include the foundation of experimental observations on the randomized and controlled responses from the respondents. Using this aspect of the inferential statistical methodology, the researcher has been able to collect the unbiased and relevant responses from the respondents. The construct of controlled observation has played an essential role in this study. The researcher has intended to consider the contribution of different organizational factors in the effectiveness of the organizational knowledge transfer behaviour. Such incorporation required the

researcher to focus on the population, which has been involved in some sort of knowledge transfer behaviour activity in the organization under consideration. Moreover, the focus of the study has remained on the external knowledge, transferred to the organization. In ADNOC, one of the primary sources of external knowledge, transferred to its employees is in the form of outsourcing and mobilizing third-party consultancy services. The external knowledge transfer behaviour process involves the sources of the intended knowledge to be transferred, in the form of consultants, the project for which the specialist expertise has been required and consultancies have been hired and the recipients, which has been the part of these specialist projects. In line with the description of Hart (2017), the controlled element of the responses being collected, has been managed by the researcher through the collection of responses only from the respondents who have been the part of such organizational knowledge transfer behaviour activities at some stage of their career. Moreover, in order to address the second aspect of randomization, the researcher has collected responses from the randomly selected respondents, which has been part of some knowledge transfer behaviour activity through their participation in specific projects that had been conducted in collaboration with some consultants. These aspects of inferential statistical methodology have proved to be beneficial for assuring the quality of research being conducted, as randomized and controlled responses have enabled the researcher to collect the most relevant information from the right respondents, while maintaining both unbiasedness of responses and consistency of the collected responses in line with the objectives of this study. It should have also helped to satisfy and harmonizing with the other aspects of the inferential statistical methodology employed by the researcher in this research.

The use of these randomized and controlled trials through a collection of responses from the carefully selected and relevant respondents, using a questionnaire is in line with the paradigm of positivism. It has also allowed the researcher to incorporate the most appropriate research methods, which are some of the applied mathematical statistic's methods used for the processing of experimental results into this study. The experimental results for this study are the responses collected from the respondents. The use of statistical methods is to measure, describe, analyze, interpret and model, while taking into account the limited amount of data to solve specific tasks. Based on this description of the use of statistical methods, it is essential to choose the right type of statistical method, which must be aligned with both the objectives of the research and the collected data. Therefore, it is always advisable to exert a lot of effort and thoughts in determining the research model and the development of data collection tools intended to be utilized for the collection of data or conducting experimentation for the research. Based on a critical review by the researcher, and in line with his findings in the existing literature, the researcher has only used the peer-reviewed items into the questionnaire and constructively developed to collect the relevant data. This method of utilization of the existing, peer-reviewed and validated items into the development of the research tool is one of the best practices in the modern research, as described by Khusainova, Shilova and Curteva (2016) in their review of the existing statistical methodologies and use. The authors in their review of the statistical methodology for data processing have also provided guidelines for the use of mainstream statistical analysis tools. The authors have provided useful insights into the scenarios where certain types of analysis should be utilized. The researcher has employed the 'algorithm for the selection of statistical method selection' for the

employment of the statistical processes into his analysis of the data collected for this research.

In line with the guidelines provided by Khusainova et al. (2016) the researcher has employed regression analysis as the vital research methodology for the purpose of this research. The selection is in line with the guidelines provided by the authors in their ‘algorithm for the selection of statistical method selection’ as the researcher has intended to identify the coherence between the changes of the statistical features among more than three factors. This practice has enabled the researcher to collect normalized data, satisfying one of the underlying assumptions of the statistical methods employed in this study. It has also ensured consistency in the inferential deduction applied to the relevant population of ADNOC, based on the findings of the analysis performed on the data collected from the sample. An in-depth discussion on the selection of the methodology and different aspects of this selection is presented in this chapter.

3.2 Operationalization of Study

The researcher has used existing scales to measure the study constructs. All items were measured on 5-point Likert scale.

3.2.1 Recipients’ Oriented Factors

In Table 3.1, the researcher has presented the description of scale and items included in the questionnaire, in order to measure the recipients’ oriented factors.

3.2.1.1 Motivation to Learn

Table 3.1 summarizes the description of scale and items used to measure the recipients’ motivation to learn in the data collection tool employed in this study.

Table 3.1: Tool description for the measurement of recipient oriented factor of motivation to learn

Construct Name	**Recipients' Motivation to Learn**
Scale	The Items included in the tool were originally derived from Amabile et al. (1994) and were further used and refined by Ko et al. (2005), where the authors have tested the items in their tool. In order to test the motivation to learn, the author has divided it into two categories, intrinsic and extrinsic motivation to learn. The items related to this variable are being asked by recipients of the knowledge being transferred. The following measures are included in the study to measure extrinsic motivation to learn and the researcher has collected data from recipient(s) of the knowledge being transferred in organization: EM1: I am keenly aware of the income goals I have for myself if I learn business and technical knowledge about the project (recipient(s)). EM2: I am strongly motivated by the money I can earn if I learn business and technical knowledge about the project (source/recipient(s)). EM3: I am keenly aware of the promotion goals I have for myself if I learn business and technical knowledge about the project (recipient(s)). EM4: If I learn business and technical knowledge about the (Purchasing) module, I want other people to find out how good I am (source). EM5: I am strongly motivated by the recognition I can earn from other people for learning business and technical knowledge about the project (source). EM6: I have to feel that I'm earning something for learning business and technical knowledge about the project (source/recipient(s)).

Table 3.1: Tool description for the measurement of recipient oriented factor of motivation to learn (Continued)

Construct Name	**Recipients' Motivation to Learn**
	The following measures are included in the study to measure intrinsic motivation to learn and the researcher has collected data from recipient(s) of the knowledge being transferred in organization: IM1: I enjoy learning business and technical knowledge about the project (recipient(s)). IM2: The more difficult it is to understand business and technical knowledge about the project, the more I enjoy learning it (recipient(s)). IM3: I enjoy learning business and technical knowledge about the (Purchasing) module that are completely new to me. IM4: I have to feel that I'm personally benefitting from learning business and technical knowledge about the project (source/recipient(s)). IM5: I want to find out how good I really can be at learning business and technical knowledge about the project. IM6: I'm more comfortable when I can set my own goals for learning business and technical knowledge about the project (recipient(s)).
Primary Ref:	• Amabile et al. (1994). The Work Preference Inventory: assessing intrinsic and extrinsic motivational orientations. Journal of personality and social psychology, 66(5), 950.
Tool Ref:	• Ko et al. (2005). Antecedents of knowledge transfer behaviour from consultants to clients in enterprise system implementations. MIS quarterly, 59-85.

3.2.1.2 Absorptive Capacity

Table 3.2 summarizes the description of scale and items used to measure the recipients' absorptive capacity in the data collection tool employed in this study.

Table 3.2: Tool description for the measurement of recipient oriented factor of absorptive capacity

Construct Name	**Recipients' Absorptive Capacity**
Scale	The Items included in the tool were originally derived from the basic studies of Cohen and Levinthal (1990) and Szulanski (1996) which were further used in Kim (2001) among many studies on the subject matter, ever since, including Ko et al. (2005), one of studies incorporated into this research as well. The following measures are included in the study: RAC1: It is important for the recipients of the knowledge to have a clear vision of what the implementation of project is trying to achieve. RAC2: It is important for the recipients of the knowledge to have a clear understanding of goals, tasks, and responsibilities of implementing the project. RAC3: It is important for the recipients of the knowledge to have the technical competence to absorb the technical knowledge about project. RAC4: It is important for the recipients of the knowledge to have the managerial competence to absorb the business knowledge about the project. RAC5: The recipients of the knowledge had a willingness to put appropriate intensity of effort to absorb the knowledge being transferred about the project.
Primary Ref:	• Cohen and Levinthal (1990). Absorptive capacity: A new perspective on learning and innovation. Administrative science quarterly, 128-152.
Tool Ref:	• Ko, Kirsch and King (2005). Antecedents of knowledge transfer behaviour from consultants to clients in enterprise system implementations. MIS quarterly, 59-85.

3.2.1.3 Retention Capacity

Table 3.3 summarizes the description of scale and items used to measure the recipients' retentive capacity in the data collection tool employed in this study.

Table 3.3: Tool description for the measurement of recipient oriented factor of retention capacity

Construct Name	**Recipients' Retentive Capacity**
Scale	The Items included in the tool were originally derived from the basic study of Szulanski (1996), one of studies incorporated into this research as well. Two of the items were merged together in 2nd point, and the rest of the items are included as they were in the original study. The following measures are included in the study: RRC1: It is a regular practice of the recipient to periodically retain the existing personnel. RRC2: There is a mechanism to detect the malfunctions, which measures the performance and corrects the problem, as soon as they occur. RRC3: Recipients' personnel can predict how they will be rewarded for their good performance. RRC4: Recipients' personnel are provided numerous opportunities to commit freely and publically to perform their role. RRC5: Recipients' personnel have a clear focal point for their practices.
Ref: 1	• Szulanski (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. Strategic management journal, 17(S2), 27-43.

3.2.1.4 Arduousness of Relationship

Table 3.4 summarizes the description of scale and items used to measure the recipients' retentive capacity in the data collection tool employed in this study.

Table 3.4: Tool description for the measurement of recipient oriented factor of arduousness of relationship

Construct Name	**Arduousness of Relationship**
Scale	The Items included in the tool were originally derived from the basic study of Szulanski (1996) and were further used and refined by Ko et al. (2005), two of the studies incorporated into this research as well. The items related to this variable are being asked by both the source and recipients of the knowledge being transferred. The following measures are included in the study and the researcher as collected data from both source and recipient(s) of the knowledge being transferred in organization: AR1: Communication among parties is: 1. Very easy 2. Fairly easy 3. Fairly demanding 4. Very demanding AR2: Collaboration among parties: 1. Is sought after by me. 2. Is well received, but not sought after by me. 3. Is often avoided by me. 4. Occurs only if I have no other alternative. AR3: Collaboration among parties: 1. Is sought after by (source/recipients) 2. Is well received, but not sought after by (source/recipients) 3. Is usually avoided by (source/recipients) 4. Occurs only if (source/recipients) has no other alternative.

Table 3.4: Tool description for the measurement of recipient oriented factor of arduousness of relationship (Continued)

Construct Name	**Arduousness of Relationship**
Scale	The Items included in the tool were originally derived from the basic study of Szulanski (1996) and were further used and refined by Ko et al. (2005), two of the studies incorporated into this research as well. The items related to this variable are being asked by both the source and recipients of the knowledge being transferred. The following measures are included in the study and the researcher has collected data from both source and recipient(s) of the knowledge being transferred in organization: AR1: Communication among parties is: 5. Very easy 6. Fairly easy 7. Fairly demanding 8. Very demanding AR2: Collaboration among parties: 5. Is sought after by me. 6. Is well received, but not sought after by me. 7. Is often avoided by me. 8. Occurs only if I have no other alternative. AR3: Collaboration among parties: 5. Is sought after by (source/recipients) 6. Is well received, but not sought after by (source/recipients) 7. Is usually avoided by (source/recipients) 8. Occurs only if (source/recipients) has no other alternative.
Primary Ref:	• Szulanski (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. Strategic management journal, 17(S2), 27-43.
Tool Ref:	• Ko et al. (2005). Antecedents of knowledge transfer behaviour from consultants to clients in enterprise system implementations. MIS quarterly, 59-85.

3.3 Source-Oriented Factors

In the following section, the researcher has presented the description of scale and items included in the questionnaire, in order to measure the source oriented factors.

3.3.1 Credibility

Table 3.5 summarizes the scale and items used to measure the sources' credibility in the data collection tool employed in this study.

Table 3.5: Tool description for the measurement of source oriented factor of credibility

Construct Name	**Sources' Credibility:**
Scale	The Items included in the tool were originally derived from McCroskey et al. (1974) and Grewal et al. (1994) and were further used and refined by Ko et al. (2005), where the authors have tested the items in their tool and reduced them from seven to three, as rest of the items were discarded, based on the validity measures. The items related to this variable are being asked by recipients of the knowledge being transferred. The following measures are included in the study and the researcher has collected data from recipient(s) of the knowledge being transferred in organization: SC1: Source of the knowledge being transferred is trustworthy: SC2: Source of the knowledge being transferred is experienced: SC3: Source of the knowledge being transferred is well-trained:
Primary Ref:	• McCroskey, Hamilton and Weiner (1974). The effect of interaction behaviour on source credibility, homophily, and interpersonal attraction. Human Communication Research, 1(1), 42-52.
Tool Ref:	• Ko, Kirsch and King (2005). Antecedents of knowledge transfer behaviour from consultants to clients in enterprise system implementations. MIS quarterly, 59-85.

3.3.2 Learning Management System (LMS)

Apart from the above mentioned constructs, the researcher has also incorporated the construct of LMS embedded genuinely in this study. Since the construct has not been employed as a moderator in the body of existing literature, to the best of researcher's knowledge. Therefore, the researcher has used self-formulated and tested items to measure the construct of LMS in this study. The researcher has employed the same five-point Likert scale and items summarized in Table 3.6 were used to measure LMS.

Table 3.6: Tool description for the measurement of factor of learning management system (LMS)

Construct Name	**Learning Management System (LMS):**
Items	LMS1: I use the organizational Learning Management System (LMS) mainly as a source/recipient of the knowledge intended to be transferred. LMS2: I use the organizational Learning Management System (LMS) to upload/update the knowledge/contents. LMS3: I use all the necessary aspect of the organizational Learning Management System (LMS) related to my requirements. LMS4: I access the full content of the organizational Learning Management System (LMS). LMS5: I use the organizational Learning Management System (LMS) to avail required information (intended knowledge to be transferred). LMS6: I use the necessary aspect of the organizational Learning Management System related to my requirements/view for fetching required knowledge (intended to be transferred).

3.3.3 Knowledge Transfer behaviour

Similarly, the researcher has used self-formulated and tested items to measure the construct of knowledge transfer behaviour in this study. The researcher has employed the same five-point Likert scale and items summarized in Table 3.7 were used to measure knowledge transfer behaviour.

Table 3.7: Tool description for knowledge transfer behaviour

Construct Name	**Knowledge transfer behaviour**
Items	KT1: During the collaborated project, my interactions with consultants have increased my understanding of how the different components of the collaborated project integrate and affect each other. KT2: During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project scope of work, purpose, and methodology. KT3: During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project planning, execution and control techniques. KT4: During the collaborated project, my interactions with consultants have improved my knowledge of the collaborated project risk management and value assurance process. KT5: During the collaborated project, my interactions with consultants have increased my knowledge about the collaborated project documents and write up for end-users (if any). KT6: During the collaborated project, my interactions with consultants have increased my knowledge about setting up the configuration &/or customization that supports the recipients' business processes (as might be applicable for any IT, HR, or Finance related collaborated project). KT7: During the collaborated project, my interactions with consultants have improved my ability to test the various parts of the collaborated project.

3.4 Data Collection

In order to collect the required data to test the hypotheses included in this study, the researcher has compiled a peer-reviewed questionnaire, which has been employed as a data collection tool during this research. The complexity of the research model employed in this study mandated a carefully worked out strategy for data collection. The multiplicity of the interactions, among the factors incorporated in the research model of this study, has required the collection of data on these factors from different aspects. The researcher has incorporated it, by carefully selecting the questions from the peer-reviewed and existing tools, aimed at collecting responses from the perspectives of specific aspects of the factors incorporated in this study. All these efforts have advanced the development of a reliable tool, capable of collecting the desired data. It has also enabled the researcher to collect the most relevant data from equally relevant sources (respondents), keeping the sampling biases at the minimum level, enabled in relevant and reliable data collection. All these factors have significantly strengthened the research, in terms of relevance and reliability of primary data collected. Following is a review of the sampling strategy employed by the researcher, in order to conduct the survey for this study.

3.4.1 Sampling Strategy

The researcher has aimed to conduct the study in the context of ADNOC in Abu Dhabi. Therefore, the target population of this study was the workforce of the ADNOC. Considering the sheer size of the organization, consisting of over fifty thousand employees, coupled with the objectives of the study, it was only feasible to conduct a survey from the sample selected from the population. In order to select the most relevant participants for this survey, the researcher has devised two-tiered

selection criteria for the process of sampling. The first tier refined the sample based on the criteria that the participant must have been part of any project(s) team or have led the team in the project(s) in the past five years in ADNOC or its subsidiaries. This has incorporated the aspect of specialized learning activities in the organizations, as during these specialist projects, the process of learning is being stimulated, as highlighted by March (1991).

Aligned with the objectives of this study, the researcher has employed the second tier in the sample selection process. At this tier, the researcher has refined the sample based on the criteria that there must be an external consultancy involved in the specialist projects. Accordingly, with the two-tiered selection criteria, the researcher has been able to short-list those employees of the ADNOC and its subsidiaries, which have participated, in some capacity, in such a project, which has employed external consultancy services, over the past five years. Based on the criteria, the researcher has been able to identify 30 projects. The researcher has intended to collect responses from the randomly selected 10 members from each of these 30 project teams in ADNOC. Therefore, the sample intended by the researcher has included 500 to 600 respondents, with an average of 10 to 20 respondents from each of the 30 identified projects. Out of the intended respondents 458 responses were received and 446 responses were completed and included in the data analysis in this study. The researcher has distributed the surveys electronically and physically to these shortlisted and selected respondents.

The most critical aspects of sampling, which can potentially affect the findings of this study (or any quantitative study) are the relevance and biasedness. In order to incorporate the most relevant responses, in line with the objectives of this study, the

researcher has employed two-tiered selection criteria. This sampling strategy has allowed the researcher to select only those respondents who have been exposed to the most stimulus-learning environment in the organization under consideration. The source-oriented aspects of this study have mandated the researcher to incorporate external learning into the sampling. In order to achieve it, the researcher has selected the respondents only from the projects that have employed external consultancies in the ADNOC and its subsidiaries. For purpose of avoiding outdated experiences, the researcher has limited the period for the selection of the project to the last five years. With these sampling strategies, the researcher has been able to select the most relevant sample from the population, which consisted of over 50,000 employees in 17 subsidiaries, under the umbrella organization of ADNOC.

Finally, in order to achieve unbiasedness in the sampling process, the researcher has randomly selected the participants for the survey from the shortlisted project teams, based on the above mentioned, two-tiered sampling strategy. The randomization of the finally selected participants of the survey has enabled the researcher to avoid sampling biasedness, which can potentially lead to the selection of a sample non-representative of the target population. Moreover, a large enough sample can be considered as a sample representative of the characteristics of its population. Generally, a minimum sample size 30 of a randomly selected sample is considered as a representative sample for a given population. The researcher has aimed to select a much larger sample for this study. With an initially shortlisted set of respondents, the researcher has randomly selected 10 respondents from each of 30 identified projects. Therefore, the researcher has distributed the questionnaire to the final 300 selected participants. Out of these 300 distributed questionnaires, the researcher has collected responses, and the data have been compiled using MS Excel. An essential aspect of

this research has been the anonymity. There has been no identifying information being collected in the survey, nor any record of such information has been maintained after collecting these responses. Once the survey is complete, it becomes virtually untraceable. This has helped the participants to provide their unbiased responses to the questions included in the questionnaire, enabling the researcher to collect the most reliable data.

The researcher has employed the sampling strategies aforementioned, in order to align the research objectives with the sampling and data collection process.

3.4.2 Sample Characteristics

As described earlier in this chapter that the researcher has opted to conduct this study on the organization he is employed in. This has enabled the researcher to have access to the most relevant data for sampling purposes. Since this study is based on the knowledge transfer behaviour between consultants (source) and organizational employees. Being able to access the data shortlist the most relevant people has played a vital role to achieve a sample, consistent with the requirements of the study. The researcher has included those respondents in the sample, which has been part of such projects where the consultants have been employed for their expertise. In this way, the most relevant people were only approached for inclusion in the sample.

Another aspect of the sample characteristics of this study is that the researcher has included people from all trades and all roles in the project teams. This was also possible with an access or use of internal data of the organization, in order to shortlist the people included in the sample of this study. This variation has ranged from the department, project or team leaders to team member of the projects. Being able to

include people from the whole range of project teams coordinating with the consultants have enabled the researcher to review the aspects of this study in all phases of this study, starting right from the need recognition for the consultation in the projects to the post consultation appraisals and evaluation of the results of the consultation (Table 3.8).

Table 3.8: Summary of the sample characteristics

Sample Details			
	Description	**Frequency**	**%**
Gender	Male	340	74.00
	Female	118	26.00
Age	21-25 Years	28	6.11
	26-30 Years	65	14.19
	31-35 Years	229	50.00
	36-40 Years	58	12.66
	41-45 Years	38	8.30
	46 Years and above	40	8.73
Education	Higher Diploma	8	8.52
	Bachelor's degree	16	65.72
	Master's Degree	20	22.71
	Ph.D./Doctorate	147	3.06
Sector	Downstream	144	31.44
	Fertil	1	0.22
	Marketing/Distribution/Logistics/Refineries	27	5.90
	Midstream Oil & Gas	261	56.99
	Upstream Oil & Gas	25	5.46
Job Role	Entry or Junior Level	13	2.84
	Mid-Career	158	34.50
	Manager/Sr. Manager	184	40.17
	Team Leader/Head	96	20.96
	Director or Executive	7	1.53

Finally, the researcher has been able to select 30 projects over the past five years, where the consultation has been acquired. Members of these 30 projects were than shortlisted, based on their availability and role they played during the consultation. The researcher has intended to include at least 10 to 20 members from each of these 30 projects. More people were included from the bigger and multi-consulting project teams. Being able to exploit the internal control and authority, couple with the fact that this study is also beneficial to the organization itself, the researcher has been able to formalize this study, while keeping the respondents anonymous. Therefore, the response rate that the researcher has achieved is very good. Well above 90% of the selected respondents have responded to the survey conducted as part of this study.

Chapter 4: Data Analysis and Results

4.1 Introduction

Upon compiling the primary data through a survey, the initial screening performed, in order to analyze data for accuracy and missing data scrutiny. This also includes the presence of outliers and testing the underlying assumption of the multivariate statistical analysis, to test the reliability of the instrument used by Cronbach's Alpha, in accordance with the guidelines presented by Hair et al. (2014). Data was deeply analyzed for both reliability and validity measures and the results were reinforced by confirmatory factor analysis, as recommended by Hair et al. (2017). Afterwards, the analysis of the statistical output has been presented and discussed. Finally, this chapter was concluded with reflection of the statistical analysis and the results are populated by applying research hypothesis employed. In the end, findings have been presented for the hypothesis testing in terms of the objectives of this study.

4.2 Descriptive Analysis

Before stepping into the analysis of the collected responses, it is important to describe the respondents included in the sample as it provides valuable insights into the collected responses, in terms of their representation of the target population and their background. Additionally, the researcher has employed frequency distribution analysis of the demographic information collected from the respondent to describe the following demographic characteristics included in the sample such as:

- Gender of Respondent
- Age Groups of Respondent
- Education of Respondent

- Sector of Respondent
- Job Role of Respondent

Figure 4.1 labels the respondent distrubution data agianst differnet gender included in sample.

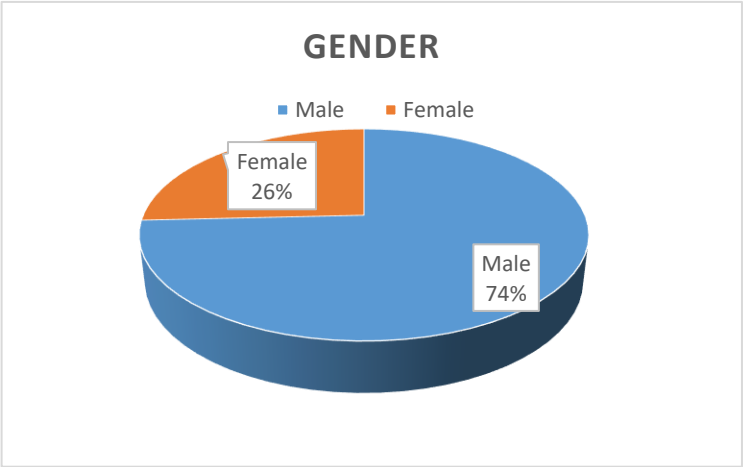


Figure 4.1: Research sample by gender

While evaluating the data with help of descriptive analysis for the gender, it is evident that 74% (nearly three quarters) of the respondents were males and only 26 % (one quarter) were female. These finding are in line with the expectations and quite normal, since the target population of the respondent have technical projects expertise and knowledge gained from external sources (i.e. consultants). It is evident from the data that majority of technical teams normally consist of male workers in ADNOC in particular and in the UAE in general. Therefore, the gender proportion of the respondents in the sample is in accordance with the characteristics evident from the overall population of ADNOC employees. Figure 4.2 represents the respondent against different age groups included in sample.

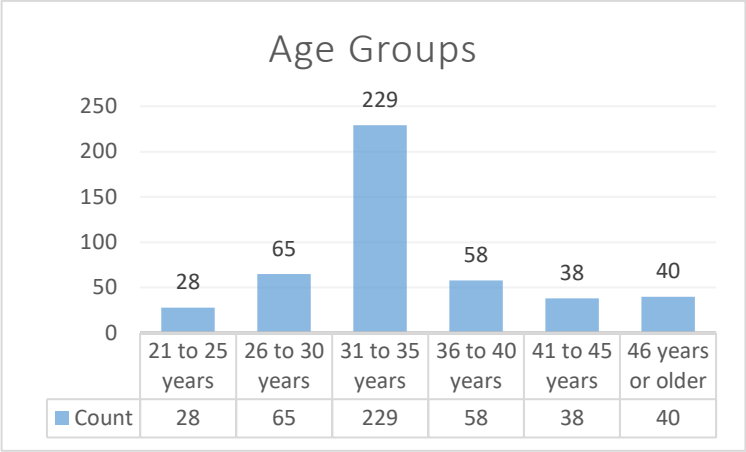


Figure 4.2: Research sample by age group

Further analyzing the statistical Data in terms of age groups reveals that the respondents in the sample are almost consistently distributed except the central age group of 31-35 years and it consist almost half of the population. This age group generally represents mid-career level, as chances are likely high to be part of projects with involvement of external knowledge transfer behaviour. Workers in this age group have mostly excelled the internal knowledge transfer behaviour. Therefore, they are most likely to be part of external knowledge transfer behaviour projects. On the other hand, respondents with lower age groups (i.e. 21-30) are the entry-level and mostly trained internally (within the Organization). While respondent with higher age groups (36 and +) have higher expertise level and more likely to lead the projects and generally with less number. As the researcher has moved away from the central age group, the number of the respondents decreases significantly, in accordance with the normal distribution. These both observations are as per expectation and support the idea of the sample being representative of the characteristics of the population. Figure 4.3 illustrates the frequency distribution of the sample in terms of Education.

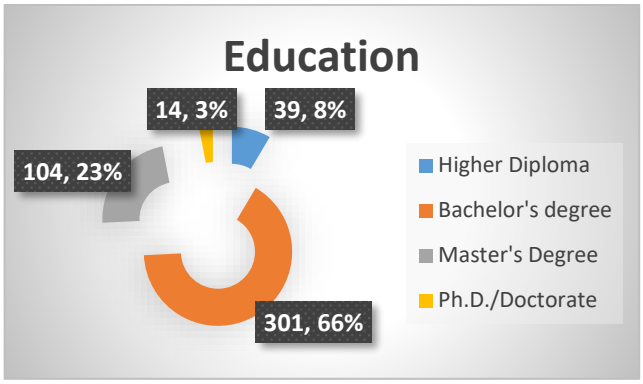


Figure 4.3: Research sample by education

It is apparent that 66% (Two third of the participants) have earned their bachelor's degree and 26% (less than a quarter) were having postgraduate degree or above (i.e. Master and PhD) while the remaining 8% received higher diploma and/or equivalency. This is also in-line with the target population. The majority of the employees, included in external knowledge transfer behaviour in ADNOC belong to middle Management Level or below, while the remaining acquires Top Position in the Organization. Therefore, in terms of education, the sample is a very close representative of the target population used in this study. Figure 4.4 shows the frequency distribution of the sample in terms of Sector.

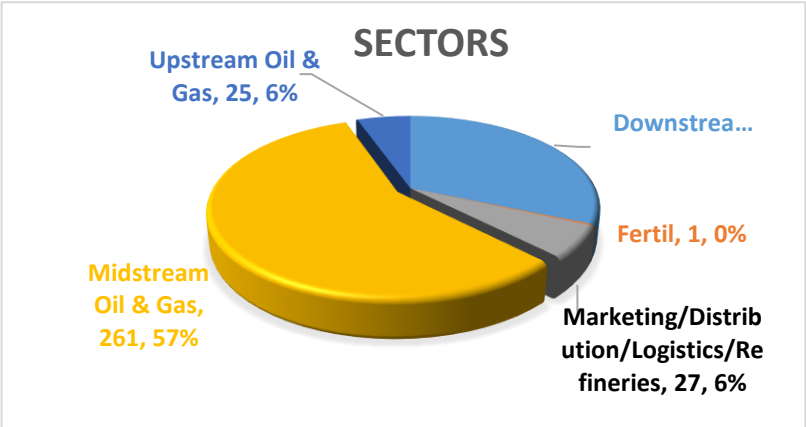


Figure 4.4: Research sample by sector

ADNOC is also incorporating consultants as Business Partners and it is obvious that in terms of sector, distribution of the respondents is in line with the target population. Majority of the respondents 36% (almost two third) are from upstream and midstream sector and 31% (almost one third) are from downstream sector while the remaining 7% are from other sectors including marketing and fertilizers. Therefore, in terms of sectors, the respondents included in the sample are closely representative of the target population of this study. Figure 4.5 represents the frequency distribution of the sample in terms of job role.

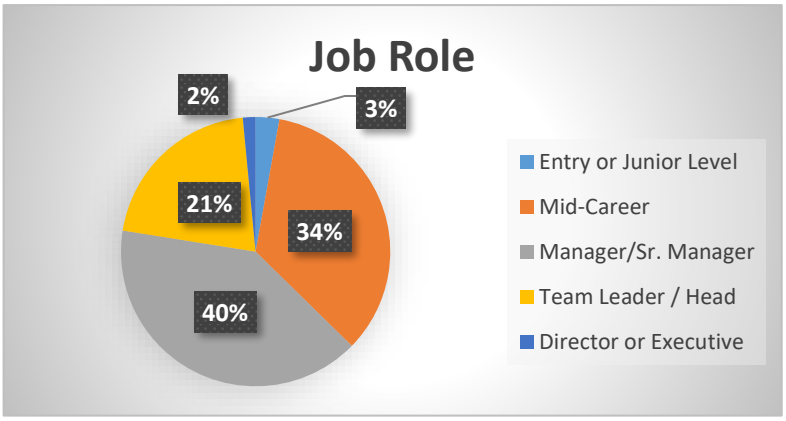


Figure 4.5: Research sample by job role

It is observable that in terms of job role, again distribution of the respondents is in line with the target population. Majority of the respondents 77% (more than three quarters) are from mid-career and below. As discussed above these are the employees, who have excelled internal knowledge transfer behaviour and are eager to be part of the external knowledge transfer behaviour projects. The remaining 23% (almost one quarter) of the respondents to the survey were team leaders, with job roles of either mangers or directors. Therefore, in terms of job roles, the respondents included in the sample closely represent the target population of this study. Table 4.1 listed a summary of above demographic information.

Table 4.1: Sample characteristics

Sample Details			
	Description	**Frequency**	**%**
Gender	Male	340	74.00
	Female	118	26.00
Age	21-25 Years	28	6.11
	26-30 Years	65	14.19
	31-35 Years	229	50.00
	36-40 Years	58	12.66
	41-45 Years	38	8.30
	46 Years and above	40	8.73
Education	Higher Diploma	8	8.52
	Bachelor's degree	16	65.72
	Master's Degree	20	22.71
	Ph.D./Doctorate	147	3.06
Sector	Downstream	144	31.44
	Fertil	1	0.22
	Marketing/Distribution/Logistics/Refineries	27	5.90
	Midstream Oil & Gas	261	56.99
	Upstream Oil & Gas	25	5.46
Job Role	Entry or Junior Level	13	2.84
	Mid-Career	158	34.50
	Manager/Sr. Manager	184	40.17
	Team Leader/Head	96	20.96
	Director or Executive	7	1.53

4.3 Data Screening

After reviewing the descriptive data, next step is to prepare the data for the regression analysis. The process of refining the collected data is one of the most significant steps to be undertaken before initiating the analysis, as described by Tabachnick and Fidell (2013). The data refining process started with the data screening for any errors and omissions. The purpose of this initial data screening was to achieve the required quality standards, while evaluating the consistency of the collected data. After wards, the study constructs were coded into a suitable format consistent with the

use of Statistical Package for the Social Sciences (SPSS), version 20. Each construct was given a unique label. This step prepared the data to be analyzed by the computer software.

4.3.1 Missing Data

One of the chronic issue with surveys, especially when conducted online is to track and propagate the missing data. As described by Tabachnick and Fidell (2013), the impact of missing data depends on many aspects including pattern, size and the reason for being missed. There are number of approaches to address the problem, including not doing anything and leaving, as it is. However, this option is only feasible, when missing data is smaller and random in occurrence. Other approaches include replacing it by means of the used scales or to delete the affected variables in the questionnaire or even the questionnaire itself. However, the latter options are only advisable when the respondents have chosen not to answer all or some of the questions in the survey. Tabachnick and Fidell (2013) have advised the deletion of questionnaire partially or completely if the missing data has no significance in the research.

Considering the importance of the problem and careful examination for missing data, only the completed responses were included in the final projection, therefore no impact of missing data on the analysis was accounted. One of the main causes of missing data was the researcher's role in the organization. Subsequently, the survey was conducted as part of the organizational data collection. This also has enabled us to collect enormous sample size, having the total count up to 458 in this study. This large number of responses has enable us to avoid many issues related to further analysis and has provided solid foundation for propagating the results.

4.3.2 Aberrant Values

Hair et al. (2014) has described the mistake that might take place during the data entry is referred to as aberrant or impermissible values. Such values can be defined by calculating the maximum and minimum values for each variable in the data. The researcher has utilized two techniques to avoid aberrant values. Firstly, the researcher has employed 5 point Likert scale for the responses to research constructs, from 1 (minimum value) for strongly disagree to 5 (maximum) for strongly agree with 3 as middle value for neutral. Moreover, majority of responses were collected online through survey tool named SurveyMonkey.com and the researcher has collected the responses in a closed ended manner (i.e. not allowing the respondent to input arbitrary responses). In case of manual responses, assistance provided and choice of responses kept close-ended. By using these techniques, it was noticed that, precise responses have been collected. Only 2 aberrant values were found in the data collected for this study, which were removed from detailed analysis and reducing sample size by 456 responses.

4.3.3 Outliers

Many studies have emphasized the impact of outliers, especially on the normality of collected data. These studies include Osborne and Overbay (2004), where the authors have described outliers as odd values comparative to the rest of the responses. The authors have further described that outliers can potentially add to the variance in the data and can result in distorting the findings of any statistical analysis by adding bias to the estimates. Hence, reduce the power of the statistical tests can potentially misrepresent the findings of the statistical analysis. Therefore, it is essential to locate both and manage outliers in the data, as described by Tabachnick and Fidell

(2013). The authors have also described outliers as the survey responses to the same question(s) with very high or low values and are peculiarly different from the rest of the (majority) responses. The authors have further explained that outlier can fall in any of the two categories, namely, ‘univariate and multivariate’. Former type of outliers refers to the extreme responses to one question and later type refers to the extreme responses to two or more questions.

In the current work, following approaches have been used to manage outliers in the data. First of all, in order to avoid univariate outlier in the data, the researcher has used aggregates of the responses to different questions aimed at measuring the same constructs. This has normalized the data to much extent. Once aggregated, the researcher has conducted ‘Mahalanobis (1927) distance test’ using SPSS, in order to locate multivariate outliers in the aggregates of the collected data. The researcher has used, Mahalanobis’ distance to assess the deviation of each response from the centroid in the multivariate space, as described by Mahalanobis (1927).

Although for the traditional statistics, in terms of univariate screening, the variation in the observation is measures in terms of number of standard deviations or z-score, which is used to measure the distance from the center of the dataset. Extending the concept to multivariate case, Mahalanobis distance presents the deviation of the observations from the centroid multivariate space, as described by Brereton (2015). The author has further described that Mahalanobis distance is commonly used to screen the data for multivariate outliers, highlighting odd responses to two or more constructs in the dataset.

The researcher has used Mahalanobis Distance to assess the data for outliers. Initially Mahalanobis distance was computed and then compared with Chi-Square

distribution having degrees of freedom same as the number of independent factors. The test was conducted at a significance level of $p < 0.001$, in SPSS. This has enabled the researcher to highlight the observations significantly varying from the centroid multivariate space. There were 10 observations significantly distant from the rest of the data set. These observations are listed in Table 4.2. These observations were considered as outliers, in line with the description presented by Brereton (2015). In order to avoid biasedness in the statistical analysis, these outliers were discarded from the data set and the remaining 446 observations were used by the researcher for further analysis of this study, which is consistent with the guidelines presented by Tabachnick and Fidell (2013).

Table 4.2: Multivariate outliers test results (mahalanobis distance method)

Observation number	Mahalanobis d-squared	p
453	148.4298	0.0000
455	114.5131	0.0000
186	112.2996	0.0000
23	67.25052	0.0000
248	38.26774	0.0000
168	33.37904	0.0000
169	33.37904	0.00002
1	30.35142	0.00008
42	29.16204	0.00014
38	25.30231	0.00067

4.4 Normality

Once the data has been refined and free of any outliers, the next important step in the analysis is to check for normality in the data. This characteristic is defined in many studies including the one presented by Tabachnick and Fidell (2013). The authors have described normality of the data as a symmetric "bell-shape" of the data curve which is defined by central point (mean) and the variation in the data (variance).

The authors have also described that normality is an important assumption of linear regression, as utilized in this research. Therefore, the data has been tested for normality. However, as suggested by many studies including Micceri (1989), true normality is only an ideal scenario and it is very rare (if presented at all) in the authentic data which has been initially conducted by Kolmogorov-Smirnov and Shapiro-Wilk's tests of normality. The results of these testes are presented in Table 4.4. These results have shown that the distribution of the collected data is significantly different from the normal distribution. These tests are used to scan the data for the existence of the univariate outliers, which impact the normality of the data. These findings also confirm the conclusion presented by Micceri (1989). The author has observed the values of skewness of the distribution of the data and kurtosis to measure the data deviation away from the normal distribution, as recommended by Kline (2005). The results of Kolmogorov-Smirnov and Shapiro-Wilk's tests are presented in Table 4.3.

Table 4.3: Tests of normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Knowledge transfer behaviour	.330	446	.000	.799	446	.000
Recipients' Motivation to learn	.339	446	.000	.778	446	.000
Arduousness of Relationship	.286	446	.000	.848	446	.000
Sources' Credibility	.241	446	.000	.846	446	.000
Zscore(Recipients' Retentive Capacity)	.284	446	.000	.812	446	.000
Zscore(Recipients' Absorptive Capacity)	.288	446	.000	.835	446	.000
Zscore(LMSAg)	.202	446	.000	.903	446	.000
Interaction	.297	446	.000	.694	446	.000

a. Lilliefors Significance Correction

The characteristic of real normality, where the data is distributed in a precisely bell shape, in a perfect symmetric way is idealistic, the normality is measured in relative terms through Skewness and Kurtosis. The author has used SPSS to measure and analyze these values. The significance test for both Skewness and kurtosis for all variables were found to be within acceptable range as presented in Table 4.4.

In Table 4.4, it is observable that both Skewness and kurtosis values for all the variables are within acceptable range, as described by West, Finch and Curran (1995). The authors have described the value of Skewness to be acceptable if it is below '3'. Similarly for kurtoss values for all the variables are within acceptable range of below '8', as described in many studies including (Kline, 2005). These tests conducted for normality in terms of 'Skewness and kurtosis' are in line with the recommendations of Bagozzi and Yi (1988). Based in the findings presented in Table 4.4, no departure from normality was found, since all of the results are within the range of +1.5 to -1.5 as described by Bagozzi and Yi (1988). These measures confirm the presence of normality in terms of Skewness. In other words, shapes of distributions of all the constructs are found to be insignificantly skewed. In terms of Kurtosis, data can be assessed for being of 'heavy or light tailed', as described by Croarkin and Tobias (2002). The authors have described that the heavy-tailed data corresponds to the high values of Kurtosis, showing the presence of outliers. While the light-tailed data is the one with low values of Kurtosis and represent lack/absence of outliers in the data. It is observable in Table 4.4 that all the values support the normality of univariate distributions of all the constructs in the data. Both Skewness and Kurtosis values for all the constructs are insignificantly different from the normal distribution (Kline, 2005). These findings have enabled the author to conclude that there are no serious issues of normality in the refined dataset.

Table 4.4: Normality test for all variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Percipient No	446	2	458	231.59	131.017	-.017	.116	-1.198	.231
Knowledge transfer behaviour	446	2.00	5.00	3.8430	.65517	-.260	.116	.209	.231
Recipients' Motivation to learn	446	2.00	5.00	3.8700	.61527	-.148	.116	.140	.231
Arduousness of Relationship	446	2.00	5.00	3.8027	.77985	-.325	.116	-.199	.231
Sources' Credibility	446	1.00	5.00	2.7422	.75751	.312	.116	-.093	.231
Zscore (Recipients' Retentive Capacity)	446	-2.46940	1.56179	.0433164	.91526785	.039	.116	-.568	.231
Zscore (Recipients' Absorptive Capacity)	446	-2.45347	1.45836	.0286978	.95930241	-.289	.116	-.160	.231
Zscore (LMS)	446	-2.92313	2.06612	-.0116469	.92810487	.068	.116	-.247	.231
Interaction	446	-5.62	3.16	-.0695	.88690	-1.280	.116	9.951	.231
Valid N (list wise)	446								

4.5 Linearity Test

Another important assumption in the multivariate analysis is that there exists a linear relationship among variables. In order to test this assumption, the author has employed a dummy variable and regressed the research variables in this study to the dummy variable. The researcher then observed the relationship between the normalized residuals of the predicted values. As depicted in Figure 4.6, no signs of non-linearity were observed, as the residuals are unequally distributed around zero.

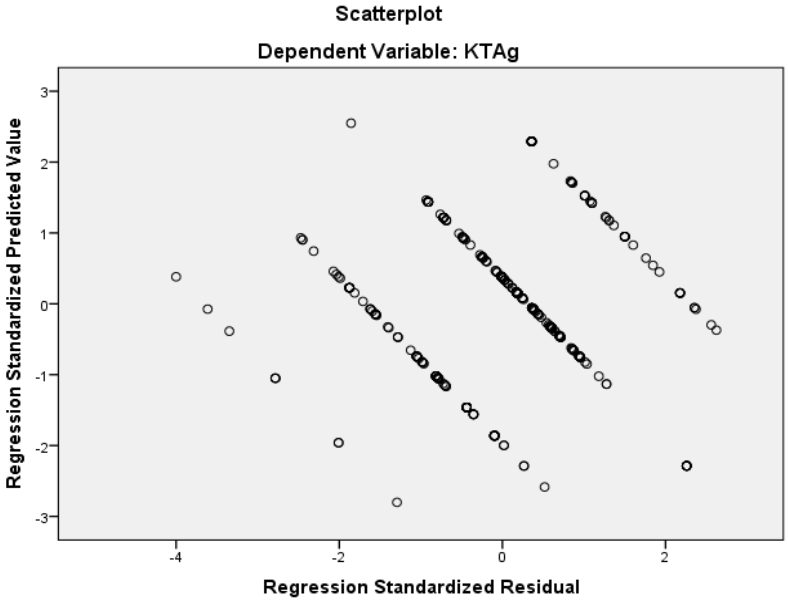


Figure 4.6: Dependent variable KTAg – scatter plot

This random distribution of residuals is clearly observable in Figure 4.7.which shows that the residuals are unequally distributed around the zero line, in line with the description of (Tabachnick & Fidell, 2013). The authors have suggested that the distribution of points about the central line is an evidence of linear relationship among the variables in the study.

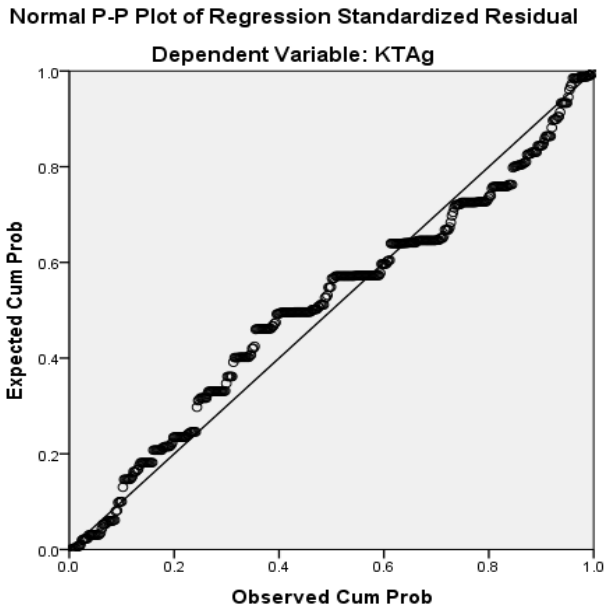


Figure 4.7: Normal P-P plot

4.6 Homoscedasticity Test

Another important assumption related to the multivariate normality of the data is that of homoscedasticity, as described by Tabachnick and Fidell (2013). The authors have emphasized the significance of homoscedasticity in terms of its impact on the 'blueness' of the multivariate analysis. The homoscedasticity assumption is described by the authors as the equally variant nature of the dependent variables in relation to different independent variables in the research model. The assumption can be tested by a careful analysis of the residual plot of the multiple regression model. Contrary to the condition of violation of this assumption, known as heteroscedasticity, the data evenly distributed about the zero line throughout the plot and confirms the assumption of homoscedasticity, as depicted in Figure 4.7. Another way to check the assumption of homoscedasticity is described by Hair et al. (2014). The author has described that homoscedasticity assumption could be verified by analysing the residuals of the multiple regression model. As depicted in Figure 4.6, where the residuals are systematically distributed and fall about zero, mainly between –2 and +2 on both axes. However, there are some values, which fall outside this range. These values indicate certain degree of non-normality, which is in line with the conclusion of many studies including Micceri (1989) that factual normality is an ideal scenario. Therefore, as expected, there is a certain degree of non-normality present in the data collected in the study.

4.7 Multicollinearity

Another important aspect of the multivariate analysis, which effects the 'blueness' of a research model is the presence of multicollinearity. To construct multicollinearity, is described by Hair et al. (2014), as a scenario when two or more

independent variable are strongly correlated with each other. The authors have further described that such a strong correlation among predictors make the impact of some variables redundant, because of containing exceedingly similar information to that of correlating variables.

In SPSS, two parameters exist to measure the presence of multicollinearity. These parameters include tolerance and the Variance Inflation Factor (VIF). Hair et al. (2014) has described tolerance as the amount of variance in a variable unique to it, whereas VIF is simply the reciprocal of Tolerance. The authors have described that typically, lower values of tolerance or higher values of VIF i.e. less than 0.2, which is equivalent to a VIF value of 5.0 (by taking reciprocal of 0.2) is considered as an indication for presence of multicollinearity among the predictors. The researcher has conducted the multicollinearity test using SPSS and results are summarized in Table 4.5.

Table 4.5: Collinearity statistics

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.323	.193		17.172	.000		
	Recipients' Motivation to learn	.130	.048	.122	2.699	.007		1.565
	Sources' Credibility	-.001	.033	-.001	-.039	.969	.897	1.114
	Zscore(Recipients' Retentive Capacity)	.158	.035	.220	4.517	.000	.551	1.814
	Zscore(Recipients' Absorptive Capacity)	.261	.033	.383	7.938	.000	.565	1.771
	Zscore(LMS)	-.094	.029	-.133	-3.302	.001	.803	1.245
	Interaction	-.063	.030	-.085	-2.135	.033	.822	1.217
2	(Constant)	3.309	.210		15.742	.000		
	Recipients' Motivation to learn	.127	.051	.120	2.492	.013	.571	1.751
	Sources' Credibility	-.001	.033	-.001	-.030	.976	.895	1.117
	Zscore(Recipients' Retentive Capacity)	.157	.035	.219	4.430	.000	.538	1.859
	Zscore(Recipients' Absorptive Capacity)	.261	.033	.381	7.806	.000	.551	1.815
	Zscore(LMS)	-.094	.029	-.133	-3.299	.001	.803	1.245
	Interaction	-.063	.030	-.086	-2.139	.033	.819	1.221
	ARAg	.006	.037	.008	.172	.864	.668	1.496

a. Dependent Variable: Knowledge transfer behaviour

In Table 4.5, it is evident that in both of the models, the minimum value of tolerance is 0.551, which is much higher than the threshold value of 0.2, as described by Hair et al. (2014). Consequently, the highest value for VIF in both the models in the above table is 1.859, which is much lower than the threshold value of 5, described by the authors. These results of collinearity test have enabled the researcher to conclude that there is no multicollinearity in the collected data. In other words, there are no redundant predictors included in the research model employed in this study.

4.8 Common Method Bias (CMB)

Another aspect of the data collection, which is required to be considered before getting into statistical analysis is Common Method Bias. The phenomenon is

described, as the situation, when the achieved variance of the regressed variable is not explained by the relationships among the research model constructs. This can happen due to the variance in the regressed variable is being affected by the data collection tool and the biasedness of the measurement method employed in the study. Many studies have aimed to estimate the impact of common method bias in different aspects. One such study include Cote and Buckley (1987). The authors in this study have suggested that the impact of common method and its presence varies across disciplines and based on types of constructs being investigated. The authors have further quantified the common method bias among different disciplines and have described that CMB is highest in the field of education at 30.5%. The bias is even higher when attitudes are being measured and averages at 40.7%. Moreover, Eichhorn (2014) has suggested that CBM is expected to be higher in case of online surveys. Online surveying tools such as the one employed in this study like SurveyMonkey.com increase the potential for CBM. Therefore, before getting into statistical analysis of the data, it is important to screen for the presence of CMB.

Apart from the online surveying tools, there can be many potential sources of this biasedness of data collection tool and measurement methods. Firstly, the respondents might choose to respond not as they feel or know, as they are expected to respond, consistent with their social image. Secondly, the unpreparedness of the respondents, when they are enquired about both the dependent and independent factors at the same time and vagueness of the data collection tool can result in the biasedness of the measurement method, as described by MacKenzie and Podsakoff (2012). Finally, another potential source of common method bias can be selected sample itself. Especially, in case of volunteer participation, the selected sample might consist of the respondents with attitudes considerably different from the ones who have chosen not

to take part in the research. This can result in collection of responses from people with similar attitudes resulting in a potential source of bias in the collection of the data, as described by Rogelberg and Stanton (2007).

There are certain measures taken by the investigator in this study, including procedural strategies, to avoid these potential sources of bias. These procedural strategies include the employment of measurement scales for both regressed and describing factors from different peer reviewed sources in the existing body of literature. The use of anonymity features has enabled the researcher to ensure confidentiality of the survey and allowed the respondents to react freely from any biased situation. The length of the survey was also kept optimal for the study, by avoiding unnecessary questions. Finally, the researcher has also incorporated the data collection into the organizational research at ADNOC, which has enabled the researcher to highlight its significance and collect the data at an optimal rate. These measures and procedural strategies are in line with the guidelines presented by MacKenzie and Podsakoff (2012). Even after the employment of the above mentioned procedural strategies, the researcher has concluded the following statistical analysis in order to verify the non-existence of CMB in the data and quality of the collected data remained intact.

4.8.1 Harman's Single Factor

The first statistical analysis employed by the researcher to assess the data for CMB is Harman's Single-Factor Test. The researcher has conducted Harman's Single-Factor Test, using all the items measuring describing factors into one common factor, in order to examine the existence of the common method variance. It is described by Malhotra, Kim and Patil (2006) that if the total variance for any individual factor

remains less than 50%, it can be concluded that CMB has not affected your data. As shown in Table 4.6, the output of Herman's Single-Factor Test using SPSS the maximum individual factor variance could only account for 38.251% of the total variance, which is below 50% and suggest that the data is not effected by CMB, in the light of guidelines presented by Malhotra et al. (2006). As the results of Herman's Single-Factor Test suggested that the data has insignificant CMB and quality of data was verified in terms of being free form biasedness, the researcher has employed further statistical procedures to measure other aspects of data quality.

Table 4.6: Results of Herman's single-factor test for common method bias

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.060	38.251	38.251	3.060	38.251	38.251
2	1.458	18.223	56.475	1.458	18.223	56.475
3	.919	11.493	67.968			
4	.749	9.363	77.331			
5	.615	7.688	85.019			
6	.428	5.349	90.368			
7	.425	5.306	95.674			
8	.346	4.326	100.000			

Extraction Method: Principal Component Analysis.

4.8.2 Common Latent Factor (CLF)

After validating the data through Harman's test, the researcher has conducted further analysis based on common latent factor in CFA. The researcher has employed AMOS 23 to assess the percentage of variance associated with a common latent factor. The researcher has developed a CFA model, consisting of all the constructs and presented a common latent factor. The assessment of CFA model was to test the data

readiness, as described by Gaskin (2012). The author has described that the standardized weights without CLF are supposed to be greater than standardized weights with CLF, in order to reject the possibility of the presence of CMB. In line with these guidelines, the researcher has taken the difference between the standardized estimates with and without CLF. for all the variables, these differences were found to be lesser than .05, enabling the researcher to reject the possibility of presence of CMB, in line with the recommendations of (Gaskin, 2012).

4.9 Reliability Analysis

Once the data was validated to be free from CMB, the researcher has conducted the reliability test. As described by Hair et al. (2014), reliability is consistency of the measurement scale or the ability of a test or procedures to produce similar results under similar conditions and on all occasions. Historically, reliability is considered as "the consistency of a measure", as highlighted by Price and Mueller (1986), were among others, as it is concerned with the items included in the scale. In practical research, reliability is considered as a source of validity of data. It is considered as a necessary condition for the validity of the data and not the only condition. However, once combined with the previous tests, it brings a lot of confidence about the vigor of the data.

Another aspect of data reliability is to construct reliability, as described by Hair et al. (2014). The authors have described to construct reliability as the *'extent to which a group of measurement items are internally consistent in measuring the concept that they are supposed to measure'*. Therefore, the researcher has tested all the variables by evaluating their reliability and validity. As described by Hair et al. (2014), there are a number of reasons for the consideration of reliability and validity

constructs. Firstly, reliable and valid constructs make the research methodology rigorous. Secondly, it enables the researcher to conduct co-operative research by providing support for the triangulation of results. Thirdly, construct reliability provides a meaningful explanation of the phenomena under investigation. These aspects of the construct reliability makes it significant to test the data for reliability, as described by (Hair et al., 2014).

In order to test the validity and reliability of the measurement in this study, the researcher has employed item-to-total correlation, with an aim to re-file the items with low correlations. The criterion was to remove such items with item-to-total correlation of less than 0.30. The purpose of item-to-total correlation measure is to determine the association of a particular item to the rest of the items to measure the construct. This helps to consolidate the items included in the instrument on a common foundation. The criteria described by Cooper and Emory (1995) is to retain the items with correlation score of 0.30 or above, as such items are considered reliable enough to be included in the further analysis.

The measure employed by the researcher to test the reliability of the items included in the instrument is Cronbach's Alpha Index, as described by Cronbach (1951). The researcher can take values between 0 and 1. The author and later studies have described that the higher value refers to the internal consistency of the items included in the instrument. Other studies have described that the values between 0.7 and 0.9 considered as satisfactory (Hair et al., 2014). In Table 4.7, the researcher has presented a summary of values of Cronbach's Alpha for all the constructs included in the model. These values clearly advocate that all the items included in the instrument to measure the constructs are reliable enough to be considered for further analysis.

The researcher has presented the output of the reliability analysis in Table 4.7, which contains the Cronbach's Alpha for all the constructs in the model, along with item-to-total correlations for all the items included in the questionnaire. These constructs include knowledge transfer behaviour and independent factor. Independent factors include recipients' oriented factors of recipients' motivation to learn and sources' oriented factor of sources' credibility (SC), mediated by difficulty of the relationship (AR) between source and recipients. Other independent factors included recipients' absorptive (RAC) and retentive capacities (RRC) moderated by learning management system (LMS). In line with the findings of Nunnally (1978) the researcher has calculated the item-to-total correlation and Cronbach's Alpha. These two measures combined to provide the foundation for the assessment of reliability of the constructs and the items included in the instrument. The author has also described that in the field of social sciences, the employed combination of item-to-total correlation and the Cronbach Alpha coefficient are very common as it provides useful insights into the reliability of the data collected.

In the following reliability test output listed in Table 4.7, it is observable that all the constructs have a high Cronbach's Alpha values, above the threshold value of 0.70. Similarly, all the items included in the instrument also have a high item-to-total correlation, above the threshold value of 0.30. It is observable in Table 4.7 that Cronbach's Alpha values for all the constructs in the model range between 0.701 and 0.906, which is an evidence of high construct reliability in the research model as these values are significantly higher than the value of 0.6 described by Nunnally (1978). Based on these findings, the researcher has provided enough evidence for the use of reliable scale in this study.

Table 4.7: Reliability analysis for the research variables

Item Code	Item	Item-total correlation	Cronbach's Alpha
	Organizational Knowledge transfer behaviour		
A	**Knowledge transfer behaviour (KT)**		**0.794**
QKT1	During the collaborated project, my interactions with consultants have increased my understanding of how the different components of the collaborated project integrate and affect each other.	0.62	
QKT2	During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project scope of work, purpose, and methodology.	0.611	
QKT3	During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project planning, execution and control techniques.	0.723	
QKT4	During the collaborated project, my interactions with consultants have improved my knowledge of the collaborated project risk management and value assurance process.	0.730	
QKT5	During the collaborated project, my interactions with consultants have increased my knowledge about the collaborated project documents and write up for end-users (if any).	0.781	
QKT6	During the collaborated project, my interactions with consultants have increased my knowledge about setting up the configuration &/or customization that supports the recipients' business processes (as might be applicable for any IT, HR, or Finance related collaborated project).	0.725	
QKT7	During the collaborated project, my interactions with consultants have improved my ability to test the various parts of the collaborated project.	0.729	

Table 4.7: Reliability analysis for the research variables (continued)

Item Code	Item	Item-total correlation	Cronbach's Alpha
	Recipients' Oriented Factors		
	Recipients' Absorptive Capacity (RAC)		**0.769**
QRAC1	It was important for me to have a clear vision of what the implementation of collaborated project was trying to achieve.	0.779	
QRAC2	It was important for me to have a clear understanding of goals, tasks, and responsibilities of implementing the collaborated project.	0.894	
QRAC3	It was important for me to have the technical competence to absorb the technical knowledge about collaborated project.	0.673	
QRAC4	It was important for me to have the managerial competence to absorb the business knowledge about the collaborated project.	0.715	
QRAC5	I had a willingness to put appropriate intensity of effort to absorb the knowledge being transferred about the collaborated project.	0.721	
	Recipients' Retentive Capacity (RRC)		**0.701.**
QRRC1	It was my regular practice to periodically retain the existing personnel in my collaborated project team.	0.811	QRRC1
QRRC2	There was a mechanism to detect the malfunctions, which measures the performance and corrects the problem, as soon as they occur.	0.677	QRRC2
QRRC3	I could predict how the team will be rewarded for the good performance in the collaborated project.	0.769	QRRC3
QRRC4	I was provided with numerous opportunities to commit freely and publically to perform my role in the collaborated project.	0.905	QRRC4
QRRC5	I had a clear focal point for the practices of my team.	0.666	QRRC5
	Recipients' Motivation to Learn (RM)		**0.880**
QRM1	I was keenly aware of the income goals I have for myself if I have learned business and technical knowledge about the collaborated project.	0.982	
QRM2	I was strongly motivated by the money I could have earned if I have learned business and technical knowledge about the collaborated project.	0.770	
QRM3	I was able to predict how I will be rewarded for my good performance in the collaborated project.	0.795	

Table 4.7: Reliability analysis for the research variables (continued)

Item Code	Item	Item-total correlation	Cronbach's Alpha
QRM4	I was keenly aware of the promotion goals I had for myself if I learnt business and technical knowledge about the collaborated project.	0.831	
QRM5	If I learnt business and technical knowledge about the module, I wanted other people to find out how good I was.	0.596	
QRM6	I was strongly motivated by the recognition I could have earned from other people for learning business and technical knowledge about the collaborated project.	0.856	
QRM7	I had to feel that I was earning something for learning business and technical knowledge about the collaborated project.	0.697	
QRM8	I enjoyed learning business and technical knowledge about the collaborated project.	0.797	
QRM9	The more difficult it was to understand business and technical knowledge about the collaborated project; the more I enjoyed learning it.	0.608	
QRM10	I enjoyed learning business and technical knowledge about the module under consideration that was completely new to me.	0.825	
QRM11	I had to feel that I was personally benefitting from learning business and technical knowledge about the collaborated project	0.782	
QRM12	I had the motive to find out how good I really could be at learning business and technical knowledge about the collaborated project.	0.858	
QRM13	I was more comfortable to participate in the project when I could set my own goals for learning business and technical knowledge about the collaborated project.	0.959	
	Mediator		
	Arduousness of Relationship (AR)		**0.853**
QAR1	Communication between me and the consultant(s) was very demanding in the collaborated project.	0.748	
QAR2	Collaboration between me and the consultant(s) only occurred during collaborated project when I had no other option.	0.856	
QAR3	Collaboration between me and the consultant(s) only occurred during collaborated project when consultant(s) had no other option.	0.980	

Table 4.7: Reliability analysis for the research variables (continued)

Item Code	Item	Item-total correlation	Cronbach's Alpha
	Sources' Oriented Factors		
	Sources' Credibility (SC)		**0.859**
QSC1	The consultants being hired was trustworthy.	0.904	
QSC2	The consultants being hired was experienced.	0.934	
QSC3	The consultants being hired was well trained.	0.648	
	Moderator		
	Learning Management System (LMS)		**0.906**
QLMS1	I use the organizational Learning Management System (LMS) mainly as a source/recipient of the knowledge intended to be transferred.	0.941	
QLMS2	I use the organizational Learning Management System (LMS) to upload/update the knowledge/contents.	0.907	
QLMS3	I use all the necessary aspect of the organizational Learning Management System (LMS) related to my requirements.	0.927	
QLMS4	I access the full content of the organizational Learning Management System (LMS).	0.901	
QLMS5	I use the organizational Learning Management System (LMS) to avail required information (intended knowledge to be transferred).	0.906	
QLMS6	I use the necessary aspect of the organizational Learning Management System related to my requirements/view for fetching required knowledge (intended to be transferred).	0.833	

4.10 Validity Analysis

Based on the above discussion, collection of responses for both dependent and independent factors simultanously can lead to CMB. Due to the nature of this study and the cross-sectional design of it, the researcher has collected data for both the independent and dependent variables at the same time using the same surveying instrument over a specific period of time. Such research design is subject to certain suspensions regarding the validity of collected data, responses to the questionnaire could have been affected. In order to verify these concerns and validate the data before

testing, the entire model consisting of all the constructs required to be incorporated into it. The researcher has conducted a separated analysis of every terms of measurement model. This has provided the researcher with an opportunity to rectify the items with lesser loadings from the full-scale survey. Despite the fact that a common five point Likert scale was employed by the researcher to collect data for all the constructs, a confirmatory factor analysis (CFA) was conducted by the researcher. Moreover, the researcher has also employed both structural model, comprising of all the factors in a single model and a measurement model, consisting of items included in every construct measurement individually, as recommended by Hair et al. (2017).

4.11 Confirmatory Factor Analysis (CFA)

The researcher has employed CFA in this study instead of EFA (Exploratory Factor Analysis) as the name suggested and described by Kolenikov (2009) that in EFA the exploration of the constructs is intended and the number of factors. This is further explained that how these factors are related to the observed variables and unknown in advance. On the other hand CFA is consistent with the research model employed in this study, as it requires a well-defined and structure model, consisting of a number of factors and determination of how these factors are related to the observed variables, as described by Kolenikov (2009). Moreover, EFA has traditionally been used as a variable reduction technique, as described by Suhr (2006). The author has also described that "EFA identifies the number of latent constructs and the underlying factor to structure set of variables" (Suhr, 2006). Other authors have described that EFA has also been used as a tool to discover the structure of underlying set of measured constructs. Child (1990) has described that EFA doesn't require the enforcement of a predefined structure rather it explores the constructs to uncover possible structure.

Others studies including Kolenikov (2009) have differentiated the two analysis techniques as (suggested by the names of these techniques as well) that EFA is used to explore the constructs with unknown number of factors and their inter relationship, while the CFA is used to confirm a predetermined structure of known factors.

Based on the above description of two factor analysis techniques, it is appreciable that confirmatory factor analysis (CFA) is the right technique for this study, which is consistent with the predetermined and structured nature of the research model employed in this study. Therefore, the researcher has employed Confirmatory factor analysis (CFA), as a technique to filter and validate the measures. Moreover, as suggested by Hair et al. (2014) among others, CFA is also recommended as an accurate method to asses both the mono-dimensionality and validity of the constructs. The authors have also described that CFA provides a solid foundation for approval of how well the measured items reflect the constructs included in the model with predetermined structure (Hair et al., 2014). The authors have further explained that CFA enables to approve the measures included in this study and validates them. It also examines how consistent our identification of the factors is with the reality in terms of observed responses. Based on all these support, for the use of CFA as a validation technique, the research has employed CFA to validate the measures.

In order to assess the suitability of the measurement tool, based on the research model of this study, the researcher has conducted the evaluation based on the guidelines presented by Hung and Yang (2004). The researcher has evaluated the suitability of the measurement models based on the criteria of model-fit with the data to construct validity in terms of both convergent and discriminate. The researcher has used the validity evaluation criteria presented by Byrne (2016), based on key indicators

and their acceptable ranges, as presented in Table 4.8, followed by a review of the findings of the analysis.

Table 4.8: Fit indices & their threshold values

Purpose	Name of Index	Threshold Value
Fit indices of CFA	Comparative Fit Index (CFI)	> .95 great; > .90 good
	Tucker-Lewis Index (TLI)	> .95 great; > .90 good
	Normed-Chi square (CMIN/df)	< 2 great; < 3 good
	Root Mean Square Error of Approximation (RMSEA)	< .05 great < .08 good
Reliability	Composite Reliability (CR)	> .90 great, > .80 good, > .70 fair
Convergent Validity	Average Variance Extracted (AVE)	AVE > .50 & CR > .50

4.11.1 Source Oriented Factors

In the research model first category of variables were conceptualized as source oriented factors. These factors were namely arduousness of the relationship between the source and the recipients and sources' credibility. These factors were incorporated as first order factors and have been measured by three items each, in the questionnaire. The researcher has set the above mentioned criteria to include an item in the model. As per the criteria any item with an R2 loading of less than 50%, item SC3 was dropped as its loading was found to be only 10%. It also affected the other measures and overall fit of the model. In Figure 4.8, AMOS output for the model conceptualizing source oriented factors, including all the items for both the observed variables and their standardized loadings is presented.

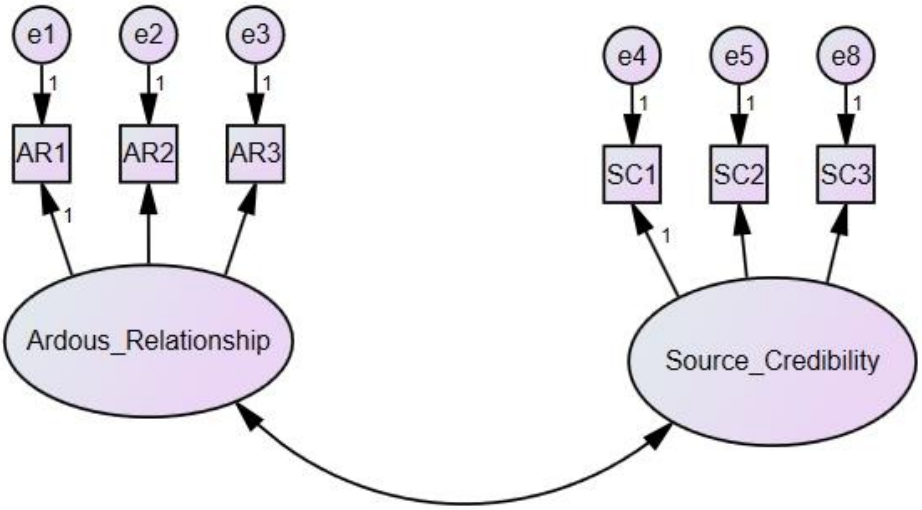


Figure 4.8: Source oriented factors with all Items

Based on the 50% R2 criteria SC3 was dropped on account of having a loading of only 10%, as presented in the above figure. Once the less relevant item was dropped, the model was improved significantly and all the estimates were found to be within their acceptable ranges presented in Table 4.8. In Figure 4.9, the researcher has presented an updated model excluding the SC3.

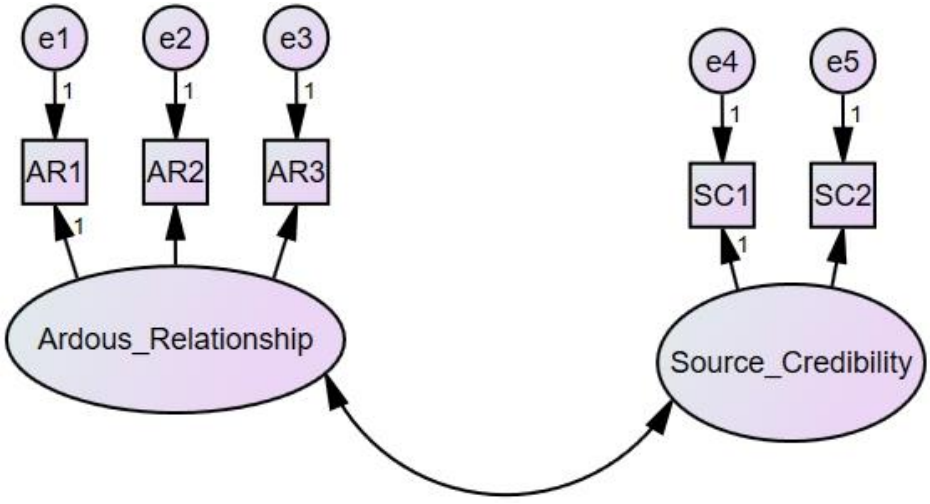


Figure 4.9: Source oriented factors with acceptable R^2 items only

Once SC3 was removed, all the estimates improved significantly and were found to be within their acceptable ranges, as presented in Table 4.9.

Table 4.9: Fitness indices for sources' credibility

Statistic	Index value Obtained	Suggested Acceptable Level
Chi-square significance	0.143	> 0.01
CMIN/DF	1.718	<3
GFI	0.994	> 0.90
AGFI	0.977	> 0.80
NFI	0.987	> 0.90
TLI	0.986	>0.95
CFI	0.995	>0.90
RMSEA	0.040	<0.10

In Table 4.9, the researcher has presented the fitness indices for the model containing source oriented factors. All of these indices are acceptable as per the guidelines of Hu and Bentler (1995). Chi-square significance is well above the 0.01, showing insignificance even at 10% significance level. As per many studies including the one presented by the authors, other important model fit indices include CMIN/DF=1.718, which is required to be less than 3, GFI=0.994, which is required to be above .90, AGFI= 0.977, which is required to be above .90, NFI=0.987 which is required to be greater than 0.90), the Comparative fit index or CFI =0.995, which is required to be above 0.90, RMSEA =0.040, which is required to be less than 0.10. Finally, TLI=0.986, which is required to be above 0.90. All these indices are within acceptable ranges and as per the guidelines, these indices provide enough evidence to consider the model is a good fit as it is consistent with the suggested criteria in the body of existing literature to measure the goodness of fit of such models.

In terms of their composite reliability (CR) and Cronbach's Alpha, the values can fall between 0 to 1 or nil to 100%, as suggested by Hair et al. (2014), acceptable range for these values is between 0.7 and above. Cronbach's Alpha for the model is at

0.715, which is within the acceptable range. Composite Reliability of the items of Arduousness of relationship is at 0.70, with Average Variance Extracted at 0.40. On the other hand, in terms of items of source's credibility, the composite reliability was measured at 0.83, after removing SC3 item from the model and AVE for items of source's credibility was measure at 0.70. These values, summarized in Table 4.10, provide enough evidence that the model is a good fit, with items measuring the constructs are reliable and in a valid, as per the criteria suggested by Hair et al. (2014).

Table 4.10: Source oriented factors confirmatory factor analysis results

Construct	Scale	Factor Loading	Cronbach's Alpha	CR	AVE
Arduousness of Relationship	QAR1	0.511	**0.713**	**0.70**	**0.40**
	QAR2	0.645			
	QAR3	0.717			
Source Credibility	QSC1	0.854		**0.83**	**0.70**
	QSC2	0.827			

4.11.1.1 Convergent and Discriminant Validity

As described by Hair et al. (2014), construct validity is the ability of the items used to measure a construct, to actually measure it. It is described in terms of the degree to which the items of the data collection tool define the latent variable in the model. The authors have described that construct validity has two aspects to it, also identified as it categories, namely, convergent and discriminant validity.

Convergent validity is described by Hair et al. (2014), as the ability of the items in the questionnaire to actually measure what is intended to measure, in terms of their loadings to the latent variable. Therefore, items with a high loading establish convergent validity, when they have a positive correlation with each other, as described by the authors. This mutually positive correlation ascertains the fact that all

the items of a latent factor are measuring the same construct. The measure used to evaluate the degree of convergent validity is known as average variance extracted or AVE. it is simply the average of the squared loadings of items intended to measure a construct or latent variable. As the measure represents the ability of the items to describe a construct, so typically higher the value, better is ability of the items to measure the constructs. The authors have highlighted that typically a value of AVE above 0.5 is considered adequate, showing the percentage of variance in the latent factor explained by its items.

Based on the criteria of accepting the items with loadings of .50 or above, the items included in the model, measure Arduousness of relationship have an AVE of 0.40, which is less than the suggested value of 0.5. The value of 0.40 shows that the items intended to explain arduousness of relationship, are able to explain 40% of the variance in it. However, AVE for items representing sources' credibility is high at 0.7, showing that the items are able to describe 70% of the variance in the latent variable. Since the items included in the model load moderately for arduousness of relationship and strongly for sources' credibility, with similar AVEs, the assumption of convergent validity is supported moderately for arduousness of relationship and strongly for sources' credibility.

One explanation of the moderate AVE value for arduousness of relationship is that the construct is abstract in nature and it is hard to quantify. Therefore, the ability of the items included in the model is although moderate with loadings of above 0.5, yet limited and less than the adequate value of 0.5, as described by Hair et al. (2014) (Table 4.11).

Table 4.11: Discriminant validity of source oriented factors

	Arduousness of Relationship	**Source Credibility**
Arduousness of Relationship	**.632**	
Source Credibility	.453**	**.837**

** Correlation is significant at the 0.01 level (2-tailed). The diagonals represent the square root of the average variance extracted (AVE) and the lower cell represent the correlations.

4.11.2 Learning Management System

The other type of factor included in the research model of this study is process oriented factor of learning management system (LMS). The researcher has incorporated LMS as first order factor, which has been measured by six items initially in the questionnaire. As per the criteria of including only the items in the study with a loading of R2 greater the 50%, all the items were included in the initial model, as shown in Figure 4.10.

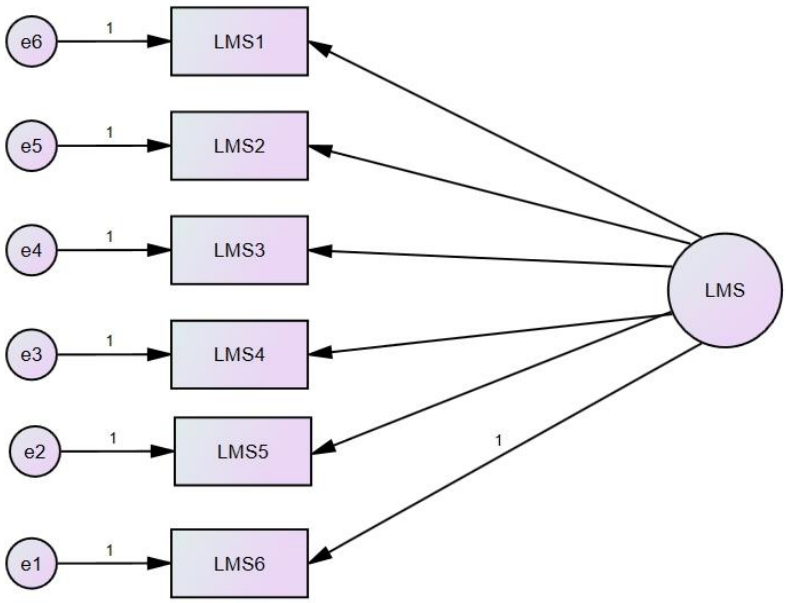


Figure 4.10: Process oriented factor of LMS with acceptable R^2 items only

In the above diagram, it is observable that all the items loadings are above 50%, and the other measures were found to out of the criteria mentioned in Table 4.8. Especially, CMIN/DF, which is supposed to be below 3, as mentioned in the Table 4.8, was found to be way above its threshold value of 3, at 15.189.

In order to fix the issue, the research has per formed certain techniques, as per the guidelines presented by Bian (2011). These techniques included co-varying the error terms with high degree of covariance estimates and removing the items with a high correlation with the other items. Upon performing these techniques, the researcher was able to achieve the following model for LMS, generated in AMOS, with standardized loadings, depicted in Figure 4.11.

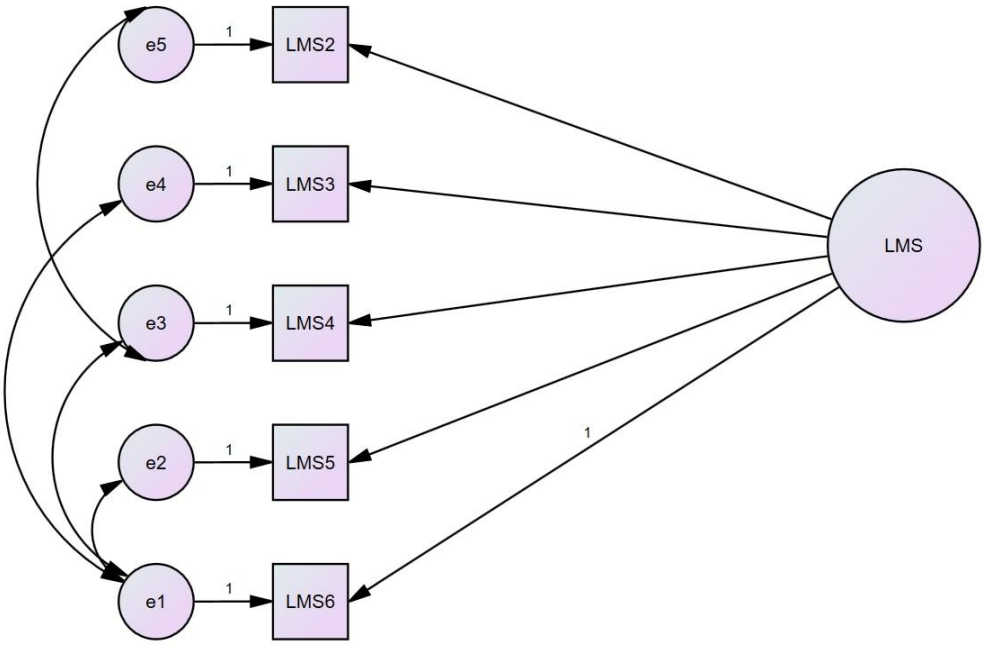


Figure 4.11: Process oriented factor of LMS with acceptable R^2 items and co-varying error terms

As a result of these techniques, the other measures of validity of the model were also brought within their acceptable ranges. A summary of these measures is presented in Table 4.12.

Table 4.12: Fitness indices for LMS

Statistic	Index value Obtained	Suggested Acceptable Level
Chi-square significance	0.967	> 0.01
CMIN/DF	0.002	<3
GFI	1.000	> 0.90
AGFI	1.000	> 0.80
NFI	1.000	> 0.90
TLI	1.008	>0.95
CFI	1.000	>0.90
RMSEA	0.000	<0.10

In the above table, it is readily observable that all the measures were within their acceptable ranges, with Chi-square significance at 0.967. All the other indices were also found to be within acceptable ranges, showing that the model has a good fit and aligned with the suggested statistic proposed by Bentler (1990). These measures include GFI=1.000, which is acceptable in a range of above 0.90, AGFI= 1.000, which is acceptable at a range above or equal to 0.80, NFI=1.000 (≥0.90), the Comparative fit index (CFI) =1.000 (≥0.90), the CMIN/DF=0.002 (<3), RMSEA =0.000 (<0.10) and TLI=1.0 (>0.90). All these measure provide evidence in support of a good fit of the model consisting of LMS and its acceptable items.

Measures of both reliability and composite reliability indexes are also presented by the research for LMS. For reliability Cronbach's Alpha and for composite reliability CR were calculated and presented in Table 4.12. Both the measures can assume the values between the range of 0 and 1, as mentioned earlier in this section. The researcher has also calculated AVE for all the constructs included in the model. As per Table 4.13, the values of these measures suggest that all the constructs included in the final model of LMS are both valid and reliable to be used in the path analysis.

Table 4.13: LMS confirmatory factor analysis results

Construct	Scale	Factor Loading	Cronbach's Alpha	CR	AVE
LMS	QLMS2	.66	**0.891**	**0.874**	**0.616**
	QLMS3	.82			
	QLMS4	.80			
	QLMS5	.84			
	QLMS6	.79			

As per the recommendations of (Hair et al., 2014), the values of both Cronbach's Alpha and the Composite Reliability Index, between 0.7 and 0.9 are considered as satisfactory. In Table 4.13, a summary of values for Cronbach's Alpha, the Composite Reliability Index and Average Variance extracted for all the model constructs, is presented. These values suggest that all the constructs included in the model are valid as well as reliable to be used for the path analysis.

4.11.2.1 Convergent and Discriminant Validity

As described earlier, items with a high loading establish convergent validity, when they have a positive correlation with each other (Hair et al., 2014). High loadings of items and their positive correlation is evidence that all the items of a latent factor are measuring the same construct. The researcher has used average variance extracted or AVE to measure the degree of Convergent Validity. It is simply the average of the squared loadings of items intended to measure a construct or latent variable. As the measure represents the ability of the items to describe a construct, so typically higher the value, better is the ability of the items to measure the constructs. The authors have highlighted that typically a value of AVE above 0.5 is considered adequate, showing the percentage of variance in the latent factor explained by its items.

AVE for items representing LMS is higher than the acceptable criteria of 0.5 and was measured at 0.616, showing that the items are able to describe above 60% of the variance in the latent variable of LMS. Since the items included in the model load strongly for LMS, with higher AVEs, the assumption of convergent validity is supported strongly for process oriented factor of LMS.

4.11.3 Recipients' Oriented Factors

The final type of factors included in the research model of this study is recipients' oriented factors, namely recipients' retentive capacity, recipients' absorptive capacity and recipients' motivation to learn. The researcher has incorporated these factors as first order factors, which has been measured by different numbers of items. Both recipients' absorptive capacity and recipients' retentive capacity have been measure using five items each initially in the questionnaire. The other factor of recipients' motivation to learn was measured using thirteen items in the original questionnaire. As per the criteria of including only the items in the study with a loading of R2 greater the 50%, only two items for recipients' retentive capacity and three items were included for recipients' absorptive capacity in the initial model. Moreover, based on this criterion only six items were included in the initial model for recipients' motivation to learn, as shown in Figure 4.12.

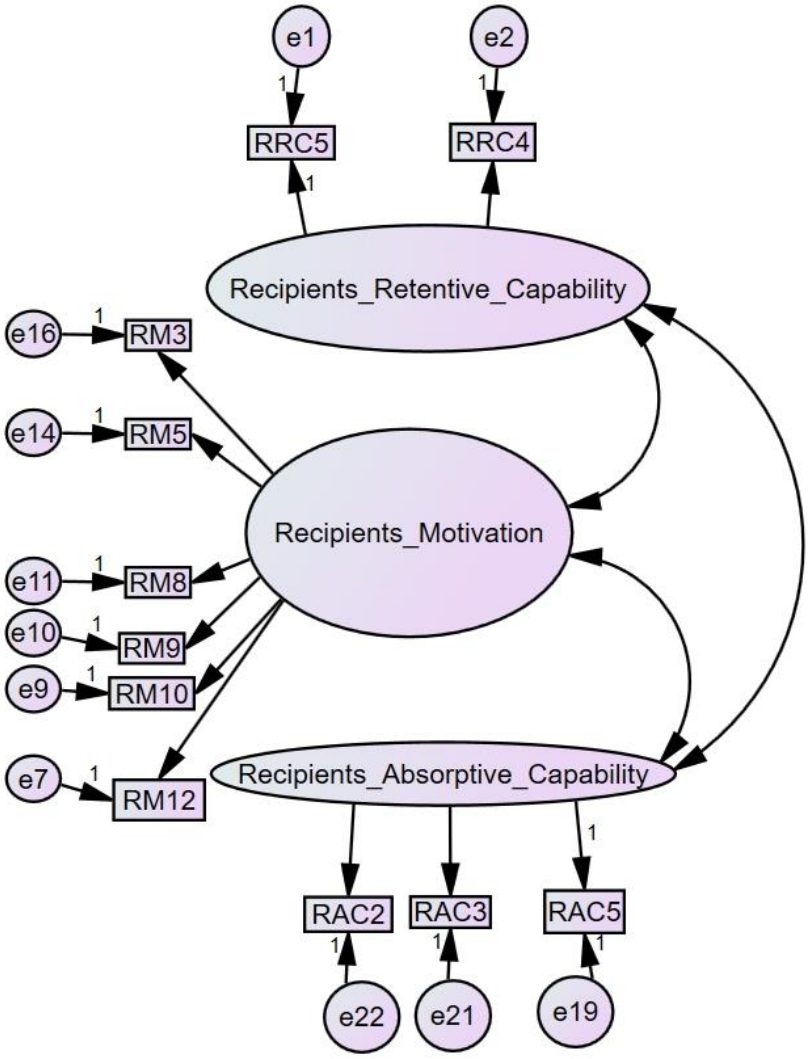


Figure 4.12: Recipients' oriented factors with acceptable R^2 items only

In the above diagram, it is observable that all the items loadings are above 50%, and the other measures were found to out of the range mentioned in Table 4.8. Especially, CMIN/DF, which is supposed to be below 3, as mentioned in the Table 4.8, was found to be way above its threshold value of 3. However, for larger sample sizes, as in case of this study with a sample size of over 430, the value of CMIN/DF is acceptable as high as 5, as described by Marsh and Hocevar (1985). Similarly, other studies have highlighted that the chi-square significance value can be manipulated using small sample sizes and is expected to be lower in case of larger sample sizes,

such as in this study. The transformed model with covariance among co-varying error terms is depicted in Figure 4.13.

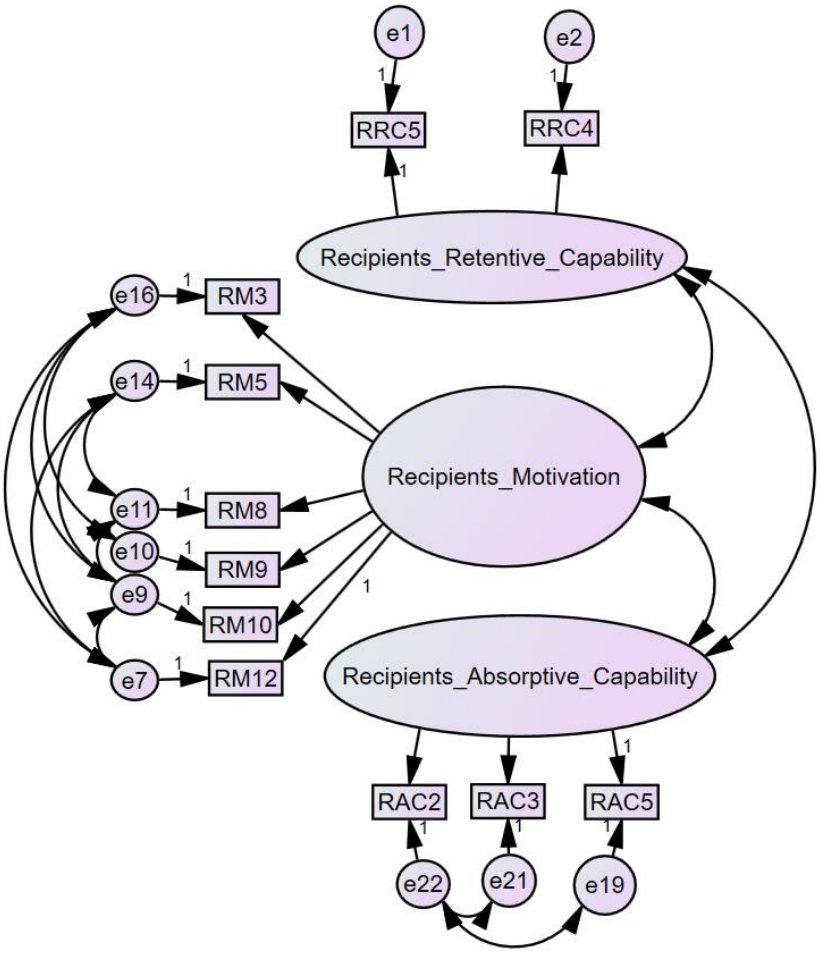


Figure 4.13: Process oriented factor of LMS with acceptable R^2 items and co-varying error terms

The researcher has employed the model fit techniques like co-varying the error terms with high estimates of correlation to bring the CMIN/DF within the acceptable range of below 5, as highlighted by Marsh and Hocevar (1985). These techniques are in line with the guidelines presented by Bian (2011). Upon performing these techniques, the researcher was able to achieve the model for recipients' oriented factors presented above, generated in AMOS, with standardized loadings.

As a result of these techniques, the other measures of validity of the model were also brought within their acceptable ranges. A summary of these measures is presented in Table 4.14.

Table 4.14: Fitness indices for recipients' oriented factors

Statistic	Index value Obtained	Suggested Acceptable Level
Chi-square significance	0.000	> 0.01
CMIN/DF	3.593	<3 or <5 (in case of large sample size)
GFI	0.960	> 0.90
AGFI	0.912	> 0.80
NFI	0.938	> 0.90
TLI	0.916	>0.95
CFI	0.954	>0.90
RMSEA	0.077	<0.10

The researcher has summarized the results in Table 4.14. In the above table, it is readily observable that all the measures were within their acceptable ranges, accept for Chi-square significance at 0.000, which is somewhat expected with such a large sample size and complex model with many items, as described by Bentler and Bonett (1980). All the other indices were found to be within acceptable ranges, showing that the model has a good fit and aligned with the suggested statistic proposed by Bentler (1990). These measures include GFI=0.960, which is acceptable in a range of above 0.90, AGFI= 0.912, which is acceptable at a range above or equal to 0.80, NFI=0.938 (≥0.90), the Comparative fit index (CFI) =0.954 (≥0.90), TLI=0 (>0.90), the CMIN/DF=3.593, which is expected to be less than 5, in case if large sample size (Marsh & Hocevar, 1985) and RMSEA =0.077 (<0.10). All these measure provide

reasonably strong evidence in support of a good fit of the model consisting of recipient oriented factors and their acceptable items.

Measures of both reliability and composite reliability indexes are also presented by the researcher for recipients' oriented factors. For reliability Cronbach's Alpha and for composite reliability CR were calculated and presented in Table 4.15. Both the measures can assume the values between the range of 0 and 1, as mentioned earlier in this section. The researcher has also calculated AVE for all the constructs included in the model. As per Table 4.15, the values of these measures suggest that all the constructs included in the final model of recipients' oriented factors are both valid and reliable enough to be used in the path analysis.

Table 4.15: Recipients' oriented variables confirmatory factor analysis results

Construct	Scale	Factor Loading	Cronbach's Alpha	CR	AVE
Recipients' Motivation to learn	QRM3	.80	0.854	0.961	0.501
	QRM5	.60			
	QRM8	.53			
	QRM9	.51			
	QRM10	.89			
	QRM12	.82			
Recipients' Absorptive Capacity	QRAC2	.88		0.961	0.533
	QRAC3	.59			
	QRAC5	.69			
Recipients' Retentive Capacity	QRRC4	.62		0.803	0.591
	QRRC5	.63			

The values of both Cronbach's Alpha and the Composite Reliability Index, are considered to be acceptable, above 0.7, as described by Hair et al. (2014). In Table 4.15, a summary of values for Cronbach's Alpha, the Composite Reliability Index and Average Variance extracted for all the model constructs, is presented. These values

suggest that all the constructs included in the model are valid as well as reliable to be used for the path analysis.

AVEs for items representing all the constructs in the model conceptualizing recipients' oriented factors are higher than the acceptable criteria of 0.5 and was measured at 0.501 for recipients' motivation to learn, 0.533 for recipients' absorptive capacity and 0.591 for recipients' retentive capacity, showing that the items are able to describe above 50% of the variance in the latent variables conceptualizing recipients' oriented factors. Since the items included in the model load acceptably for all the constructs, with higher AVEs, the assumption of convergent validity is supported strongly for the recipients' oriented factors.

Table 4.16: Discriminant validity of the recipients' oriented factors

	RM	RAC	RRC
RM	**.708**		
RAC	.527**	**.730**	
RRC	.762"	.942"	**.769**

**. Correlation is significant at the 0.01 level (2-tailed). The diagonals represent the square root of the average variance extracted (AVE) and the lower cells represent the correlations.

Table 4.16 shows that the criteria described earlier in the section was satisfied for all the constructs included in the model. Hence, fulfill the requirements of discriminant validity.

4.12 Descriptive Statistics and Correlations

In the preceding part of this chapter, the researcher has presented the confirmatory factor analysis for all the major types of factors included in the research model. The researcher has presented how these constructs have been measured and

presented the refined models, as per the criteria and guidelines by the major studies in the existing body of literature. Now the researcher has presented the descriptive analysis of the finalized research model in terms of included items, based on refined data.

Another aspect of the descriptive analysis of the refined data is presented here in terms of average values of the refined responses for every construct included in the model, coupled with standard deviation in Table 4.17.

Table 4.17: Mean and standard deviation of the variables

Variables	Mean	Std. Deviation
Gender	0.2574	0.43770
Age Groups	3.2870	1.24401
Education	3.3027	0.53964
Sector	2.3872	0.98408
KT	3.7966	0.56069
RAC	3.8929	0.62674
RRC	3.8282	0.61230
RM	3.9140	0.58231
AR	3.8299	0.71295
SC	2.7563	0.68770
LMS	2.9172	0.87809

In the table above, the researcher has presented the mean and standard deviation of all the variables. These measures also in line with the descriptive analysis

presented earlier in this chapter. A further review of different descriptive aspects of the data is presented below.

A correlation analysis is presented in Table 4.18, in which the researcher has presented the mutual correlation of all the constructs included in the research model.

Table 4.18: Descriptive statistics & correlation

	Gender	Education	AGE	AGE	Knowledge transfer behaviour	Recipients' Absorptive Capacity	Recipients' Retentive Capacity	Recipients' Motivation to learn	Arduousness of Relationship	Sources' Credibility	LMS
Gender	1.000										
Education	-0.032	1.000									
	0.251										
AGE	.199**	.404**	1.000								
	0.000	0.000									
Sector	-0.062	0.059	0.004	1.000							
	0.097	0.110	0.464								
Knowledge transfer behaviour	-0.038	.120**	0.016	0.052	1.000						
	0.213	0.006	0.366	0.136							
Recipients' Absorptive Capacity	0.017	.117**	.156**	-.166**	.596**	1.000					
	0.361	0.007	0.001	0.000	0.000						
Recipients' Retentive Capacity	0.023	.278**	.139**	-.112**	.522**	.607**	1.000				
	0.312	0.000	0.002	0.009	0.000	0.000					
Recipients' Motivation to learn	.106*	.129**	0.003	-0.039	.432**	.495**	.539**	1.000			
	0.013	0.003	0.473	0.208	0.000	0.000	0.000				
Arduousness of Relationship	-.132**	.116**	-.121**	-0.040	.332**	.479**	.478**	.526**	1.000		
	0.003	0.007	0.006	0.200	0.000	0.000	0.000	0.000			
Sources' Credibility	0.003	.170**	.171**	-.156**	.183**	.248**	.170**	.284**	.145**	1.000	
	0.479	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001		
LMS	-.115**	0.063	0.017	.108*	-.194**	-.116**	0.045	0.047	0.056	-0.059	1.000
	0.008	0.095	0.359	0.012	0.000	0.007	0.172	0.164	0.119	0.109	

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

In the above table, it is observable that almost all the variables are significantly correlated with each other at 1% and 5% significance level. However, some demographic variables are not significantly correlated, like gender and age group. These trends were expected, as knowledge transfer behaviour in an organization like ADNOC with such a rigorous hiring process, is expected to be least affected by demography. Once the data has been refined and all the constructs in the model has been validated and evident to be reliable, the researcher has conducted the hypothesis testing to achieve the objectives of the research. Following is a detailed discussion on the hypothesis testing conducted by the researcher at the end as the final step of statistical analysis, in order to achieve the objectives of this study.

4.13 Structural Model and Hypothesis Testing

Once the data has been refined and validated and all items and the constructs, which these items are intended to be measured has been evident to be reliable, the next step in the data analysis employed by the researcher was to conduct the hypothesis testing aimed in this study. The structural equation model was conducted using AMOS 23. In order to conduct the structural regression analysis, both multiple regression and structural regression analysis has been performed by the researcher. In order to analyze the direct relationship among the constructs in the model and mediation effect introduced in the research model AMOS was utilized by the researcher and in order to conduct the analysis of moderation effect was done using Process macro by Hayes and Preacher (2014). The following is a review of the findings of these analysis conducted by the researcher.

4.13.1 Structural Regression (SR) Models

As part of the hypothesis testing, the researcher has started with the structural regression (SR) technique, using AMOS 23. The structural regression modeling is a combination of path analysis and measurement modeling. Using this technique, the researcher was able to test the patterns and causal implications hypothesis aimed to be tested in this study. This is due to the structural regression models contain both measured and implied (latent) constructs. Moreover, SR also contains a measurement model, just as in CFA, which is considered a tool of SEM.

In this study the researcher has used SR models utilizing AMOS version 23. In order to do so the researcher has modeled all the hypothesized relationships in the SR model as shown in Figure 4.14. The researcher has found that the model fit results reflect a great fit to the collected data. The researcher has used the same fit indices of CFA including (CFI, TLI, CMIN/DF, and RMSEA) to assess the model fit (Table 4.19). The fit indices for SR model were found to be acceptable as per the criteria before mentioned.

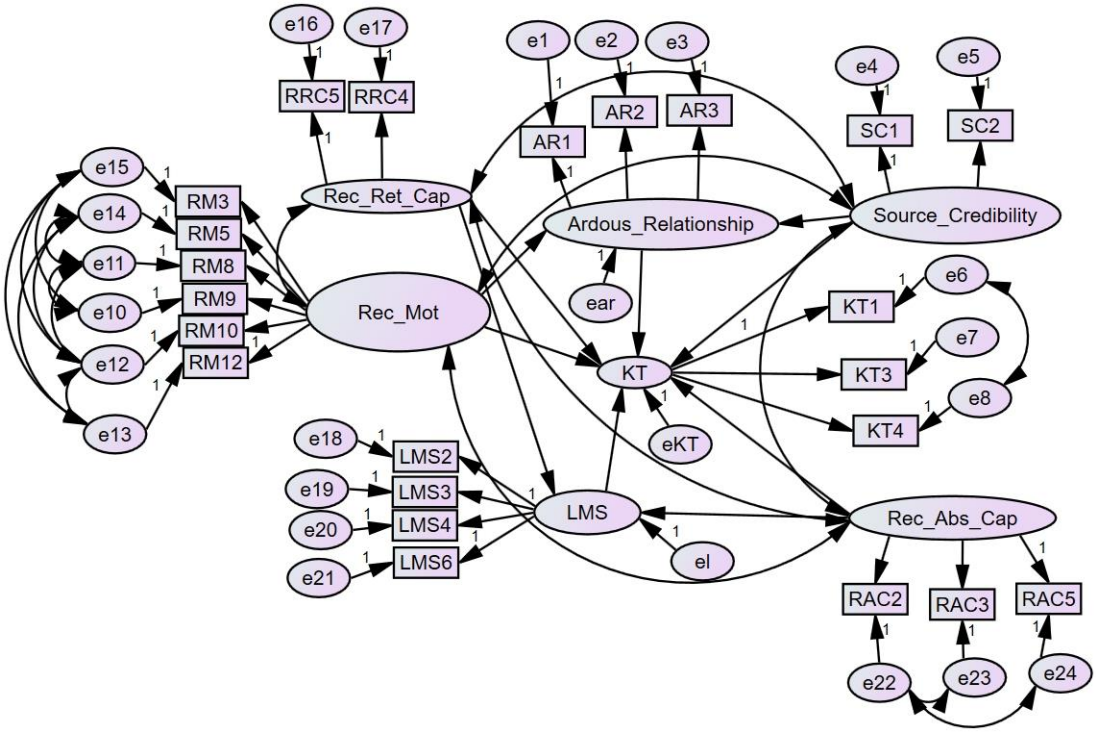


Figure 4.14: SR model tested

Table 4.19: Fit indicies of SR model

Model	RMSEA	TLI	CFI	GFI	CMIN/DF
All constructs Structural Regression Model	.065	.911	.931	.910	2.871

4.13.2 Direct Effect Hypothesis Testing

In the research model presented in this study, there were four e direct-effect hypotheses, identified by the researcher, as presented in Figure 4.15. These were also the hypotheses aimed to be tested in this study. The direct impact hypotheses were aimed at evaluating the direct impact of source oriented, recipients' oriented and process oriented factor on the organizational knowledge transfer behaviour (Table 4.20).

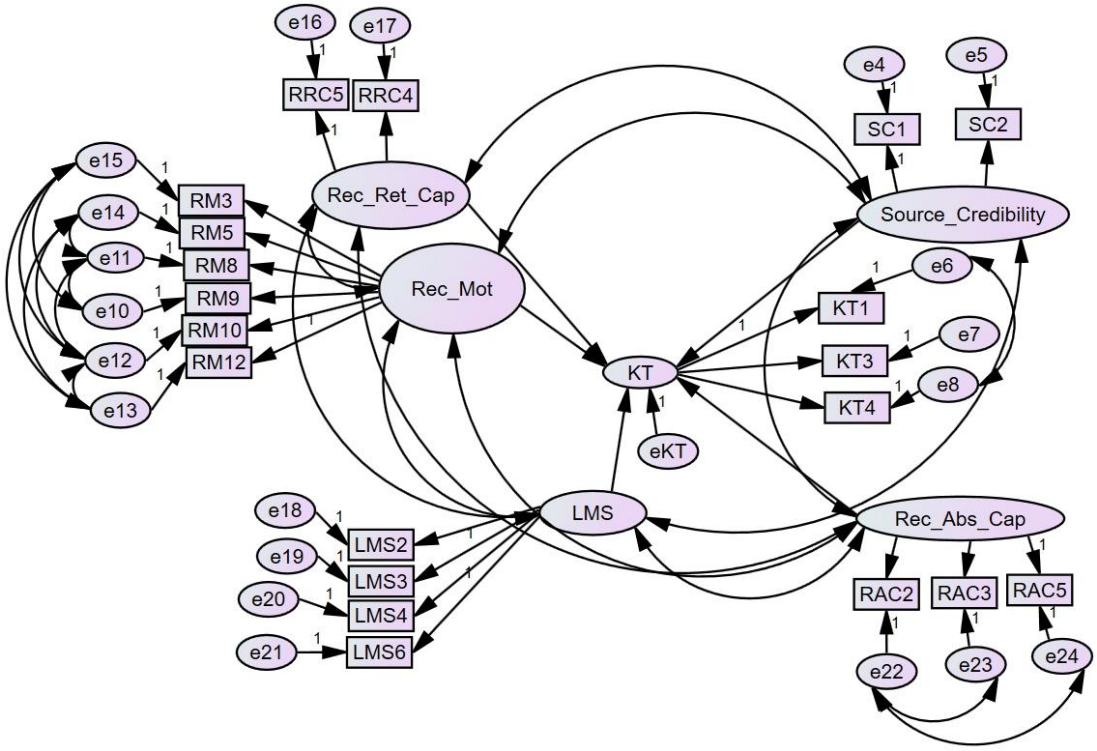


Figure 4.15: SR model direct impact modeling only

Table 4.20: Fit indcies of SR model for direct impact modelling only

Model	RMSEA	TLI	CFI	GFI	CMIN/df
Direct Impact Structural Regression Model	.066	.922	.947	.931	2.919

These main direct impact hypotheses were further categorized into sub-hypothesis as presented below.

H 1: There is a significant positive relationship between Recipients' Absorptive Capacity (RAC) and Organizational Knowledge transfer behaviour (KT).

H 2: There is a significant positive relationship between Recipients' Retentive Capacity (RRC) and Organizational Knowledge transfer behaviour (KT).

H 3: There is a positive relationship between recipients' motivation to learn and knowledge transfer behaviour.

H 4: There is a significant relationship between Sources' Credibility (SC) and Organizational Knowledge transfer behaviour (KT).

The results of the hypothesis testing for the above mentioned hypotheses are presented in the above diagram (Figure 4.15). The regression weights of the Structural Regression (SR) modeling obtained using AMOS 23 from the above diagram are presented in Table 4.21. The explanation of the P-value is presented and the results show that most of the direct relationships are significant (at P values less than 0.05 or .010). These results support only a few direct impact proposed hypotheses, as most of the factors in the research model are proposed to mediated or moderated by other factors, which is described in the later section of this chapter.

Table 4.21: Direct hypotheses testing

Hypotheses	Independent Variable	Dependent Variable		Standardized Estimate	P	Accepted/Rejected
H 1	RRC	→	KT	0.00	**0.531**	**Rejected**
H 2	RAC	→	KT	.165	0.002	**Supported**
H 3	RM	→	KT	.187	0.000	**Supported**
H 4	SC	→	KT	-.033	**0.068**	**Rejected**

The findings presented in the table above are somewhat expected, as the proposed model incorporates the mediation and moderation impacts, as well. From the perspective of recipients' oriented factors, it is evident that recipients' retention capacity has an insignificant impact on knowledge transfer behaviour, rejecting the H 1 hypothesis, while recipients' absorption capacity was found to have a significance impact on knowledge transfer behaviour. Therefore, hypothesis H 2 was not rejected or supported (p-value < 0.05). Recipients' motivation to learn was found to have a

significance impact on KT. Therefore, hypothesis H 3 was not rejected or supported (p-value < 0.05).

The main impact hypotheses presented above provide evidence for the significance (p-value < 0.1) of the impact of source oriented factor of sources' credibility on the knowledge transfer behaviour (Hypothesis H 4), which was rejected, as the significance level is less than 5% (p-value < 0.05).

4.13.2.1 Mediation Hypotheses

The researcher has tested the following two mediation hypotheses:

H 5: Arduousness of relationship mediates the relationship between source's credibility and knowledge transfer behaviour

The researcher has used AMOS 23 to evaluate the mediation hypotheses in this study. In order to evaluate mediation im0pact of arduousness of the relationship on the relationship between independent factor sources' credibility (SC) and the dependent factor of knowledge transfer behaviour (KT), the researcher has incorporated the recommendations presented by Hair et al. (2017). In terms of these recommendations, the mediation impact is considered to be present, if the direct impact is found to be insignificant after the incorporation of mediator (full mediation). The direct path analysis of the SC was found to be significant at 10% significance level (insignificant at 5% significance level). The direct impact of SC was found to be insignificant, as presented in Table 4.22.

Table 4.22: Mediation paths SC

Paths			Estimate	S.E.	P	Accepted/Rejected
Arduousness of Relationship	**<---**	**Sources' Credibility**	.355	.056	0.00	Supported
Knowledge transfer behaviour	**<---**	**Sources' Credibility**	-.021	.018	.248	Rejected
Knowledge transfer behaviour	**<---**	**Arduousness of Relationship**	.195	.041	0.00	Supported

The mediation model for the above mentioned results is presented in Figure 4.16. In the following model the mediation impact of arduousness of the relationship (AR) on the relationship between SC and KT are presented.

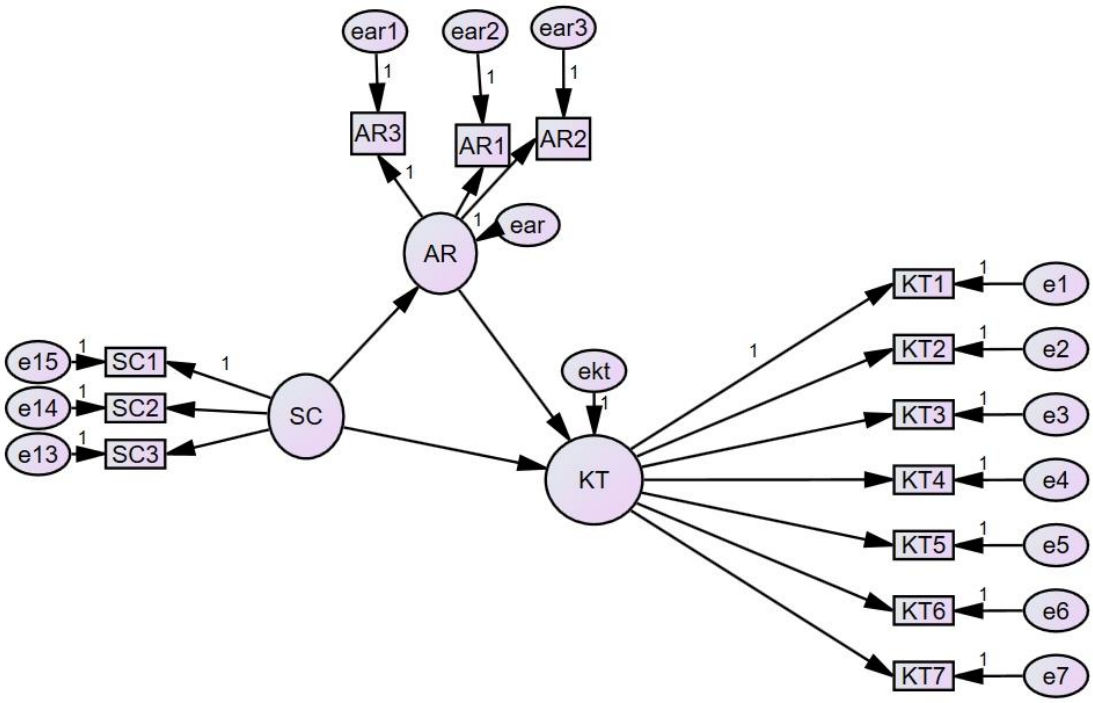


Figure 4.16: Mediation impact of AR in the relationship between RM and KT

From the above results, it is observable that a significant mediation impact of AR is found on the relationship between RM and KT. In Table 4.23, these findings have been summarized by the researcher.

Table 4.23: Mediations effect hypothesis testing on SC and RM

Paths	**Specific indirect effects**	**Direct effect**	**Total effect**	**Result**
SC→AR→KT	.0693***	-.0206^{NS}	0.0487**	Full Mediation

In the above table, it is observable that there is evidence supporting the presence of mediation impact of arduousness of the relationship, on the relationship between the sources' credibility and knowledge transfer behaviour. Since the total impact of the mediation in case of SC and KT is insignificant, as the direct relationship between the two factors is insignificant after incorporating the impact of the mediator AR, the mediation is considered as full mediation. As a result, the researcher has presented evidence to support hypothesis H 5.

The other mediation hypothesis modelled and tested in this study was the mediation impact of arduousness of the relationship on the relationship between RM and KT, which is as follows:

H6: Arduousness of the relationship (AR) mediates the relationship between recipients' motivation to learn (RM) and organizational knowledge transfer behaviour (KT).

The researcher has used AMOS 23 to evaluate the mediation hypotheses in this study. In order to evaluate mediation im0pact of arduousness of the relationship on the relationship between independent factor recipients' motivation to learn (RM) and the dependent factor of knowledge transfer behaviour (KT), the researcher has

incorporated the recommendations presented by Hair et al. (2017). In terms of these recommendations, the mediation impact is considered to be partial mediation, if the direct impact remains significant even after the significant mediation of the mediator. The direct path analysis of the RM was found to be significant. The direct impact of RM was found to be significant even at 0.001 values, as presented in Table 4.24.

Table 4.24: Direct paths SC & RM

Paths			Estimate	S.E.	P	Accepted/Rejected
Knowledge transfer behaviour	**<---**	**Recipients' Motivation to learn**	.193	.035	0.000	Supported

Once the mediator of AR was incorporated in the model, the results were observable and listed in Table 4.25.

Table 4.25: Direct paths RM

Paths			Estimate	S.E.	P	Accepted/Rejected
Arduousness of Relationship	**<---**	**Recipients' Motivation to learn**	.637	.070	0.00	Supported
Knowledge transfer behaviour	**<---**	**Recipients' Motivation to learn**	.098	.039	.012	Supported
Knowledge transfer behaviour	**<---**	**Arduousness of Relationship**	.152	.053	.004	Supported

The mediation model for the above mentioned results is presented in Figure 4.17. In the following model the mediation impact of arduousness of the relationship (AR) on the relationship between RM and KT are presented.

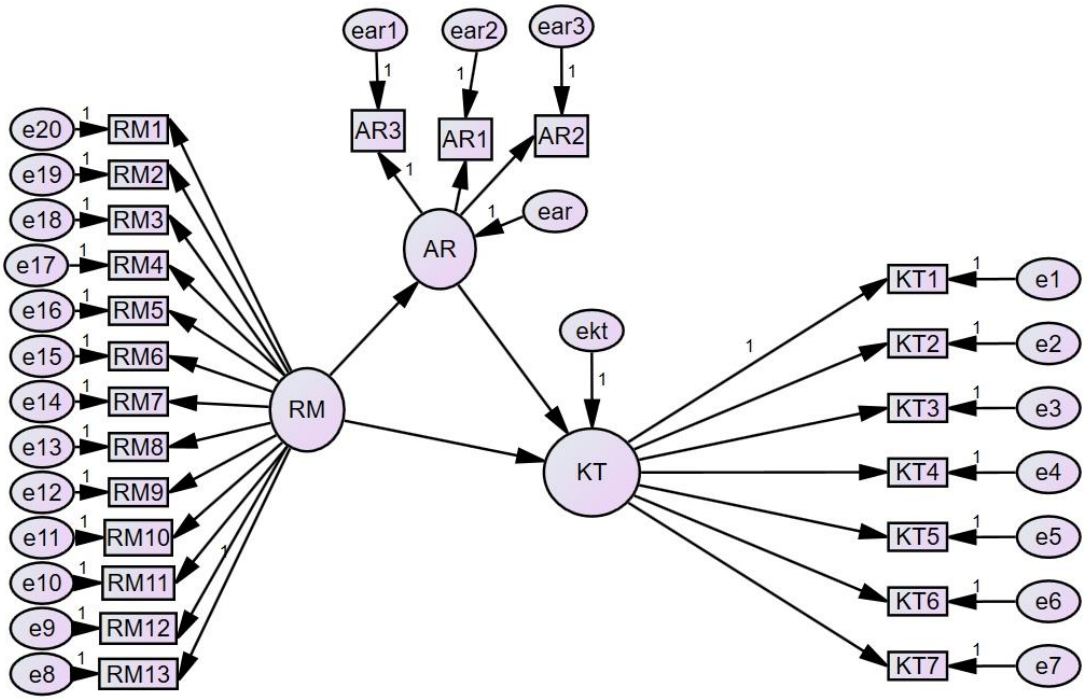


Figure 4.17: Mediation impact of AR in the relationship between RM and KT

From the above results, it is observable that a significant mediation impact of AR is found on the relationship between RM and KT. In Table 4.26, these findings have been summarized by the researcher.

Table 4.26: Mediations effect hypothesis testing on SC and RM

Paths	**Specific indirect effects**	**Direct effect**	**Total effect**	**Result**
RM→AR→KT	.0922***	.0851*	0.1773**	Partial Mediation

In the above table, it is observable that there is evidence supporting the presence of mediation impact of arduousness of the relationship, on the relationship

between the recipients' motivation to learn and knowledge transfer behaviour. However, since the total impact of the mediation in case of RM and KT is still significant, as the direct relationship between the two factors remains significant even after incorporating the impact of the mediator AR, the mediation is considered as partial mediation. As a result, the researcher has presented evidence to support hypothesis H 6.

4.13.2.2 Moderation Hypotheses

The researcher has incorporated the moderation impact into the research model and has tested the moderation hypothesis based on the collected data. The moderation impact is defined as, "the strength of a relationship between two constructs changes based on the value of a third construct". The influencing factor is known as moderator and the impact is termed as moderation impact.

As described by Little et al. (2007), the moderation impact hypotheses are tested in sets of pairs so the researcher has tested each set of factors' impact individually. In order to test the moderation hypothesis, the researcher has introduced interaction terms in the model.

The researcher has incorporated LMS as a moderator in the research model and has tested the moderation impact on the relationships between two sets of factors in the model. The first set of factors' relationship considered to be moderated by LMS is recipients' absorptive capacity (RAC) and organizational knowledge transfer behaviour. The researcher has tested the following hypothesis H6 to evaluate the moderation impact of LMS on the relationship between RAC and KT.

H 7: LMS moderates the relationship between RAC and KT in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.

The second set of factors' relationship considered to be moderated by LMS is recipients' retentive capacity (RRC) as an independent factor and organizational knowledge transfer behaviour as a dependent factor. The researcher has tested the following hypothesis H4 to evaluate the moderation impact of LMS on the relationship between RRC and KT.

H 8: LMS moderates the relationship between RRC and KT in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.

To model these moderation effects, the LMS variable was imputed and recoded to categories ranging from 1 for low through 5 for high values. The first set of interaction terms was introduced to test the moderation impact of LMS at different levels, on the relationship between RAC and KT. The researcher has introduced this set of interaction terms of LMS categories and RAC into the model. The second set of interaction terms was introduced to test the moderation impact of LMS at different levels, on the relationship between RRC and KT. The researcher has introduced this set of interaction terms of LMS categories and RRC into the model. Little et al. (2007) has described that "If the interaction term is significant then the effect of the predictor variable on the outcome variable is dependent upon the levels of the moderator variable. The product term provides empirical evidence that the nonlinear combination of two variables accounts for a unique amount of variability in the outcome variable above and beyond the linear main effects of the two variables". Therefore, in line with the guidelines presented by the authors, the researcher has used Learning Management

System (LMS) at different levels as a moderator. In order to test the moderation hypotheses in this study, the researcher has utilized a Macro process of Hayes and Preacher (2014). The Process macro is a useful tool to model the interaction and indirect impacts in SPSS.

In the current study hypothesis 7 is intended to predict the moderating effect of Learning Management System (LMS) on the relationship between the Recipients' Absorptive Capacity (RAC) and the regressed factor of organization knowledge transfer behaviour (KT). While hypothesis 8 is intended to predict the moderating effect of Learning Management System (LMS) on the relationship between the Recipients' Retentive Capacity (RRC) and the regressed factor of organization knowledge transfer behaviour (KT), afore mentioned. In Table 4.27, the researcher has summarized the results of the moderation hypotheses testing.

Table 4.27: Result of moderation hypotheses

Hypotheses	**Variables**	**Estimate**	**SE**	**Sig.**	**Accepted/Rejected**
H 7	RAC	.5289	.0344	.000	Accepted
Dependent=	LMS	-.0809	.0270	.0127	
	RAC x LMS	.0735	.0383	**.0554**	
H 8	RRC	.2737	.0158	.000	Rejected
Dependent=	LMS	-.204	.0123	.098	
	RRC x LMS	-.183	.0218	.4033	

The researcher has summarized the moderation effect results in Table 4.27. The researcher has found that the moderation effect of LMS is significant on the relationship between RAC and KT at a 90% confidence interval ($\beta = 0.0735$ S.E.= 0.0247, $p < 0.1$), supporting H 7. A further analysis of the output has revealed a significant positive impact of LMS on the relationship between RAC and KT.

It is observable that insignificant moderating effect was found for the relationship between RRC and KT even at a 90% confidence interval (β = -0.183, S.E.= 0.0383, p> 0.1), not supporting H 8. A further analysis of the output has revealed an insignificant moderating impact of LMS on the KT.

In Table 4.28, the researcher has summarized the effect summary of LMS on the relationship between RAC and KT.

Table 4.28: Moderation effects of different values of moderator on RAC→KT

Values of Moderator	**Dependent: KT**	
	Effect	**Sig.**
Low	.4605	.000
Medium	.5289	.000
High	.5973	.000

The researcher has created a graph of the above relationship in order to present a visualization of the results. In Figure 4.18, it is shown that the relationship between RAC and KT, is significant for low, medium and high values of LMS, as presented in Table 4.28.

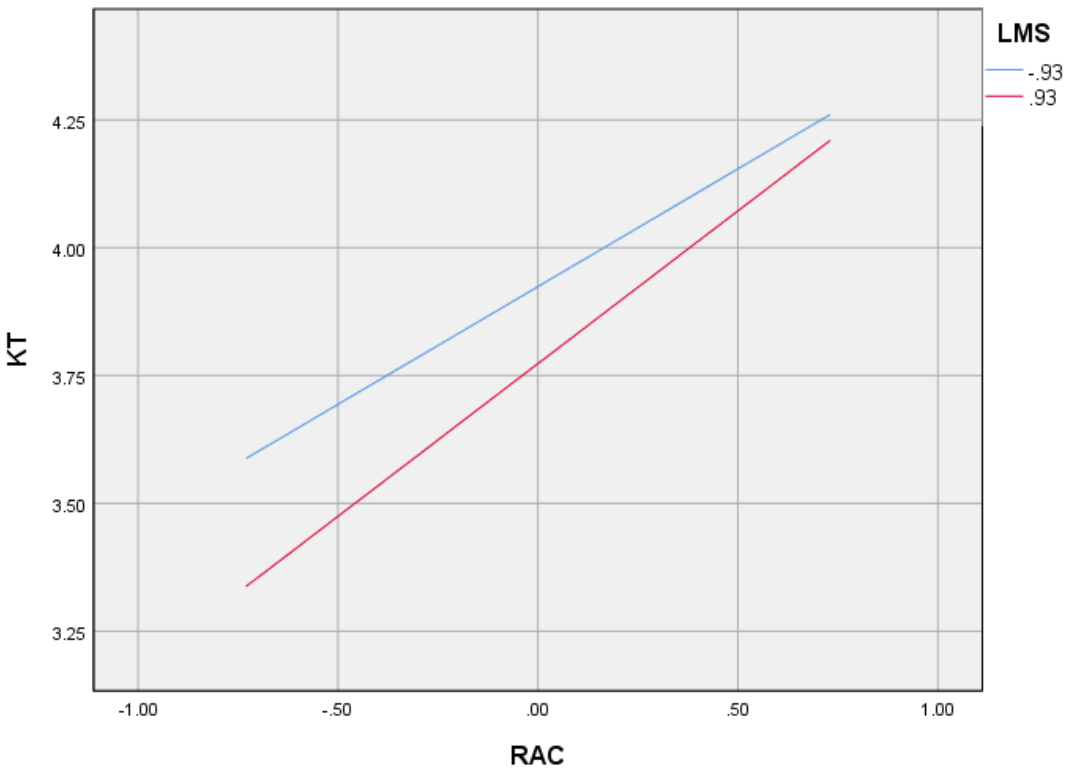


Figure 4.18: Moderating effect of LMS on the relationship of RAC & KT

In Table 28, the researcher has summarized the effects of LMS on the relationship between RRC and KT. It is observable that the impact is varying insignificantly at different levels of RRC.

4.14 Chapter Summary

The researcher in this has chapter reported on inferential statistics, which has enabled the researcher to come to conclusions, which can be inferred to the organizational context beyond the data collected. The process included many steps, which have been presented in this chapter in detail. Right after the data collection, the first step was to encoding, editing and entering the data into SPSS. The researcher has then performed descriptive analysis to describe the characteristics of research sample. The reliability and validity analysis have then been presented to assess the quality of the measures employed in this study. All used constructs were found to have good

reliability values ranged between 0.701 and 0.906, which was significantly higher than the cut-off point of 0.60 (Nunnally, 1978). Hence, the data was considered ready for the next stage of analysis.

Factor analysis for the different research variables was then undertaken mainly for three reasons. Firstly, to validate the measures; secondly to reduce the specific items tested to a more general classification to enrich theory development of all types of factors, including source oriented, recipient oriented, process oriented and organizational factors, included in the research model. Lastly, to create a set of factors to be treated as uncorrelated variables as an approach to handle the issue of multicollinearity in multiple regression model of the study. In the final stage of the data analysis, the researcher has tested the research hypotheses intended to be tested in this study.

The researcher has identified four direct hypotheses on the basis of the research model, presented in Figure 4.18. These direct hypotheses were aimed at examining the relationship between organizational knowledge transfer behaviour and its identified antecedents and consequences. The researcher has employed Structural Regression (SR) modeling using AMOS 23, to test these direct relationship hypotheses and approved that all the identified variables modeled to have a direct relationship in the research model have significant P values (less than 0.05), supporting the identified hypotheses except for Recipients' Retentive Capacity hypothesis.

Hypotheses H 5 and H 6 of the research model presented in this study were aimed at predicting the mediating effect of arduousness of the relationship between source and recipients (AR) in the relationship of the source's credibility (SC) and recipients' motivation to learn (RM) with knowledge transfer behaviour (KT). The

researcher has again employed AMOS 23 to test the mediating hypothesis. The results lead to the acceptance as full mediation in case of H 5 and in terms of partial mediating effect, in H6.

Hypotheses H 7 and H 8 presented in this study were aimed at predicting the moderating effect of Learning Management System (LMS) on the relationships among the recipients' absorptive capacity (RAC) and recipients' retentive capacity (RRC) with knowledge transfer behaviour (KT), respectively. The results led to the acceptance of moderating hypothesis H 7 and rejection of the H 8. The results summary of hypotheses testing is presented in Table 4.29.

Table 4.29: Results of hypotheses testing

Hypotheses	**Results**
Direct Effect Hypotheses	
H 1 There is a significant positive relationship between Recipients' Retentive Capacity and Organizational Knowledge transfer behaviour.	Rejected
H 2 There is a significant positive relationship between Recipients' Absorptive Capacity and Organizational Knowledge transfer behaviour.	Accepted
H 3 There is a positive relationship between recipients' motivation to learn to learn and knowledge transfer behaviour.	Accepted
H 4 There is a relationship between Sources' Credibility and the Organizational Knowledge transfer behaviour.	Rejected
Indirect Effect Hypotheses	
Mediation Hypotheses	
H 5 Arduousness of the relationship (AR) mediates the relationship between source's credibility (SC) and organizational knowledge transfer behaviour (KT).	Accepted
H 6 Arduousness of the relationship (AR) mediates the relationship between recipients' motivation to learn (RM) and organizational knowledge transfer behaviour (KT).	Accepted
Moderation Hypotheses	
H 7 LMS moderates the relationship between RAC and KT in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.	Accepted
H 8 LMS moderates the relationship between RRC and KT in such a way that the relationship is stronger when LMS is high and the relationship is weaker when LMS is low.	Rejected

Chapter 5: Discussion & Recommendations

5.1 Introduction

The researcher in this chapter has presented a discussion, based on the data collection, on the findings presented in the previous Chapter. An expansion on these inferences was presented in the form of hypotheses testing results, in terms of the context of this study. Finally, the researcher has presented the implications of the findings and how these findings have filled the knowledge gap identified in this study, hence contributing to the body of existing literature. The researcher has also highlighted the questions that can potentially be helpful for future researches.

The knowledge gap identified by the researcher is of utmost important to the organizations in the context of the study, namely the UAE in general and in particular to National Oil Company of Abu Dhabi. The implications of the findings of this study are also significant due to the emphasis on innovation and sustainability in the UAE. The area and findings of this study can potentially contribute directly to the goals of the UAE government as well as for organizations` progression in the region. Therefore, the discussion on the results presented in the previous chapter are crucial, as these findings have provided empirical evidences for the hypothesized inferences, which have been systematically utilized to theorize these inferences. Once these findings are reached and concluded, it can be tested and evaluated from other perspectives as well.

This study concentrated on identifying the role of different factors that contribute to knowledge transfer behaviour in the organisation, with a particular focus on the case study of ADNOC, an oil and gas industry in the UAE. ADNOC was selected for this study due to its extensive projects and hence diversified human resources in the organisation. According to Al-Ali (2008), despite the limits that the

public sector in Abu Dhabi has in regard to absorbing human resources, ADNOC has been instrumental in attracting and applying national human resources practices with the largest share in local market. However, the private sector has been experiencing a limited absorption of local workforce. It is understood from the perspective of this research that by deeply studying the process of knowledge transfer behaviour, there will be an opportunity, and perhaps with contribution to human capital development across all organisations. The findings derived from the study on ADNOC will be instrumental and possibly generalised and applied to other organisations. For the purpose of effective data gathering and accurate presentation, it was imperative to strategically approach the collection of the respective study findings. This would insure that necessary conclusions are reached. Knowledge transfer behaviour within the organisational environment is successful in instances where communication factors, such as encoding and decoding competencies, and source's credibility are observed in the organisation. Moreover, various knowledge factors, such as absorptive capacity, shared understanding, and arduousness of relationships among the employees, facilitate knowledge transfer behaviour. These factors include the intrinsic motivation of the recipient, the intrinsic motivation of the source, the recipient extrinsic motivation, and the extrinsic motivation of the source. These also facilitate knowledge transfer behaviour in the organisation (Ko et al., 2005). Therefore, the research was undertaken with the view of exploring and explicating the impact of different factors, which contribute to knowledge transfer behaviour in the organisations within the UAE especially in ADNOC as the case study.

To approach the collection and presentation of data, empirical analysis and specifically the quantitative methodology were utilised in this research. As part of the quantitative research design, the positivist research philosophy was employed in order

to improve the level of independence of the researcher in collecting and analysing the required data from ADNOC. Furthermore, for empirical analysis, there was further use of randomised controlled trials by carefully collecting the responses from the research participants in the organisation, using the questionnaire by taking into consideration the positivism paradigm. Approximately 500 participants from different projects at ADNOC took part in the study. The data gathered from the respondents was analysed through Excel, mainly utilising multiple regression analysis in order to determine whether to accept or to reject the research findings (Hair et al., 2017). The implementation of the methodology was adopted in a strategic manner whereby the researcher did not interfere with the data that was collected from the respondents. The following measure was crucial to make sure that the research findings were reliable, accomplished and valid for applying to this study and research findings. Therefore, the empirical analysis of the findings was vital in leading to the respective findings, and hence key conclusions about the hypotheses were developed in the introduction of this research.

5.2 Key Conclusions

The first key conclusion is that the absorptive capacity of the employees is crucial in influencing the rate of knowledge transfer behaviour. Based on the acceptance of this, it is fundamental for the organisation to realise that the absorptive capacity related to recognising, assimilating and applying the value of new information to the success of projects is vital for knowledge transfer behaviour within these projects. Having employees with a high absorptive capacity is an advantage to the organisations, such as ADNOC, in terms of ensuring that the aspect of knowledge transfer behaviour happens at the highest rate possible. Therefore, employees working

on the different projects within ADNOC tend to have a high absorptive capacity, which has been instrumental in facilitating knowledge transfer behaviour. It is imperative to indicate that organisations, such as ADNOC, benefit from knowledge transfer behaviour effectiveness based on the high absorptive capacity, hence increasing the rate of knowledge transfer behaviour among their employees.

There is an insignificant positive relationship between the recipient's retentive capacity and organisational knowledge transfer behaviour. This key conclusion suggests is that the retentive capacity of the recipient is insignificantly and positively related to organisational knowledge transfer behaviour. Thus, it is evident from this conclusion that organisations, such as ADNOC, should not rely on the retentive capacities of their employees to attain knowledge transfer behaviour within their organisational environments. It is important for organisations to look beyond the retentive capacities of their employees and focus on key elements that matter to the effectiveness of knowledge transfer behaviour. For instance, combining employees with different retentive capacities will be instrumental in promoting knowledge transfer behaviour, instead of only depending on those who have strong retentive capacities. Thus, a more strategic approach is needed when organisations deal with the retentive capacities of their employees in terms of the aspects of knowledge transfer behaviour. In tandem with the results, there should be minimal reliance on the retentive capacities of the employees when determining the aspects of knowledge transfer behaviour, within the organisation to ensure the optimal outcomes.

The second key conclusion of the study is that the recipients' motivation to learn has a significant positive impact on the organizational knowledge transfer behaviour. These findings are in line with the evidences as exist in the literature

content. These findings help the researcher to emphasize on the significance of employees' motivation, in order to achieve the organizational objective of the development of knowledge transfer behaviour. The motivated employees normally demonstrate more productivity with positive impact on the culture of the organization. The researcher has incorporated both intrinsic and extrinsic type of motivation and has concluded that for the effective development of knowledge transfer behaviour, both types of motivation of employees are vital for the organization. In light of this conclusion, the organizations must continue emphasizing on motivating the employees, in terms of both intrinsic and extrinsic motivation, in order to develop effective knowledge transfer behaviour.

The key conclusions in terms of indirect impacts included identification of two types of indirect relationships. The first type of indirect relationships validated in this study are mediatory impact. The findings of this study suggest that the arduousness of the relationship between the source and the recipients of the knowledge has a significant mediatory impact in the relationships of recipients' motivation and sources' credibility with the development of organizational knowledge transfer behaviour. The key conclusions in this regard are vital. The findings suggest a significant mediatory impact of arduousness of the relationship, partial in terms of the mediation between recipients; motivation and development of effective knowledge transfer behaviour. While the mediation is absolutely significant in terms of the relationship between the sources' credibility and the development of the organizational knowledge transfer behaviour. This implies that by controlling the arduousness of the relationship between source and recipients, organizations can benefit and manage the impacts of both recipients' motivation to learn and sources' credibility in the development of organizational knowledge transfer behaviour.

The final key conclusion in this study is in terms of moderation of LMS in the relationship between recipients' absorptive capacity and the development of knowledge transfer behaviour in the organization. The findings of the study suggest that LMS plays the role of a vital moderator, in the relationship of absorptive capacity and the development of the knowledge transfer behaviour. This conclusion suggests that by managing LMS in an optimal way, the organizations can enhance the impact of absorptive capacity of the recipients on the development of the knowledge transfer behaviour. Therefore, by optimizing the LMS, organizations can enhance the impact of absorptive capacity of the recipients on the development of the knowledge transfer behaviour.

5.3 Reasons for Non-findings

In this study, the researcher found some of the results, contrary to the findings in the existing body of the literature. These conflicting results have raised questions based on the findings in the regional context of this study.

The first question in the form of rejection of H 1, which meant that there is no sufficient evidence to imply a direct significant impact of RRC on the KT. These findings are in conflict with the results found in existing literature content. However, in the context of this study where leadership style is essentially transactional in nature, there is a sound logic of these outcomes. In a transactional style environment, emphasis is on getting the job done. Moreover, with the advancement of LMS, the retention factor has been undermined. Furthermore, the insignificance of the retention capacities will drive the emphasis shift from the retention to the absorption capacities of the employees. The focus shift is rather significant, as it enlightens that despite the role of employee` know-how and skills development, attention must be given upfront to the

policy of hiring right people in the first place, in consistent with the strategy of the right employee for the right job. Moreover, the findings suggest that more emphasis should be given to the right placement, other than striving to standardize the employee's development plan. In the same context, employees with the outdated knowledge and skills set in one role or functions, might not necessarily be so irrelevant for other roles and functions. Therefore, organizations tend to identify employee's strengths and area of improvement to address gaps between their knowledge, skills and the desired levels probably through job rotation, placements as well as training and development. However, the findings suggest that the effect of retention related aspects does not support knowledge sharing of employees among the team. To some extent, it may enhance their proficiency level in the current or evolved role, but with limited contribution (insignificant) to the development of knowledge transfer behaviour.

Another potential reason for the non-finding of the implied relationship can be attributed to the evolution in the LMS being a tool that capable to affect retention capacities of employees in a knowledge sharing culture. As such, the impact might be in the reverse order which require to be investigated further. This also shows how the relationships among different factors are evolving with the evolution of business environment. This implies close monitoring to business environment changes and responsive by research community and scholars towards the evolutions and disruptive emerging technology.

The next non-finding conflicting with the evidences in the existing body of literature is in terms of existence of insignificant but negative relationship between the source's credibility and the organisational knowledge transfer behaviour. The findings of the study suggest that the credibility of the source impacts organisational knowledge

transfer behaviour. The key point is that organisations, such as ADNOC, always have to consider the source's credibility of their oriental factors in their projects to attain a desirable level of knowledge transfer behaviour. If the human resources within the organisation are tend to rely on unreliable sources, then the process of knowledge transfer behaviour is ineffective. However, it is also important that the organizations must incorporate the technology transfer aspect into their contracts and agreements with the credible sources. In the utilisation of human resources, it is crucial that organisations, such as ADNOC, and other companies in the oil and gas sector consider the source's credibility to ensure transfer of the knowledge and reinforce the development of knowledge transfer behaviour. This is also derived from the business environment evolution that had led to creation of new form of relationship between the consultant and organization as an equal partner. The evolution can be reflected in terms of raising stakes of both parties in the consultation process and business impact. At one side, organizations may have powerful tools like LMS, capable of retaining external or internal knowledge being transferred. LMS can eliminate boundaries and knowledge transfer barriers, with easy access whenever is needed. On the other hand, consultants normally exert tremendous efforts in generating and providing up to date knowledge. Huge investment usually placed by consultants in research and development, utilising high quality and costly resources. Perhaps the ability of the organizations to retain and use the knowledge transferred to them may somehow lead to indirect loss of business for the consultants. The later may tends to protect own business secrets and reinforce their technical strengths, value proposition of their investments in research and development through treating the knowledge as intellectual properties. In view of agreements and scope of works, consultants tend to focus on expected deliverables rather than transferring knowledge to the recipients'.

Hence, the implications of non-finding is multi-fold, at one side, it can increase the arduousness of the relationship between the source and recipients while on the other hand, it can be counterproductive for the development of knowledge transfer behaviour in the organization, which is uncovered (non-finding) in this study. This non-finding justify the need for the role of research community to explore further the relationships, uncover business evolution, and develop recommendations to handle this change for the business domain.

The last non-finding in this study was in the form of rejection of H 5, which was aimed to test the significance of the moderation impact of LMS on the relationship between RRC and KT. This was also anticipated, after the rejection of H 2, as the moderation impact is bound to be insignificant on an insignificant direct relationship.

This non-finding is a result of the first non-finding uncovered and discussed in this study, relating to RRC and KT. Since RRC is found to have an insignificant impact on knowledge transfer behaviour, moderation of LMS also becomes insignificant in this case. As discussed earlier, LMS tend to facilitate the retention capacities of the employees of the organization rather than proposed relationship. Therefore, the moderation of LMS of the insignificant relationship between the retentions capacities of the recipients and knowledge transfer behaviour, is found to be insignificant as well.

Highlighting the conflicting findings in the research and literature is quite imperative being an indication of evolution in the relationships in dynamic business environment. It is therefore worthwhile for further investigation by researchers.

5.4 Implications for Practice

As presented earlier, the findings of this study have significance implications. These implications are critical in terms of the regional as well as industry context of this study. The implications of this study are also significant, as these emphasizes the alignment of the evolution in the modern business environment with operations of the businesses. The operationalization of this evolution in the modern business is, in terms of learning management systems and how they impact the development and evolution of the knowledge transfer behaviour of the employees in an organization. As it presents the workforce in an organization with an opportunity to avail the most relevant organizational knowledge at their own convenience. The ability of the employees is to coordinate with experts, both internally, consultants and even external to the organization, in the real time through modern and evolved learning management systems, which contribute to the development of knowledge transfer behaviour. With such opportunities, it becomes an operational aspect of the business and enables the business to embed knowledge transfer behaviour in day to day activities in the organization. These systems have significantly impacted the overall environment of the organization and has the ability to take organizational integration to higher level. It can be achieved through virtual elimination of barriers and facilitation of communication among different stakeholders in the organization, which is the main function of the modern learning management system. The revelations of this study have an impacts on the organizations, as both findings and non-findings of the study emphasize and highlight such relationships in practice. The practical implications of this impact penetrate deep into the most significant aspects of the organization, ranging from competitive advantage and succession planning.

Another important aspect of the practical implications of the non-findings of this study is the gap between evolution of the business environment and the research conducted in this field. The originality aspect of this study was identified by the researcher at the beginning of this work, over a period of three years. The added value contribution sustained over the study period till to date. To the best knowledge of the researcher, no research has been conducted in identifying the moderation effect of LMS, in terms of relationships between factors contributing to the development of knowledge transfer behaviour in the organization. Meanwhile, the advancements on the forefront of LMS and relevant systems eventually will become out dated. The gap between the evolution of technology and research on the implication of technological advancements is rather wide. The findings and non-findings analysis of the study also highlight the significant difference in the pace of evolution in the business environment amid technological advancements and the research conducted to uncover the implications of these evolutions.

Other aspect of the practical implication of the findings of this study include that given the absorptive capacity of the employees of the organization, learning management systems affect the development of organizational knowledge transfer behaviour in such a way that their retentive capacities become insignificant. The non-finding has dual practical implication. At one side, from the organizational perspective, the learning management systems liberate the organizations from the dependence on the employees by continuously evolving the expertise of the whole team. With the development of knowledge transfer behaviour in the organization by facilitating the opportunities of availing the most relevant knowledge among the organizational workforce, the teams become more coherent. On the other hand, the workers are also to much extent, liberated from their knowledge retention capacities. At the same time,

with the learning management systems in place, the significance of absorptive capacity of the employees elevate, while liberating them from retentive capacity. In this regard, both findings and non-findings of the study have significant practical implications and can potentially contribute to the evolution of best practices and shifts in the focus of the organizational emphasis and efforts.

In terms of both practical and theoretical implications of the study, the researcher has genuinely incepted and has successfully highlighted the moderation impact of learning management system on the relationships of factors contribute to the effectiveness of the organizational knowledge transfer behaviour. In this regard, both findings and non-findings of the study has practical implications. At one end, through findings, the study has provided support to the operationalization of prevailing theories in the body of existing literature. On the other end, through non-findings, the study has also challenged the established theories and practices, in its context. The findings of the study have also provided support to the constructs in the body of existing literature, by extending them to the context of the United Arab Emirates in general. This has confirmed evidences including hypothesis H 2, which validate the significance of the impact of recipients' absorptive capacity on knowledge transfer behaviour. This finding has significant implications, as it emphasizes the significance of absorptive capacity of the workers. In practice, it supports the idea of increased emphasis on hiring the most capable workforce to start with and continuously increase their absorptive capability through training and development. In terms of findings of this study, Hypothesis H 3 was also confirmed, which implied that recipients' motivation to learn has a significant impact on knowledge transfer behaviour. Practical implications of this findings emphasize on the health of the relationship between source and recipients of the organization. It strengthens the idea of direct significant

relationship between source and recipients, with the development of organizational knowledge transfer behavior, by emphasizing it.

By accepting hypothesis H 5, the study provided evidence of the presence of mediation of arduousness of relationship, between the source and recipients, and the impact of sources' credibility on knowledge transfer behaviour. The mediation was found to be full in nature and impact was found to be significant. In practical terms, this would mean an increased emphasize on the health of the relationship between source and recipients, in order to translate the credibility of the source into the development of knowledge transfer behaviors among recipients. Therefore, it can be concluded that no matter the credibility of the source or consultant, if the relationship between source and recipients is not healthy, it cannot contribute positively to the development of the knowledge transfer behavior. On the contrary, it will become increasing counter-productive. By accepting H 6, the study provided evidence of the presence of mediation of arduousness of relationship, between the source and recipients and the impact of recipients' motivation to learn on knowledge transfer behaviour. The mediation was found to be partial. However, in practical terms, this would mean an increased emphasize on the health of the relationship between source and recipients, in order to attain and maintain a high level of motivation to learn among recipients, which can then be directly translated into the development of knowledge transfer behaviors. finally, the researcher has presented evidence for the moderation of learning management system in the relationship between recipients' absorptive capacity and knowledge transfer behaviour. These findings have provided support to the constructs in the body of existing literature, even in context of this study.

On the other hand, the study has also raised questions about the validity of some of the factors' contribution to the organizational knowledge transfer behaviour. These questions are specific to the context of this study and can easily be extended to the regional contexts. These contrasting theoretical implications include rejection of hypothesis H 1, which contrasts the not only existing but also well received theories of significant impact of recipients' retentive capacity on knowledge transfer behaviour. In practical terms, this finding suggests that retaining the employees unwilling to develop a knowledge transfer behaviour does not have significant impact on the development of organizational knowledge transfer behaviour in the organization. These non-findings can be attributed to the regional context of this study, as highlighted earlier.

Finally, contrary to the discussion leading to the development of hypothesis H 8, where the researcher has incorporated a significance moderating impact of learning management system on the relationship between recipients; retentive capacity and knowledge transfer behaviour, the results show moderation impact of LMS to be insignificant on the above mentioned relationship. This was expected as the original direct relationship between recipients; retentive capacity and knowledge transfer behaviour was found to be insignificant to start with. This also contradicts the established theories in the body of existing literature. As discussed earlier in this section, the reasoning for these findings can also be directly associated with the contextual reasoning of this study. As in large organizations, especially with a visible dominance of transactional leadership style, also prevailing in the broader context of the United Arab Emirates, emphasis is given on the organization as a whole. The retention is systematically and seamlessly incorporated into the organization, rather than being highlighted, in order to maintain a control over the workforce. Therefore,

the questions raised in this study in the form of non-findings should be subject to further studies, in order to discover further insights into the phenomena.

The researcher highlighted the above findings of this study have both theoretical as well as practical implications. These practical implications range from micro-management of day-to-day activities, like healthy coordination between source and recipients of the knowledge, to the macro-level decision making like succession planning and competitive advantage of the organization, especially through innovation, achieved by developing knowledge transfer behaviour among the employees of the organization. Following is a discussion on these practical implications of the findings of this study.

Various tools and methods have been recommended to use in knowledge transfer behaviour. The first notable tool is knowledge bases. Based on this tool, every company is expected to create a knowledge base, which usually takes the form of the intranet portal or a wiki-based mini-site that contains all the fundamental queries that an employee may need to know from the organization (Treser 2016). It is worth noting that a knowledge base as a tool also comprises the information on key procedures and issues that the organization has encountered in the past. This information plays an instrumental role in helping employees understand what the organization is about and share with other companies and workers. To be a more effective tool, a knowledge base should be frequently updated and maintained to make sure that it comprises all the necessary information to be used by the employees.

The second notable tool is a knowledge map. This tool plays an instrumental role in knowledge transfer behaviour, as it makes it easier for employees to connect to sophisticated experts in a specific area of knowledge. In the case of the oil and gas

sector, a drilling employee may be able to connect with a drilling expert to be guided on the best practice, as it relates to drilling of oil in a sustainable manner. The importance of a knowledge map is being helpful for employees in obtaining the right answers provided by the experts (Ghani, 2009). Thus, organizations are bound to continue linking employees to experts with the view of equipping them with more knowledge of the best approaches to perform some of their fundamental responsibilities in such sectors as manufacturing and drilling in a sustainable manner.

The third notable method to be used in knowledge transfer behaviour is communities of practice. The communities of practice are the professional communities that facilitate the union of members based on their common sphere of activity or common goal within the organization (Ramanigopal, 2012). For instance, the employees involved in oil exploration or marketing could effectively cooperate through the communities of practice to ensure that they do their best to share the required knowledge for the delivery of the needed outcomes in the organization. The communities of practice are an effective method that ensures that there is common knowledge where employees share their tips and experiences on the fundamental knowledge concerning how to perform the different activities that they get involved in (Van Den Hooff and De Ridder, 2004). The best community of practice is one that is self-regulating and has the capacity to make sure that information is being shared in a regulated manner that is bound to help every employee in the organization.

The last key method of knowledge transfer behaviour used in the organization is the bank of ideas. This method plays an instrumental role in collecting and storing key ideas and the best practices that are generated within the organization. The bank of ideas helps companies to be more innovative based on the information that is stored

and used for future decisions and innovations in the organization (Kaiser et al., 2008). It is worthwhile indicating that some new ideas can be stored for purposes of utilization in the process of decision-making and setting the foundation for innovations that are to take place in the organization in the future. More ideas and comments are added to the bank of ideas for purposes of ensuring that there is transparent sharing of information that is helpful to the organization both in the short and the long terms.

One of the (arguably) most significant implications of the findings of this study is the ability to highlight a moderation impact of LMS on the relationship between RAC and KT. This emphasis has enabled the researcher to successfully highlight the moderation impact of LMS on the factors contributing to the development of organizational knowledge transfer behaviour, which have not been highlighted earlier. This increases the significance and emphasizes a need to increase sophistication of such tools, in order to increase the effectiveness of the organizational knowledge transfer behaviour. In light of these findings, the decision makers can adjust their resource allocation to incorporate this finding into their decisions, hence contributing to the effectiveness of the process of developing organizational knowledge transfer behaviour.

Another important aspect of the findings in this study is in the form of rejection of H4. The important aspect of this hypothesis is that the impact is found to be negative and insignificant (at 5% significance level, and significant at 10% significance level), which is contrary to the findings in the existing literature and practice as well. As source's credibility is believed to be a contributor to the effectiveness of KT. However, the findings of this study present as different picture and provide evidence of a contradiction. This signifies that in practice the decision makers must not blindly trust

the reputation of the consultants, but must also ensure that the consultation leads to the development of knowledge transfer behaviour as well as getting the job done. In the modern business age, this equates to technology transfer, which is something hard to negotiate with these consultants. However, an emphasis on this aspect and making technology transfer as part of the agreements can bear fruits in the form of development of effective knowledge transfer behaviour.

Finally, acceptance of both H 5 and H 6, signify a vital aspect of the modern business culture. Acceptance of H 5 coupled with H 2 in this study highlight that the recipients' retention capacity is not significant for the effectiveness of KT. However, acceptance of H 6 signifies that RAC has a significant impact on KT, which is further moderated by LMS. This implies that in the event of high absorptive capacity of the recipients, there retention capacity becomes less significant. In practical terms, organizations must put the highest emphasis on the hiring of capable workforce and allocate resources to build highly capable teams and it will systematically lead to the effectiveness of KT, which can be translated to organizational competitive advantage over its competitors.

5.5 Limitations

The researcher has highlighted time and again that the study has its contextual uniqueness, as it was conducted in the UAE context, which is very different to the rest of the world, in many aspects highlighted earlier. The study was focused on a single Abu Dhabi based organization i.e. ADNOC. This deemed the novelty of the study, as it has filled a gap, in terms of its genuine contribution, and addressed a previously overlooked aspect of the contextual perspectives of the study. At the same time, the context of the study being different from the rest of the world and even in the region

itself. The study was applied on organization being recognized relatively special in terms of its size, culture and economic contribution compare to all organizations in the UAE. Therefore, it is highly recommended that the findings of this study must be considered with caution. These findings might be highly relevant to the decision makers in the organization, it focused on and might not be as relevant or directly applicable in the contexts, other than that of this study.

Another important limitation of this study is that most of the findings of this study have considered transactional style of leadership and its implications implicitly. However, it is always advisable to incorporate leadership style in further studies, especially in context of the UAE. Although, there has been a shift, slow and steady in the leadership style in the UAE. Therefore, later studies must also incorporate this contingency into the research model.

The study also has a genuinely introduced aspect of moderation of LMS into the research model. This interactional relationship has been supported by the evidence in this study, in terms of its context. However, these findings must be used with caution. As discussed earlier, the study also highlighted the gap matching technological advancements significantly, evolving business environment in modern organizations. Since this interactional relationship introduced and emphasized in this study is yet to be tested or even peer-reviewed, it is recommended to use pilot projects or even further research on the subject matter, before a full scale implementation or decisions related to these findings.

Another important technological development, occurred at the final stage of this research, can be considered as limitation in the field of business and technology integration. This technological advancement is in the form of ‘quantum computational

supremacy' presented by Arute, F., Arya, K., Babbush, R., Bacon, D., Bardin, J. C., Barends, R., ... & Burkett, B. (2019). The authors have described the achievement of quantum computational supremacy, which is the ability of quantum computers to perform tasks even faster than the conventional super computers. As a key to sustainability of the companies being at risk, the necessity of measures to ensure the security of the systems like LMS are yet to be unfolded and still unconceivable. Therefore, any study at this time, that aim to deal with an integration of business and technological evolutions and fail to incorporate the implications of this technological advancement, would have considerable limitations.

Finally, extra care must be given to the findings of this study, highlighting contradictions to the findings in the body of existing literature. As these contradictory finding are strictly associated to the context of this study. Therefore, further research is recommended, in case of decision making or even advanced research, especially the ones align to the context of this study. Despite these limitations of this study, it has provided answers to certain questions intended to be answered in this study. At the same time, it has also raised questions and can be concluded that the researcher has achieved the bottom line or ultimate goal of this study, to contribute and extend the body of existing literature.

5.6 Future Research Directions

At the end of this study, the researcher has presented recommendations for the direction of future studies, on the subject matter. It is important to highlight that the study presented here, has the limitations above mentioned and is preliminary in terms of the genuinely integrated aspects of it. The study has raised the following questions in terms of findings and non-findings both. The findings related to LMS incorporated

as a moderator have provided bases for the further research to explore this aspect of the knowledge transfer behaviour. On the other hand, non-findings in terms of the existing and well established theories of existing literature regarding implication of sources' credibility in terms of knowledge transfer behaviour has also worked as a thought provoker, at least in the contextual settings of this study. Therefore, the future research, especially the organizational or professional research, must incorporate these findings and non-findings of this study in the research model. In respect of important technological development and towards the limitations in the field of business and technology integration, future research should consider technological advancement such as achievement of 'quantum computational supremacy', which would shape the future of all business fields particularly related to advanced technology. Failing to do so will result in widening the gap between the technological evolution of the business environment and their implications. Hence, it is imperative for scholars and researchers to proceed with further studies aiming for identifying and addressing these gaps in a timely manner.

On the final note for the direction of further research, any future research conducted in the contexts similar to this study must also highlight the implications of contextual aspects of this study. Although a strong belief, in both the scholarly and professional researchers in the region, is that enough work or research has been done to emphasize the significance of the implications of prevailing leadership style in the region to cause a shift from prevailing transactional leadership style to the desired transformational leadership style. Based on this belief the researcher has incorporated the leadership style implicitly in this study. It is also recommended, for future studies to continue incorporating leadership style in their study explicitly in the form suitable to their studies, in order to keep on emphasizing the implications and need for a shift

in the leadership style in the contextual settings of this study. This is necessary to increase the pace of the shift, which will bring the UAE closer to its sustainability goals, in general and the organizations under consideration in particular.

References

Aladwani, A. (2002). The development of two tools for measuring the easiness and usefulness of transactional Web sites. European Journal of Information Systems, 11, 223-234.

Al-Ali, J. (2008). Emiratization: drawing UAE nationals into their surging economy. International Journal of Sociology and Social Policy, 28(9/10), 365-379.

Alavi, M., & Leidner, D. (1999). Knowledge management systems: issues, challenges, and benefits. Communications of the Association for Information Systems, 1(1), 7-19.

Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: assessing intrinsic and extrinsic motivational orientations. Journal of Personality and Social Psychology, 66(5), 950-966.

Anderson, R. A., & McLean, V. L. (1974). Design of experiments: a realistic approach. Sage Publications.

Archibald, J. D. (2013). Variation and taxonomy of Asiamerican eutherian mammal Paranyctoides. Canadian Journal of Earth Sciences, 50(9), 895-903.

Argote, L. (1999). Organizational Learning: Creating. Retaining and Transferring, 25, 45-58.

Argote, L., & Ingram, P. (2000). Knowledge transfer behaviour: A basis for competitive advantage in firms. Organizational Behaviour and Human Decision Processes, 82(1), 150-169.

Arute, F., Arya, K., Babbush, R., Bacon, D., Bardin, J. C., Barends, R., ... & Burkett, B. (2019). Quantum supremacy using a programmable superconducting processor. Nature, 574(77), 505-510.

Avogadro, P., Calegari, S., & Dominoni, M. A. (2016). Expert students in social learning management systems. Interactive Technology and Smart Education, 13(3), 202-217.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. Journal of the Academy of Marketing Science, 16(1), 74-94.

Baum, J. A., & Ingram, P. (1998). Survival-enhancing learning in the Manhattan hotel industry, 1898–1980. Management Science, 44(7), 996-1016.

Bender, S., & Fish, A. (2000). The transfer of knowledge and the retention of expertise: the continuing need for global assignments. Journal of Knowledge Management, 4(2), 125-137.

Bennett, P. D. & Harrell, D. (1975). The Role of Confidence in Understanding and Predicting Buyers' Attitudes and Purchase Intentions. Journal of Consumer Research, 12, 110-17.

Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107(2), 238-246.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. Psychological Bulletin, 88(3), 588-596.

Bento, F. (2018). Complexity in the oil and gas industry: a study into exploration and exploitation in integrated operations. Journal of Open Innovation: Technology, Market and Complexity, 4(1), 11-22.

Berument, M. H., Ceylan, N. B., & Dogan, N. (2010). The impact of oil price shocks on the economic growth of selected MENA countries. The Energy Journal, 23, 149-176.

Bian, X. (2011). The role of brand image, product involvement, and knowledge in explaining consumer purchase behaviour of counterfeits: Direct and indirect effects. European Journal of Marketing, 45(1/2), 191-216.

Brereton, R. G. (2015). Pattern recognition in chemometrics. Chemometrics and Intelligent Laboratory Systems, 149, 90-96.

Bukowitz, W. R., & Williams, R. L. (1999). Looking Though the Knowledge Glass. Cio-Framingham, 13, 76-85.

Bunniss, S., & Kelly, D. R. (2010). Research paradigms in medical education research. Medical Education, 44(4), 358-366.

Byrne, B. M. (2016). Structural equation modeling with AMOS: Basic concepts, applications, and programming. Routledge.

Calder, B. J., & Staw, B. M. (1975). Self-perception of intrinsic and extrinsic motivation. Journal of Personality and Social Psychology, 31(4), 599-612.

Carlile, P. R., & Rebentisch, E. S. (2003). Into the black box: The knowledge transformation cycle. Management Science, 49(9), 1180–1195.

Chang, Y. Y., Gong, Y., & Peng, M. W. (2012). Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. Academy of Management Journal, 55(4), 927-948.

Chen, J., & McQueen, R. J. (2010). The impact of national cultures on structured knowledge transfer. Journal of Knowledge Management, 14(2), 228-242.

Child, D. (1990). The essentials of factor analysis. Cassell Educational. New Jersey: Lawrence Erlbaum Associates.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. Modern Methods for Business Research, 295(2), 295-336.

Cohen, J., & Cohen, P. (1975), Applied Multiple Regression/Correlation Analysis for the Behavioural Sciences. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. Administrative Science Quarterly, 35(1), 128-152.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. Psychological Review, 107(2), 261-274.

Cooper, D. R., & Emory, C. W. (1995). Business Research Methods. Richard D. Irwin. Inc., Chicago.

Cote, J. A., & Buckley, M. R. (1987). Estimating trait, method, and error variance: Generalizing across 70 construct validation studies. Journal of Marketing Research, 24(3), 315-318.

Croarkin, C., & Tobias, P. (2002). NIST/SEMATECH engineering statistics Internet handbook. New York, NY: Routledge.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of test. Psychometrika, 16(3), 297-334.

Darroch, J. (2003). Developing a measure of knowledge management behaviors and practices. Journal of Knowledge Management, 7(5), 41-54.

David, F. (2016). Qualitative research. Sage Publications.

Davies, T., Cullen, M. J. P., Malcolm, A. J., Mawson, M. H., Staniforth, A., White, A. A., & Wood, N. (2005). A new dynamical core for the Met Office's global and regional modelling of the atmosphere. Quarterly Journal of the Royal Meteorological Society, 131(608), 1759-1782.

Day, S. B., & Goldstone, R. L. (2012). The import of knowledge export: Connecting findings and theories of transfer of learning. Educational Psychologist, 47(3), 153-176.

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination human behaviour. New York: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behaviour. Psychological Inquiry, 11, 227-268.

Douglas, K. M., & Sutton, R. M. (2003). Could you mind your language? An investigation of communicators' ability to inhibit linguistic bias. Journal of Language and Social Psychology, 27(2), 123-139.

Droege, S. B., & Hoobler, J. M. (2003). Employee turnover and tacit knowledge diffusion: A network perspective. Journal of Managerial Issues, 12, 50-64.

Drucker, P. F. (1993). Managing in turbulent times. Routledge.

Druckman, D. E., & Bjork, R. A. (1991). Learning, remembering, believing: Enhancing human performance. National Academy Press.

Dunnette, D. (1972). Comments on Abrahams and Alfs Pratfalls in Moderator Research. Journal of Applied Psychology, 56, 252-263.

Edwards, J. S. (2008). Knowledge management in the energy sector: review and future directions. International Journal of Energy Sector Management, 2(2), 197-217.

Eichhorn, B. R. (2014). Common method variance techniques. Cleveland State University, Department of Operations & Supply Chain Management. Cleveland, OH: SAS Institute Inc.

Engelman, R. M., Fracasso, E. M., Schmidt, S., & Zen, A. C. (2017). Intellectual capital, absorptive capacity and product innovation. Management Decision, 55(3), 474-490.

Fairchild, A. J., Horst, S. J., Finney, S. J., & Barron, K. E. (2005). Evaluating existing and new validity evidence for the Academic Motivation Scale. Contemporary Educational Psychology, 30(3), 331-358.

Farrar, D. E., & Glauber, R. R. (1967). Multicollinearity in regression analysis: the problem revisited. The Review of Economic and Statistics, 23, 92-107.

Fidalgo-Blanco, Á., García-Peñalvo, F. J., Sein-Echaluce, M. L., & Conde-González, M. Á. (2014). Learning content management systems for the definition of adaptive learning environments. In Computers in Education (SIIE), 2014 International Symposium on (pp. 105-110), IEEE.

Filius, J. D., Meeussen, J. C., Lumsdon, D. G., Hiemstra, T., & van Riemsdijk, W. H. (2000). Modeling the binding of fulvic acid by goethite: the speciation of adsorbed FA molecules. Geochimica et Cosmochimica Acta, 67(8), 1463-1474.

Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. Academy of Management Review, 10(4), 803-813.

Garavan, T. N., Morley, M., Gunnigle, P., & Collins, E. (2001). Human capital accumulation: the role of human resource development. Journal of European Industrial Training, 25(2/3/4), 48-68.

García-Holgado, A., & García-Peñalvo, F. J. (2016). Architectural pattern to improve the definition and implementation of eLearning ecosystems. Science of Computer Programming, 129, 20-34.

Gardner, E. (1987). Maximum storage capacity in neural networks. EPL (Europhysics Letters), 4(4), 481-493.

Gaskin, J. (2012). Confirmatory factor analysis. Gaskination's StatWiki. Sage Publications.

Gerwin, D., & Moffat, L. (1997). Withdrawal of team autonomy during concurrent engineering. Management Science, 43(9), 1275-1287.

Ghani, S. R. (2009). Knowledge management: tools and techniques. DESIDOC Journal of Library & Information Technology, 29(6), 33-38.

Grant, R. M. (2013). The development of knowledge management in the oil and gas industry. Universia Business Review, 40, 92-125.

Grewal, D., Gotlieb, J., & Marmorstein, H. (1994). The moderating effects of message framing and source's credibility on the price-perceived risk relationship. Journal of Consumer Research, 21(1), 145-153.

Gulati, R., Lawrence, P. R., & Puranam, P. (2005). Adaptation in vertical relationships: Beyond incentive conflict. Strategic Management Journal, 26(5), 415-440.

Gupta, A., & Kumaraguru, P. (2012). Credibility ranking of tweets during high impact events. In Proceedings of the 1st workshop on privacy and security in online social media. Sage Publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. Journal of the Academy of Marketing Science, 45(5), 616-632.

Hamel, G. (1991). Competition for competence and inter-partner learning within international strategic alliances. Strategic Management Journal, 12(31), 83-103.

Hamilton, J. D. (2008). Understanding crude oil prices (No. w14492). National Bureau of Economic Research. New York, NY: Routledge.

Hart, D. (2017). Melanesia: A geographical interpretation of an island world. London: Methuen Press.

Hau, Y. S., Kim, B., Lee, H., & Kim, Y. G. (2013). The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions. International Journal of Information Management, 33(2), 356-366.

Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multi-categorical independent variable. British Journal of Mathematical and Statistical Psychology, 67(3), 451-470.

Hitt, L. M., Wu, D. J., & Zhou, X. (2002). Investment in Enterprise Resource Planning: Business Impact and Productivity Measures. Journal of Management Information Systems, 19, 71-98.

Hu, L. T., & Bentler, P. M. (1995). Evaluating model fit. Sage publications.

Huber, R. (1991). Accurate bond and angle parameters for X-ray protein structure refinement. Acta Crystallographica Section A: Foundations of Crystallography, 47(4), 392-400.

Hummel, J. E., & Holyoak, K. J. (2003). A symbolic-connectionist theory of relational inference and generalization. Psychological Review, 110(2), 220-233.

Hung, W. L., & Yang, M. S. (2004). Similarity measures of intuitionistic fuzzy sets based on Hausdorff distance. Pattern Recognition Letters, 25(14), 1603-1611.

Islam, M. A., Kabir, G., Asif, M., & Hameed, B. H. (2015). Combustion kinetics of hydrochar produced from hydrothermal carbonization of Karanj (Pongamia pinnata) fruit hulls via thermogravimetric analysis. Bioresource Technology, 194, 14-20.

Kaiser, J. M., Conrad, J., Köhler, C., Wanke, S., & Weber, C. (2008). Classification of tools and methods for knowledge management in product development. Bioresource Technology, 12, 33-45.

Kalebic, T., Garbisa, S., Glaser, B. and Liotta, L.A. (1983). Basement membrane collagen: degradation by migrating endothelial cells. Science, 221(46), 281-283.

Kalling, T. (2003). Knowledge management and the occasional links with performance. Journal of Knowledge Management, 7(3), 67-81.

Khusainova, R. M., Shilova, Z. V., & Curteva, O. V. (2016). Selection of appropriate statistical methods for research results processing. International Electronic Journal of Mathematics Education, 11(1), 303-315.

Kim, L. (2001). Absorptive capacity, co-opetition, and knowledge creation. Knowledge emergence: Social, technical, and evolutionary dimensions of knowledge creation. New York, NY: Routledge.

Kline, R. B. (2005). Methodology in the social sciences. New York, NY: Routledge.

Ko, D. G., Kirsch, L. J., & King, W. R. (2005). Antecedents of knowledge transfer from consultants to clients in enterprise system implementations. MIS Quarterly, 55, 59-85.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capacities, and the replication of technology. Organization Science, 3(3), 383-397.

Kolenikov, S. (2009). Confirmatory factor analysis using confa. The Stata Journal, 9(3), 329-373.

Kotabe, M., Swan, K. S., & Allred, B. B. (2003). Exploring robust design capabilities, their role in creating global products, and their relationship to firm performance. Journal of Product Innovation Management, 22(2), 144-164.

Krauss, R. M. & Fussell, S. R. (1990). Mutual knowledge and communicative effectiveness. Intellectual teamwork. Social and technological foundations of cooperative work. Theory, Research and Practice, 7(4), 297-312.

Krummel, J.R., Gardner, R.H., Sugihara, G., O'neill, R.V. and Coleman, P.R. (1987). Landscape patterns in a disturbed environment. Oikos, 52, 321-324.

Lacity, M. C., & Willcocks, L. P. (1998). An empirical investigation of information technology sourcing practices: Lessons from experience. MIS Quarterly, 22(3), 32-40.

Lave, J. (1988). Cognition in practice: Mind, mathematics and culture in everyday life. Cambridge University Press.

Liebowitz, S. J. (2002). File Sharing: Creative Destruction or Just Plain Destruction?. Journal of Law and Economics, 49(1), 1-28.

Lippman, S. A., & Rumelt, R. P. (1982). Uncertain imitability: An analysis of interfirm differences in efficiency under competition. The Bell Journal of Economics, 418-438.

Little, T. D., Card, N. A., Bovaird, J. A., Preacher, K. J., & Crandall, C. S. (2007). Structural equation modeling of mediation and moderation with contextual factors. Modeling Contextual Effects in Longitudinal Studies, 12, 207-230.

Losch, A. (1954). Economics of location. New York, NY: Routledge.

Lozinsky, S. (1998). Enterprise-wide software solutions: integration strategies and practices. Reading, MA: Addison-Wesley.

Ludington-Hoe, S. M., Cranston, G., Simpson, S., Hollingsead, A., Argote, L. A., & Rey, H. (1999). Birth-related fatigue in 34–36-week preterm neonates: Rapid recovery with very early kangaroo (skin-to-skin) care. Journal of Obstetric, Gynecologic, & Neonatal Nursing, 28(1), 94-103.

MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63, 539-569.

Mahalanobis, P. C. (1927). Report on rainfall and floods in North Bengal, 1870-1922. Bengal Secretariat Book Depot.

Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. Management Science, 52(12), 1865-1883.

March, J. G. (1991). Exploration and exploitation in organizational learning. Organization Science, 2(1), 71-87.

Markus, M. L., & Tanis, C. (2000). The enterprise systems experience-from adoption to success. Framing the domains of IT research. Glimpsing the future through the past. Organization Science, 173(20), 207-173.

Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups. Psychological Bulletin, 97(3), 562-573.

Martin, D. J. (2000). Relation of the therapeutic alliance with outcome and other variables: a meta-analytic review. Journal of Consulting and Clinical Psychology, 68(3), 438-446.

McCroskey, J. C., Hamilton, P. R., & Weiner, A. N. (1974). The effect of interaction behaviour on source's credibility, homophily, and interpersonal attraction. Human Communication Research, 1(1), 42-52.

Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. Psychological Bulletin, 105(1), 156-168.

Minbaeva, D., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. (2003). MNC knowledge transfer, subsidiary absorptive capacity, and HRM. Journal of International Business Studies, 34(6), 586-599.

Myers, R. H., & Myers, R. H. (1990). Classical and modern regression with applications (Vol. 2). Belmont, CA: Duxbury Press.

Nelson, K. M., & Cooprider, J. G. (1996). The contribution of shared knowledge to IS group performance. MIS Quarterly, 23, 409-432.

Nguyen, H., & Mohamed, S. (2011). Leadership behaviors, organizational culture and knowledge management practices: An empirical investigation. Journal of Management Development, 30(2), 206-221.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. Organization Science, 5(1), 14-37.

Nonaka, I., & Takeuchi, H. (1991). The knowledge-creating company. The Economic Impact of Knowledge, 23, 183-196.

Nord, W. R., & Tucker, S. (1987). Implementing routine and radical innovations. Free Press.

Nunnally, J. (1978). Psychometric methods. Sage Publications.

Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). Practical Assessment, Research & Evaluation, 9(6), 1-12.

Osterloh, M., & Frey, B. S. (2000). Motivation, knowledge transfer behaviour, and organizational forms. Organization Science, 11(5), 538-550.

Perez, J. R., & Pablos, P. O. D. (2003). Knowledge management and organizational competitiveness: a framework for human capital analysis. Journal of Knowledge Management, 7(3), 82-91.

Perloff, D., Grim, C., Flack, J., Frohlich, E. D., Hill, M., McDonald, M., & Morgenstern, B. Z. (1993). Human blood pressure determination by sphygmomanometry. Circulation, 88(5), 2460-2470.

Peters, W. S., & Champoux, J. E. (1979). The use of moderated regression in job redesign decisions. Decision Sciences, 10(1), 85-95.

Polanyi, M. (1962). Tacit knowing: Its bearing on some problems of philosophy. Reviews of Modern Physics, 34(4), 601-617.

Price, J. L., & Mueller, C. W. (1986). Absenteeism and turnover of hospital employees. JAI press.

Ramanigopal, C. S. (2012). Knowledge Management for the Oil and Gas Industry: Opportunities and Challenges. Asian Journal of Business and Economics, 2(24), 1-14.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. International Journal of Research in Marketing, 26(4), 332-344.

Rogelberg, S. G., & Stanton, J. M. (2007). Introduction: Understanding and dealing with organizational survey nonresponse. Sage Publications.

Rumelt, R. P. (1991). How much does industry matter?. Strategic Management Journal, 12(3), 167-185.

Sarkki, S., Rantala, L., & Karjalainen, T. P. (2015). Fit between conservation instruments and local social systems: cases of co-management and payments for ecosystem services. Change and Adaptation in Socio-Ecological Systems, 2(1), 23-35.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students. Pearson Education.

Scheiter, K., Gerjets, P., & Schuh, J. (2010). The acquisition of problem solving skills in mathematics: How animations can aid understanding of structural problem features and solution procedures. Instructional Science, 38, 487–502.

Sharma, S., Durand, R., & Gur-Arie, O. (1981). Identification and Analysis of Moderator Variables. Journal of Marketing Research,18(3), 291-300.

Shihab, M. (2001). Economic Development in the UAE. United Arab Emirates: a new perspective. Skyline Business Journal, 62, 1-11.

Singh, A. S. (2008). Tracking of childhood overweight into adulthood: a systematic review of the literature. Obesity Reviews, 9(5), 474-488.

Singley, M. K., & Anderson, J. R. (1989). The transfer of cognitive skill (No. 9). Harvard University Press.

Smith, G. J. D., Naipospos, T. S. P., Nguyen, T. D., De Jong, M. D., Vijaykrishna, D., Usman, T. B., ... & Leung, Y. H. C. (2006). Evolution and adaptation of H5N1 influenza virus in avian and human hosts in Indonesia and Vietnam. Virology, 350(2), 258-268.

Soh, C., Kien, S. S., & Tay-Yap, J. (2000). Cultural fits and misfits: is ERP a universal solution? Communications of the ACM, 43(4), 47-47.

Sparrow, P. R. (2015). What is the value of talent management? Building value-driven processes within a talent management architecture. Human Resource Management Review, 25(3), 249-263.

Suhr, D. D. (2006). Exploratory or confirmatory factor analysis?. Sage Publications.

Sutherland, M., & Jordaan, W. (2004). Factors affecting the retention of knowledge workers. SA Journal of Human Resource Management, 2(2), 55-64.

Syed-Ikhsan, S. O. S. B., & Rowland, F. (2004). Benchmarking knowledge management in a public organisation in Malaysia. Benchmarking: An International Journal, 11(3), 238-266.

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. Strategic Management Journal,17(2), 27-43.

Szulanski, G., Ringov, D., & Jensen, R. J. (2016). Overcoming stickiness: How the timing of knowledge transfer methods affects transfer difficulty. Organization Science, 27(2), 304-322.

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6. bs.). Pearson Custom Publishing.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capacities and strategic management. Strategic Management Journal, 18(7), 509-533.

Thorndike, E. L., & Woodworth, R. S. (1901). The influence of improvement in one mental function upon the efficiency of other functions. The estimation of magnitudes. Psychological Review, 8(4), 384-395.

Unwin, T., Kleessen, B., Hollow, D., Williams, J. B., Oloo, L. M., Alwala, J., ... & Muianga, X. (2010). Digital learning management systems in Africa: myths and realities. Open Learning, 25(1), 5-23.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and motivation in education. Educational and Psychological Measurement, 52, 1003–1017.

Van Den Hooff, B., & De Ridder, J. A. (2004). Knowledge sharing in context: the influence of organizational commitment, communication climate and CMC use on knowledge sharing. Journal of Knowledge Management, 8(6), 117-130.

Van Den Bosch, F. A., Van Wijk, R., & Volberda, H. W. (2003). Absorptive capacity: Antecedents, models and outcomes. Journal of Knowledge Management, 52, 12-27.

Walton, R. G. (1975). Women in social work. Routledge.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with non-normal variables. Problems and Remedies, 12, 52-63.

Winter, D. A. (1995). Human balance and posture control during standing and walking. Gait & Posture, 3(4), 193-214.

Wissler, C. (1901). The correlation of mental and physical tests. The Psychological Review. Monograph Supplements, 3(6), 23-35.

Yahya, S., & Goh, W. K. (2002). Managing human resources toward achieving knowledge management. Journal of Knowledge Management, 6(5), 457-468.

Yang, Y., & Soh, C. K. (2000). Fuzzy logic integrated genetic programming for optimization and design. Journal of Computing in Civil Engineering, 14(4), 249-254.

Zaltman, G., Duncan, R., & Holbek, J. (1973). Innovations and organizations. John Wiley & Sons.

Appendix

Questionnaire

Were you part of any collaborated Project(s) during your Career, which involved interaction with Consultants?	☐ **Yes**	☐ **No**

Please think of a project during the last five years when you had an opportunity to interact with a consultant on collaborated project within your company. Keeping in view of the collaborated project, please answer the following questions:

1. Name of the project: _____
2. Your job title during the project _____
3. Start Year of project:
   ☐ 2012 ☐ 2013 ☐ 2014 ☐ 2016 ☐ 2017
4. Duration of project:
   ☐ Less than one year ☐ 1 to 3 years ☐ 3 to 5 years ☐ 5 to 7 years or more
5. Your Role in the project:
   ☐ Project owner/sponsor/governor ☐ Project Manager/Leader
   ☐ Core team project member ☐ Support team project member
   ☐ Other
6. Describe the collaborated project in 2-4 lines below:

   _____

   _____

   _____

   _____

   _____

   _____

In view of the collaborated project you described above:

please indicate the extent to which you agree with the following statements, please circle the suitable number for your answer.

Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5

	Items	Strongly Disagree 1 (SD)	Disagree 2 (D)	Neither Agree Nor Disagree 3 (N)	Agree 4 (A)	Strongly Agree 5 (SA)
1.	During the collaborated project, my interactions with consultants have increased my understanding of how the different components of the collaborated project integrate and affect each other.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2.	During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project scope of work, purpose, and methodology.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3.	During the collaborated project, my interactions with consultants have increased my ability to ask penetrating questions about the collaborated project planning, execution and control techniques.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4.	During the collaborated project, my interactions with consultants have improved my knowledge of the collaborated project risk management and value assurance process.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5.	During the collaborated project, my interactions with consultants have increased my knowledge about the collaborated project documents and write up for end-users (if any).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Items	Strongly Disagree 1 (SD)	Disagree 2 (D)	Neither Agree Nor Disagree 3 (N)	Agree 4 (A)	Strongly Agree 5 (SA)
6.	During the collaborated project, my interactions with consultants have increased my knowledge about setting up the configuration &/or customization that supports the recipients' business processes (as might be applicable for any IT, HR, or Finance related collaborated project).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7.	During the collaborated project, my interactions with consultants have improved my ability to test the various parts of the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8.	It was important for me to have a clear vision of what the implementation of collaborated project was trying to achieve.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9.	It was important for me to have a clear understanding of goals, tasks, and responsibilities of implementing the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10.	It was important for me to have the technical competence to absorb the technical knowledge about collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11.	It was important for me to have the managerial competence to absorb the business knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12.	I had a willingness to put appropriate intensity of effort to absorb the knowledge being transferred about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13.	It was my regular practice to periodically retain the existing personnel in my collaborated project team.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Items	Strongly Disagree 1 (SD)	Disagree 2 (D)	Neither Agree Nor Disagree 3 (N)	Agree 4 (A)	Strongly Agree 5 (SA)
14.	There was a mechanism to detect the malfunctions, which measures the performance and corrects the problem, as soon as they occur.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15.	I could predict how the team will be rewarded for the good performance in the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
16.	I was provided with numerous opportunities to commit freely and publically to perform my role in the collaborated project. .	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
17.	I had a clear focal point for the practices of my team.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18.	I was keenly aware of the income goals I have for myself if I have learned business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19.	I was strongly motivated by the money I could have earned if I have learned business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20.	I was able to predict how I will be rewarded for my good performance in the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
21.	I was keenly aware of the promotion goals I had for myself if I learnt business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
22.	If I learnt business and technical knowledge about the module, I wanted other people to find out how good I was.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
23.	I was strongly motivated by the recognition I could have earned from other people for learning	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Items	Strongly Disagree 1 (SD)	Disagree 2 (D)	Neither Agree Nor Disagree 3 (N)	Agree 4 (A)	Strongly Agree 5 (SA)
	business and technical knowledge about the collaborated project.					
24.	I had to feel that I was earning something for learning business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
25.	I enjoyed learning business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
26.	The more difficult it was to understand business and technical knowledge about the collaborated project; the more I enjoyed learning it.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
27.	I enjoyed learning business and technical knowledge about the module under consideration that was completely new to me.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
28.	I had to feel that I was personally benefitting from learning business and technical knowledge about the collaborated project	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
29.	I had the motive to find out how good I really could be at learning business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
30.	I was more comfortable to participate in the project when I could set my own goals for learning business and technical knowledge about the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
31.	Communication between me and the consultants(s) was very demanding in the collaborated project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

		Strongly Disagree 1	Disagree 2	Neither Agree Nor Disagree 3	Agree 4	Strongly Agree 5
Items		**(SD)**	**(D)**	**(N)**	**(A)**	**(SA)**
32.	Collaboration between me and the consultants(s) only occurred during collaborated project when I had no other option.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
33.	Collaboration between me and the consultants(s) only occurred during collaborated project when consultants(s) had no other option.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
34.	The consultants being hired was trustworthy.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
35.	The consultants being hired was experienced.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
36.	The consultants being hired was well trained.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Upon completion of the collaborated project, how often do you indulge in the following behaviour						
Items		Daily	Weekly	Once in a Month	Once in 3 Months	Once in 6 Months
37.	I use the organizational Learning Management System (LMS) mainly as a source/recipient of the knowledge intended to be transferred.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
38.	I use the organizational Learning Management System (LMS) to upload/update the knowledge/contents.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
39.	I use all the necessary aspect of the organizational Learning Management System (LMS) related to my requirements.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
40.	I access the full content of the organizational Learning Management System (LMS).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
41.	I use the organizational Learning Management System (LMS) to avail required information (intended knowledge to be transferred).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	Items	Strongly Disagree 1 (SD)	Disagree 2 (D)	Neither Agree Nor Disagree 3 (N)	Agree 4 (A)	Strongly Agree 5 (SA)
42.	I use the necessary aspect of the organizational Learning Management System related to my requirements/view for fetching required knowledge (intended to be transferred).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Basic Information
Please put (√) in the box next to the best answer to each question below:

Gender	☐ Female	☐ Male
What is your age group?	☐ Under 21 years	☐ 21 to 25 years
	☐ 26 to 30 years	☐ 31 to 35 years
	☐ 36 to 40 years	☐ 41 to 45 years
	☐ 46 years or older	
What is your educational background?	☐ Less than high school -	☐ High school graduate -
	☐ Diploma/(includes equivalency)	☐ Higher Diploma -
	☐ Bachelor's degree -	☐ Master's degree
	☐ Ph.D./Doctorate -	☐ Other degree
Company Name :		
What sector do you work for?	☐ Upstream Oil & Gas	☐ Midstream Oil & Gas
	☐ Downstream	☐ Marketing/Distribution/Logistics/ Refineries
Which of the following most closely matches your job title?	☐ Entry or Junior Level	☐ Mid-Career
	☐ Sr. Level	☐ Team Leader/Head
	☐ Manager/Sr. Manager	☐ Director or Executive
How many years of full-time work experience do you have in ADNOC/ Group Companies?	☐ Less than 1 year	☐ 1-2 Years
	☐ 2-3 Years	☐ 3-5 Years
	☐ +5 Year	

How many years of full-time work experience do you have, in your current role?	☐ Less than 5 year	☐ 5-10 Years
	☐ 11-16 Years	☐ 17-22 Years
	☐ +23 Year	