



**Institute of Technology Management and Entrepreneurship**

**EXAMINING THE IMPACT OF TRANSFORMATIONAL  
AND TRANSACTIONAL LEADERSHIP STYLES ON R&D  
TEAM PERFORMANCE IN UTeM**

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**EXAMINING THE IMPACT OF TRANSFORMATIONAL AND  
TRANSACTIONAL LEADERSHIP STYLES ON R&D TEAM PERFORMANCE  
IN UTeM**

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**A thesis submitted  
in fulfilment of the requirements for the degree of Master of Science  
in Human Resource Development**

**Institute of Technology Management and Entrepreneurship**

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**2019**

## DECLARATION

I declare that this thesis entitled “Examining the Impact of Transformational and Transactional Leadership Styles on R&D Team Performance in UTeM” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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Name : FARIDATUL SAKINAH BINTI OTHMAN

Date : 20<sup>th</sup> JULY 2019

## APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Master of Science in Human Resource Development.

Signature : .....

Supervisor Name : MOHD SHAMSURI BIN MD SAAD

Date : 20<sup>th</sup> JULY 2019

## **DEDICATION**

First and foremost, I thank Allah for the blessing He has bestowed upon me. To my wonderful husband, Muhammad Amir Afham Huslan, for your unwavering love, and patience: I love you. To my son, Muhammad Ammar Firas, you are always in my heart. To my parents, Mr. Othman Abdul Wahid and Madam Roszeta Bujang, for always being there, and for the prayers and Doa' you have made to get this challenging task done. You have always been steadfast in encouraging and supporting me in my thirst for knowledge.

## ABSTRACT

R&D is the fundamental element of innovation which subsequently contribute to the idea of knowledge economy, which is crucial for nations to grow. Leadership has been envisaged as one of the most important predictors of team success and performance including in R&D projects. A leader is the head of the team who plays an important role to influence followers and encourage a collective approaches that strongly influences team performance. Besides leadership styles, knowledge sharing has been considered as another significant factor in driving performance due to the advantage of practicing knowledge sharing among team members tends to generate high performance outcomes, improve productivity and profitability. Despite this, there have been a lack of empirical evidence in understanding the role of leaders, especially on leadership styles and contribution of knowledge sharing in influencing team success and performance. The aim of this study was to examine the impact of leadership styles, specifically on transformational leadership and transactional leadership on the R&D team performance. Subsequently, this study was to examine the mediating role of knowledge sharing on the relationship between transformational and transactional leadership and R&D team performance. A quantitative methodology utilising cross-sectional survey was adopted to carry out the research. Data was collected from 172 researcher leaders from Universiti Teknikal Malaysia Melaka (UTeM) based on the database provided by the university's Centre of Research and Innovation Management (CRIM). Multifactor Leadership Questionnaire 5X (MLQ 5X) was used to elicit the research leaders' perception on their leadership styles. Next, knowledge sharing was measured utilising journal from Lee (2001) and Bock et al., (2005). Finally, R&D team performance was assessed based on journal from Brown and Gobeli, (1992), Kim et al. (1999b) and Chiesa et al. (2009). Descriptive analyses undertaken provided the details of the demographic profiles of the research leaders participating in this study. Inferential statistics, involving correlational and regression statistics provided the study an overview and understanding on the dynamics of the relationship between leadership styles, knowledge sharing and R&D team performance. The result of this study revealed that both transformational and transactional leadership style have positive impact on R&D team performance. It was also revealed that knowledge sharing partially mediated both transformational leadership and transactional leadership in influencing the R&D team performance. The result of this study offers an insight to research leaders into the practice of leadership, particularly in selecting suitable and appropriate leadership styles, when leading their R&D team. It also provides important input about how knowledge sharing is crucial to be managed as an important activity when undertaking R&D projects.

## **ABSTRAK**

*R&D adalah elemen asas inovasi yang menyumbang kepada idea pengetahuan ekonomi, yang penting untuk negara berkembang. Kepimpinan telah dijangka sebagai salah satu peramal paling penting dalam kejayaan dan prestasi pasukan termasuk dalam projek R&D. Seorang pemimpin memainkan peranan penting untuk mempengaruhi pengikut dan menggalakkan pendekatan kolektif yang sangat mempengaruhi prestasi pasukan. Selain gaya kepemimpinan, perkongsian pengetahuan dianggap sebagai satu lagi faktor penting dalam memacu prestasi kerana kelebihan mempraktikkan perkongsian ilmu antara ahli pasukan cenderung untuk menghasilkan hasil yang tinggi, meningkatkan produktiviti dan keuntungan. Walaupun begitu, terdapat kekurangan bukti empirik dalam memahami peranan pemimpin, terutamanya gaya kepemimpinan, dan sumbangan perkongsian ilmu dalam mempengaruhi kejayaan dan prestasi pasukan. Tujuan kajian ini adalah untuk mengkaji kesan gaya kepemimpinan, khususnya mengenai kepemimpinan transformasi dan kepemimpinan transaksional dalam prestasi pasukan R & D. Selanjutnya, kajian ini adalah untuk mengkaji peranan mediasi perkongsian pengetahuan antara hubungan kepemimpinan transformasi dan transaksional dengan prestasi pasukan R & D. Metodologi kuantitatif kaji selidik silang digunakan untuk menjalankan penyelidikan. Data diperoleh daripada 172 penyelidik dari Universiti Teknikal Malaysia Melaka (UTeM) berdasarkan pangkalan data yang disediakan oleh Pusat Pengurusan Penyelidikan dan Inovasi Universiti (CRIM). Soal Selidik Kepimpinan Multifactor 5X (MLQ 5X) digunakan untuk menzahirkan persepsi para pemimpin penyelidikan tentang gaya kepemimpinan mereka. Seterusnya, perkongsian pengetahuan diukur menggunakan jurnal dari Lee (2001) dan Bock et al., (2005). Akhirnya, prestasi pasukan R & D dinilai berdasarkan jurnal dari Brown dan Gobeli, (1992), Kim et al. (1999b) dan Chiesa et al. (2009). Analisis deskriptif yang dijalankan memberikan butiran profil demografi para pemimpin penyelidik yang mengambil bahagian dalam kajian ini. Statistik inferensi, yang melibatkan statistik korelasi dan regresi menyediakan kajian tinjauan dan pemahaman mengenai dinamik hubungan antara gaya kepemimpinan, perkongsian pengetahuan dan prestasi pasukan R & D. Hasil kajian ini menunjukkan bahawa kedua-dua gaya kepemimpinan transformasi dan transaksional mempunyai kesan positif terhadap prestasi pasukan R & D. Ia juga mendedahkan bahawa perkongsian pengetahuan mengantara secara tidak sepenuhnya kepemimpinan transformasi dan kepemimpinan transaksional dalam mempengaruhi prestasi pasukan R & D. Hasil kajian ini memberikan wawasan kepada pemimpin penyelidikan ke dalam amalan kepemimpinan, terutamanya dalam memilih gaya kepemimpinan yang sesuai dan wajar, ketika mengetuai pasukan R & D mereka. Ia juga memberikan input penting tentang bagaimana perkongsian pengetahuan adalah penting untuk diuruskan sebagai aktiviti penting ketika melaksanakan projek R & D.*

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## TABLE OF CONTENTS

	PAGE
<b>DECLARATION</b>	
<b>APPROVAL</b>	
<b>DEDICATION</b>	
<b>ABSTRACT</b>	<b>i</b>
<b>ABSTRAK</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
<b>TABLE OF CONTENTS</b>	<b>iv</b>
<b>LIST OF TABLES</b>	<b>viii</b>
<b>LIST OF FIGURES</b>	<b>x</b>
<b>LIST OF APPENDICES</b>	<b>xi</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xii</b>
<b>LIST OF PUBLICATIONS</b>	<b>xiii</b>
<b>CHAPTER</b>	
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.2 Background of the study	1
1.3 Problem statement	4
1.4 Research question	6
1.5 Specific research objective	6
1.6 Context of the study	7
1.7 Scope of study	17
1.8 Significance of study	18
1.9 Limitation of study	18
1.10 Definition of terms	18
1.10.1 Leadership	18
1.10.2 Transformational leadership	19
1.10.3 Transactional leadership	19
1.10.4 Knowledge sharing	20
1.10.5 Team performance	21
1.11 Layout of thesis	21
1.12 Summary	22
<b>2. LITERATURE REVIEW</b>	<b>23</b>
2.1 Introduction	23
2.2 Definition of leadership	23
2.3 History of leadership theories	24
2.4 Leadership styles	25
2.5 Full Range Leadership theory	28
2.6 Transformational leadership	29
2.6.1 Dimensions of transformational leadership	31
2.6.1.1 Idealized influence	31

2.6.1.2	Inspirational motivation	32
2.6.1.3	Intellectual stimulation	32
2.6.1.4	Individual consideration	32
2.7	Transactional leadership	33
2.7.1	Dimensions of transactional leadership	35
2.7.1.1	Contingent reward	35
2.7.1.2	Management by exception active (MBEA)	35
2.7.1.3	Management by exception passive (MBEP)	36
2.8	Laissez faire	36
2.9	Relationship between transformational leadership and transactional leadership	37
2.10	Leadership in R&D	39
2.11	Knowledge sharing	41
2.11.1	Definition of knowledge	41
2.11.2	Knowledge sharing	41
2.12	Team performance	43
2.13	Impact of leadership styles and knowledge sharing on team performance	44
2.13.1	Impact of leadership styles on team performance	45
2.13.2	Impact of knowledge sharing on team performance	48
2.14	Research framework	50
2.15	Summary	51
<b>3.</b>	<b>RESEARCH METHODOLOGY</b>	<b>53</b>
3.1	Introduction	53
3.2	Research methodology	53
3.3	Primary and secondary data sources	54
3.3.1	Primary data	54
3.3.2	Secondary data	56
3.4	Research design	57
3.5	Research strategies	60
3.5.1	Phase 1: Instrument development	62
3.5.2	Phase 2: Data collection	65
3.5.3	Phase 3: Data analysis	67
3.5.3.1	Testing for normality using SPSS	68
3.5.3.2	Reliability analysis (Cronbach's Alpha)	68
3.5.3.3	Validity	68
3.5.3.4	Multiple regression	69
3.6	Summary	70
<b>4.</b>	<b>ANALYSIS AND DISCUSSION</b>	<b>71</b>
4.1	Introduction	71
4.2	Development of questionnaire	71
4.2.1	Part A: Demographics	72
4.2.2	Part B: Multifactor Leadership Questionnaire	73

4.2.3	Part C: Knowledge sharing	73
4.2.4	Part D: Performance	75
4.3	Pre-testing	77
4.4	Pilot test	77
4.5	Missing data	78
4.6	Descriptive analysis results	78
4.6.1	Descriptive analysis for demographics	79
4.6.2	Descriptive statistic analysis results of independent variables, mediating variable and dependent variable	82
4.6.2.1	Descriptive statistics of transformational leadership: idealized attribute	83
4.6.2.2	Descriptive statistics of transformational leadership: idealized behavior	84
4.6.2.3	Descriptive statistics of transformational leadership: inspirational motivation	85
4.6.2.4	Descriptive statistics of transformational leadership: intellectual stimulation	86
4.6.2.5	Descriptive statistics of transformational leadership: individualize consideration	87
4.6.2.6	Descriptive statistic of transactional leadership: contingent reward	88
4.6.2.7	Descriptive statistic of transactional leadership: management by exception- active	89
4.6.2.8	Descriptive statistic of transactional leadership: management by exception- passive	90
4.6.2.9	Descriptive statistic analysis result of knowledge sharing	91
4.6.2.10	Descriptive statistic analysis result of performance	92
4.7	Reliability analysis results (Cronbach's Alpha)	93
4.8	Correlation analysis	94
4.8.1	Analysis of correlation between transformational leadership and performance	96
4.8.2	Analysis of correlation between transactional leadership and performance	97
4.8.3	Analysis of correlation between knowledge sharing and performance	98
4.9	Results for research question using regression analysis	98
4.9.1	Assumption of regression	99
4.9.1.1	Multicollinearity and singularity	100
4.9.1.2	Outliers	100
4.9.1.3	Random normally distributed errors and homoscedasticity and linearity	101

4.9.2	Multiple linear regression analysis	104
4.9.2.1	Linear regression for independent variables towards dependent variable	104
4.9.2.2	Linear regression IV, mediator towards DV	106
4.9.2.3	Linear regression for mediator	107
4.9.2.4	Linear regression for mediation for transformational leadership and knowledge sharing towards performance	109
4.9.2.5	Test statistic for the Sobel test (transformational leadership)	111
4.9.2.6	Linear regression for mediation for transactional leadership and knowledge sharing	112
4.9.2.7	Test statistic for the Sobel test (transactional leadership)	114
4.10	Discussion findings	115
4.10.1	Research question 1	115
4.10.2	Research question 2	119
4.10.3	Research question 3	121
4.10.4	Research question 4	124
4.11	Summary	126
<b>5.</b>	<b>CONCLUSION</b>	<b>127</b>
5.1	Introduction	127
5.2	Contribution of the findings	132
5.2.1	Contribution to body of knowledge	132
5.2.2	Contribution to the industry or practitioner	133
5.2.3	Contribution to academic research and policy maker	133
5.3	Limitations of study	134
5.4	Suggestions and recommendations for future research	135
5.5	Conclusion	135
	<b>REFERENCES</b>	<b>138</b>
	<b>APPENDICES</b>	<b>157</b>

## LIST OF TABLES

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
1.1	Allocations proposition for grants	14
2.1	Dimension of transformational and transactional leadership	29
4.1	Structure of the research instrument	72
4.2	Items measuring implicit knowledge sharing	74
4.3	Items measuring explicit knowledge sharing	75
4.4	Items measuring performance of R&D team performance	76
4.5	Descriptive analysis for respondent demographic	81
4.6	Descriptive analysis for idealized attribute (IA)	83
4.7	Descriptive analysis for idealized behavior (IB)	84
4.8	Descriptive analysis for inspirational motivation	85
4.9	Descriptive analysis for intellectual stimulation	86
4.10	Descriptive analysis for individualize consideration	87
4.11	Descriptive analysis for contingent reward	88
4.12	Descriptive analysis for management by exception-active	89
4.13	Descriptive analysis for management by exception-passive	90
4.14	Descriptive analysis result of knowledge sharing	91
4.15	Descriptive analysis result of performance	92
4.16	Reliability analysis (Cronbach's Alpha)	93
4.17	Analysis of correlation transformational leadership and performance	96
4.18	Analysis of correlation transactional leadership and performance	97
4.19	Analysis of correlation knowledge sharing and performance	98
4.20	Analysis of collinearity	100
4.21	Analysis of outliers	100
4.22	Analysis of independent error	101
4.23	Model summary of linear regression of IV towards DV	104
4.24	Anova of linear regression of IV towards DV	105
4.25	Coefficients of linear regression of IV towards DV	105
4.26	Model summary of linear regression IV, mediator towards DV	106
4.27	Coefficients of linear regression IV, mediator towards DV	106
4.28	Coefficients of linear regression for transformational leadership towards performance	109
4.29	Coefficients of linear regression for transformational leadership	109

	towards knowledge sharing	
4.30	Coefficients of linear regression for transformational leadership, knowledge sharing towards performance	110
4.31	Sobel test for transformational leadership and knowledge sharing	111
4.32	Coefficients of linear regression for transactional leadership towards performance	112
4.33	Coefficients of linear regression for transactional leadership towards knowledge sharing	112
4.34	Coefficients of linear regression for transactional leadership, knowledge sharing towards performance	113
4.35	Sobel test for transactional leadership and knowledge sharing	114
4.36	Coefficients of linear regression of IV towards DV	116
4.37	Coefficients of linear regression of IV towards DV	119
4.38	Sobel test for transformational leadership and knowledge sharing	122
4.39	Sobel test for transactional leadership and knowledge sharing	124

## LIST OF FIGURES

<b>FIGURE</b>	<b>TITLE</b>	<b>PAGE</b>
1.1	Expenditure on R&D during year 2000 until year 2012 (Mastic, 2015)	9
1.2	Head count of researchers per 10,000 labor forces from year 2000 until year 2012 (Mastic, 2015)	10
2.1	Conceptual research framework: The causal relationship between leadership style, knowledge sharing and R&D team performance	50
3.1	Research design flow chart	59
3.2	Research strategies	61
4.1	Histogram	102
4.2	Normal P-P Plot of regression standardized residual	103
4.3	Scatterplot	103

## LIST OF APPENDICES

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
A	Questionnaire	157
B	List of grants	165
C	Full SPSS Reports	167



## LIST OF ABBREVIATIONS

CR	-	Contingent Reward
CRIM	-	Centre of Research and Innovation Management
HICOE	-	Higher Institutions Centre of Excellence
IA	-	Idealized Attribute
IB	-	Idealized Behavior
IC	-	Individual Consideration
IM	-	Inspirational Motivation
IPTK	-	Institut Pengurusan Teknologi dan Keusahawanan
IS	-	Intellectual Stimulation
KS	-	Knowledge Sharing
MASTIC	-	Malaysian Science and Technology Information Centre
MBEA	-	Management by Exception Active
MBEP	-	Management by Exception Passive
MLQ	-	Multifactor Leadership Questionnaire
MOHE	-	Ministry of Higher Education
MOSTI	-	Ministry of Science Technology and Innovations
MyRA	-	Malaysian Research Assessment
PSPTN	-	Pelan Strategik Pengajian Tinggi Negara
RSE	-	Researcher, Science and Engineer
R&D	-	Research and Development
TDM	-	Total Design Method
TFL	-	Transformational Leadership
TSCL	-	Transactional Leadership
UTeM	-	Universiti Teknikal Malaysia Melaka

## LIST OF PUBLICATIONS

### Journal

1. Othman, F. S., Md Saad, M. S., and Robani, A., 2019. The Impact of Leadership Styles on R&D Team Performance and The Mediating Role of Knowledge Sharing. *Humanities and Social Sciences Reviews*, 7(2), pp.307-314.
2. Othman, F.S., Saad, M.S.M., Robani, A., and Abdullah, A.N., 2014. A Conceptual Framework of The Impact of Leadership Styles on Heterogeneous R&D Team Performance. *International Symposium on Research in Innovation and Sustainability*, (Special issue), pp.1759–1762.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Chapter 1 describes the fundamental grounds of the research. It explores the background of the study between the independent variables, which are transformational leadership style and transactional leadership style, with knowledge sharing as the mediating variable towards team performance as the dependent variable. This chapter defines the current R&D scenario through the context of the study, problem statement, research questions and the objectives of the study. The scope of the study, significance of the study, limitations of the study, as well as definition of key terms and outline of the research are also provided at the end of the chapter.

### 1.2 Background of the study

The importance of a leader's behavior towards team performance has been highlighted in various literature by many researches (Dubois, Koch, Hanlon, Nyatuga and Kerr, 2015; Asrar-Ul-Haq and Kuchinke, 2016). A leader is the head of the team who plays an important role to influence followers and encourage a collective approaches that strongly influences team performance (Larsson, Eriksson, Olofsson and Simonsson, 2015). Leaders have to acquire, develop and deploy resources optimally in order to bring out the best of their team's performance (Riaz and Haider, 2010). In short, an effective leader influences followers in a desired manner to achieve desired goals (Nanjundeswaraswamy and Swamy, 2014), while leadership style holds a major position in determining the success or failure of an organization (Chege and Gokubu, 2017). Mahdinezhad and Suandi,(2013) added that

different leadership styles can influence team performance. Thus, it is vital for leaders to have a suitable leadership style to ensure the efficiency and effectiveness of their team.

Among various leadership styles, transformational leadership has been found to have an especially powerful effect on team performance (Obeidat, Tarhini, and Aqqad, 2016). Transformational leadership behavior has been suggested as a possible new alternative to the traditional leadership style for promoting team effectiveness (Tabassi, Ramli and Dashti, 2013). According to Bass (1985), transformational leadership concerns leaders who motivates followers to do beyond what they are expected to do. The dimensions of transformational leadership are to idealized influence where the leader function as a charismatic person. Inspirational motivation comprises of leaders who inspire others without the need for identification. Intellectual stimulation it encourages innovation and learning, thus improving overall performance. Individualized consideration focuses on the follower's development by providing support, encouragement, and coaching.

While transformational leadership seems to be the most effective form of leadership, it is important to include the most effective forms of transactional leadership such as setting expectations and goals, and monitoring performance. Transactional and transformational leadership are not regarded as contrasting styles of leadership; rather they are complementary to each other. Leaders may have both transactional and transformational styles (Birasnav, 2014; Huijun and Jianjun, 2015).

The transactional leadership style is a transactional behavior where the cooperation is achieved through the exchange of rewards. This type of leadership style tends to be effective when in a stable condition, where the rewards are given when the followers meeting the objectives and a certain level of performance (Bass, 1985). The dimension of

transactional leadership is contingent reward, where the leader offers rewards depending on the follower's performance, second is management by exception which encompasses leaders who only interfere when the standard is not met. This shows that transactional leadership enables followers to fulfill their own interests, minimizes workplace concerns, and focus on clear organizational objectives such as quality improvement, customer service, reduced costs, and increased production (Sadeghi and Pihie, 2012).

In the R&D context, leadership is an important trait that needs to be highlighted as the responsibility for handling process and the people in R&D groups usually fall on the shoulders of the project leader. Recent studies discovered that leadership style is an important factor that supports R&D performance (Asmawi et al., 2013; Khan and Adnan, 2014). There have been a past studies mentioning that leadership styles are one of the key factors in promoting performance in R&D organizations, especially in universities (Alonderiene and Majauskaite, 2016).

On the other hand, knowledge sharing has been considered as another significant factor in driving performance. Knowledge sharing has a positive effect on innovation performance (Kim and Yun, 2015; Ritala, Olander and Michailova, 2015). Team leaders who facilitate knowledge sharing contribute to team effectiveness, which leads to the enhancement of team performance (Obeidat, Zyod and Gharaibeh, 2015).

Knowledge sharing is a process of exchanging knowledge between and among individuals, whether focused or unfocused (Paulin and Suneson, 2015). This definition implies that every knowledge sharing behavior consists of both bringing (and donating) knowledge and getting (or collecting) knowledge. Success in R&D is more likely to occur when team members share and integrate knowledge efficiently (Akhavan and Mahdi, 2016). In addition, the leverage effect of knowledge sharing would result in the innovation of

knowledge and further increase performance and competitiveness (Ritala, Olander and Michailova, 2015). Thus, there is a need for knowledge sharing to happen in team activities, especially in R&D as the members of the team need to gain a better understanding about the research that needs to be done.

### **1.3 Problem statement**

Past studies about leadership have been given high attention from various sides including scholars, management teams and human resources practitioners. Although leadership is one of the most studied subjects, it still one of the least understood topics (Amanchukwu, Stanley, and Ololube, 2015). Consequently, there is a need to study about leadership deeper where scholars, researchers and human resource practitioners can be enlightened with more knowledge about this field.

Recent studies on leadership frequently covered areas of leadership traits, behaviors, power and influence, and situational approaches (Northouse, 2018). Scholars have attempted to streamline and integrate these approaches, and more studies are focusing on identifying the characteristics and value of transformational leadership and transactional leadership styles (Avolio, 2011). The interest on these two types of leadership come from the positive impact of transformational leadership and transactional leadership on team performance.

Additionally, research has demonstrated that appropriate leadership styles can enhance the overall effectiveness of a team and minimize failure (Nanjundeswaraswamy and Swamy, 2014). This is in line with the study by Hussain et al. (2014) in which leadership was found to have a critical role in achieving success and performance, especially in higher academic institutions.

Besides leadership styles, knowledge sharing has also gained much interest from scholars and researchers due to the advantage of practicing knowledge sharing among team members. Among the advantages as described by Masa'de, Obeidat, and Tarhini, (2016) are improved decision-making and coordination in a team where this can lead to successful performance. Knowledge sharing also tends to generate high performance outcomes, improve productivity and profitability. Therefore, the above argument suggests that knowledge sharing is likely to lead to higher performance.

The research of leadership styles and knowledge sharing have drawn the interest of researchers and scholars for the past few years. As such, past leadership studies had covered the impact of leadership styles (transformational and transactional leadership) and team performance (Popper and Zakkai, 1994; Dvir et al., 2002; Bullock, 2008; Lee et al., 2011) while knowledge sharing studies covered the impact of knowledge sharing towards performance (Sue et al., 2010; Liu and Liu, 2011; Liu et al., 2011; Masa'de, Obeidat, and Tarhini, 2016).

However, most of the research was done in the Western context and this raises doubt in terms of the generalizability of these findings in the Malaysian context. Although some research had been done in Asia, there are still very limited studies especially in the context of R&D. The limited study of leadership may cause a lack of support to subordinates, less proactivity in organizations, unachieved objectives, or neglected subordinates.

Knowledge sharing was adopted as a mediating variable in this research to understand the underlying mechanism which influences the relationship between leadership styles and team performance. For that purpose, this research sought to discover the impact

of leadership styles (transformational and transactional leadership) towards team performance and the role of knowledge sharing as the mediator between them.

The results in this research underlined the relationship between transformational leadership and transactional leadership towards team performance along with the mediating role of knowledge sharing in the relationship between transformational leadership and transactional leadership towards team performance. Furthermore, this research gives additional important input in leadership research, as well as additional knowledge in the relationship between leadership styles and performance.

#### **1.4 Research question**

1. To what extent does the transformational leadership style impact R&D team performance?
2. To what extent does the transactional leadership style impact R&D team performance?
3. What are the impacts of knowledge sharing in mediating the relationship between transformational leadership and R&D team performance?
4. What are the impacts of knowledge sharing in mediating the relationship between transactional leadership and R&D team performance?

#### **1.5 Specific research objective**

1. To assess the impact of transformational leadership on R&D team performance.
2. To assess the impact of transactional leadership on R&D team performance.
3. To investigate the mediating impact of knowledge sharing on the relationship between transformational leadership and R&D team performance.