

The Influence of Innovation Practices On Human Capital Development: The  
Mediation Role Of Innovation Management

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## **DEDICATION**

For my beloved family.



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Praise to Allah, Lord of the Worlds, who enabled me to complete this study successfully.

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## ABSTRACT

Innovation is the pillar of success in almost all industries in the world. The application of innovation become an essential practice for public and government organizations. Today, the development of human capital is not limited to human resources management but can be achieved through innovation management as well. There is a rich of studies in the literature on innovation practices and human capital development. Resources Based View Theory (RBV) explain that human capital is effectively working as intangible resources to an organization. Yet, the literature did present empirical results on the role of RBV in fostering human capital development with the aid of innovation. However, it is still unclear how innovation management influences relationship between innovation practices and human capital development. Therefore, the aim of this study is to examine these relationships, as well as proposing a framework that constructs these three variables. To achieve these objectives, quantitative method has been applied to validate the hypotheses and the model fit of the conceptual framework. The questionnaire has been designed as the main data collection tool for the survey. The population is the staff and employees working and the Ministry of Community Development in United Arab Emirates. From the survey 387 valid questionnaires have been considered for the analysis. The result of this study revealed that innovation practices have a significant effect on human resources development, while innovation management partially mediates this relationship. Hence, it is recommended to focus on main practices of innovations such as product innovation, process innovation, marketing innovation, while setting innovation strategy and innovation culture inside any organization will improve the skills and knowledge of the workforce and foster their ability to deal with the challenges of fast development in workplace technologies. The contribution of this study is adding to the body of knowledge the significant role of innovation management on human capital development in public organization. The conceptual framework could be applied in other countries and not limited to UAE, as well as various industries. The outcome of this model project is not limited to public sector and could be extended to the private organizations as well in future studies.

## ABSTRAK

Inovasi adalah tonggak kejayaan dalam hampir semua industri di dunia. Penerapan inovasi menjadi amalan penting untuk organisasi awam dan kerajaan. Pada masa kini, pembangunan modal insan tidak terhad kepada pengurusan sumber manusia tetapi boleh dicapai melalui pengurusan inovasi juga. Terdapat banyak kajian dalam literatur tentang amalan inovasi dan pembangunan modal insan. *Resources Based View Theory* (RBV) menjelaskan bahawa modal insan berfungsi secara berkesan sebagai sumber tidak ketara kepada sesebuah organisasi. Namun, kesusasteraan telah membentangkan hasil empirikal tentang peranan RBV dalam memupuk pembangunan modal insan dengan bantuan inovasi. Walau bagaimanapun, masih tidak jelas bagaimana pengurusan inovasi mempengaruhi hubungan antara amalan inovasi dan pembangunan modal insan. Oleh itu, matlamat kajian ini adalah untuk mengkaji hubungan ini, serta mencadangkan rangka kerja yang membina ketiga-tiga pembolehubah ini. Untuk mencapai objektif ini, kaedah kuantitatif telah digunakan untuk mengesahkan hipotesis dan kesesuaian model kerangka konseptual. Soal selidik telah direka bentuk sebagai alat pengumpulan data utama untuk tinjauan. Penduduknya ialah kakitangan dan pekerja yang bekerja dan Kementerian Pembangunan Masyarakat di Emiriah Arab Bersatu. Daripada tinjauan 387 soal selidik yang sah telah dipertimbangkan untuk dianalisis. Hasil kajian ini mendedahkan bahawa amalan inovasi mempunyai kesan yang signifikan terhadap pembangunan sumber manusia, manakala pengurusan inovasi sebahagiannya menjadi pengantara perhubungan ini. Oleh itu, adalah disyorkan untuk memberi tumpuan kepada amalan utama inovasi seperti inovasi produk, inovasi proses, inovasi pemasaran, sambil menetapkan strategi inovasi dan budaya inovasi dalam mana-mana organisasi akan meningkatkan kemahiran dan pengetahuan tenaga kerja dan memupuk keupayaan mereka untuk menangani cabaran pembangunan pantas dalam teknologi tempat kerja. Sumbangan kajian ini menambah kepada badan pengetahuan tentang peranan signifikan pengurusan inovasi terhadap pembangunan modal insan dalam organisasi awam. Rangka kerja konsep boleh digunakan di negara lain dan tidak terhad kepada UAE, serta pelbagai industri. Hasil daripada projek model ini tidak terhad kepada sektor awam dan boleh diperluaskan kepada organisasi swasta juga dalam kajian akan datang.

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## LIST OF SYMBOLS AND ABBREVIATIONS

IP	Innovation Practices
IM	Innovation Management
HCD	Human Capital Development



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## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Human capital is acknowledged as an important element of national development and economic growth of the country. The human capital development process requires creating the necessary environment where employees can learn better and apply innovative ideas, acquire new competencies, develop skills, behaviors and attitudes (Gulaliyev *et al.*, 2019). One of the important elements linked to human capital development is innovation. Innovation can make a difference in addressing urgent challenges of human capital development such as providing access to drinking water, reducing hunger or eradicating neglected diseases (OECD, 2012). Specifically, transfer and whenever necessary, adoption of innovated technology can often add significantly to achieving long term goals of any country. Empirical research and survey of business activities have revealed that innovation results in new and improved services and products, lower prices and higher productivity. Therefore, the economies having consistently increased levels of innovation usually have higher levels of economic growth and development (Alawamleh *et al.*, 2019; Atkinson & Andrew, 2007).

With the development of scientific and technological progress, information and communication technologies, human capital occupies a central place as a carrier of intelligence, knowledge, skills, experience, and professionalism (Fadila & Olure, 2019). Human development is a continuous process of qualitative and quantitative changes leading to enhanced level of workplace performance. Innovative development of human capital is characterized by fundamentally new approaches embodied in the introduction of a new model of “life-long learning” and the formation of a new model of working life, where the main focus is innovative work; the application of social technologies, innovative forms of employment and the use of new models of working time. Hence the investment in human capital development can be achieved through innovating management that leads to an increase in intellectualization level, which is the basis for sustainable economic development (Oleh *et al.*, 2020). Nevertheless, extensive efforts of research are required for finding solutions able to address challenges of development plans to improve the skills of human capital on a global scale (OECD, 2012). This chapter provides overview of the study which include background of the study, problem statement, research questions and objectives, scope of the study, significance of the study, operational definitions, structure of the thesis and ends with the chapter summary.

## **1.2 Background of Study**

United Arab Emirates (UAE) is a well-known country for its creativity and innovation, enhancement of status with respect to social and economic development and transformation into a prime destination for businesses and talents within record time. With belief in innovation being human investment future, leadership of UAE places emphasis upon its significance for every sector through the UAE Vision 2021: “Innovation, research, science and technology will form the pillars of a knowledge-based, highly productive and competitive economy, driven by entrepreneurs in a business-friendly environment where public and private sectors form effective partnerships.” (UAE National Innovation Strategy, 2015, p. 6). UAE has established a National Innovation Strategy (NIS) for developing structured mechanism for recognizing and sponsoring individuals who are talented and creative from early age and

assist them in harnessing and developing their capabilities to maximum potential. NIS aims at embedding a national innovation culture which recognizes innovation and encourages collaboration with government, private institutions and media agencies (NIS, 2015).

UAE is ranked number one in the Arab World and 38th country globally in the Global Innovation Index ranking in 2018. That the country positioned itself positively in these global indices reflects the developments in knowledge and technology outputs, business, market and infrastructure development in UAE due to push by the government policies on making UAE as a global hub for innovation (AbdulQuddus, 2019). Provided the significance of citizens in development of UAE, the government focuses upon development of individuals who have high spirit of innovation in all sectors. It aspires in empowering the nation for driving innovation by developing innovative people and their capabilities in technology, science, mathematics and engineering while equipping them with 21st century skills (UAE National Innovation Strategy, 2015). In fact, today, the key developments in human resource in the Middle East is based on innovation (Budhwar *et al.*, 2018). Without proper innovation management, the task of human capital development would be ineffective. In other words, selected HRM practices are positively related to innovation practices (Al Kaabi & Hossam, 2018). While innovation is certainly one of the basic ingredients in organizational competitiveness and is critical to increase organization value and develop the skills of human capital, the question arises, what kind of innovation practices should be applied to develop human capital in Emirate government bodies.

Development of human capital in UAE is not an easy task and faced a lot of challenges. For example, technological distribution across HR functions is impossible without willingness from the organization. In other words, technology innovation in the workplace is not going well in UAE (KPMG, 2019). According to a KPMG survey (2019), more than half of the respondents indicated that workforce capability is 59% when it comes to scaling digital transformation and solutions. The innovation plans in UAE seem to be paving the right path toward human capital development but it is not as expected, whereas 67% of UAE-based HR executives expressed that digital

transformation is the main innovation process in the workplace (KPMG, 2019). Despite the UAE having made great strides in improving technological readiness and innovation, as well as the economy having evolved significantly over the past decade, one of the challenges concerning human resources is that Emirate's nationals still account for a low percentage of the private sector workforce (Hazem & Sun, 2017). Most of UAE people prefer working in the public sector for its attractive incentives and better working conditions. However, skills and knowledge development in the public sector is less than in the private sector (Hazem & Sun, 2017).

Nations around the world have developed national innovation strategies and frameworks by recognizing innovation as a foundation stone for economic and social development. In realizing innovation as a foundation for economic and social development, nations around the world are interested in innovative strategies and frameworks (UAE Ministry of Cabinet Affairs, 2015). The innovation strategy is associated with aspiration of individuals, private institutions and governments to achieve development by generating creative ideas and introducing new products, services and operations that improve the overall quality of life (UAE National Innovation Strategy, 2015, p. 5). In fact, the UAE has been ranked high in world indices that monitor and evaluate human development, whereas National Education Strategy Goals are based on improve capacity for research and innovation to meet global competitiveness standards (UAE National Committee on SDG, 2017). Hence, the Ministry of Community Development (hereafter referred as MOCD) has launched the National Innovation Strategy 2021, which aims at making UAE one of the most innovative countries in the world over the next seven years. The responsibilities of MOCD are to develop and implement innovation policies related to human resources, strategies and programs for the development and advancement of society, as well as proposing and preparing federal legislation related to community development. Moreover, MOCD seeks researchers in innovation and human capital development to submit a research project that contributes to solving existing problems or developing services (MOCD, 2020).

Proceeding with its firm belief that forming human capital is much more important than urban development, UAE is keen on creating fortune of human resource



which is able to meet the country's desire of development across different sectors. The UAE uniquely exercises its ability of attracting and retaining the best talent through becoming a prime destination for educated Arabs who seek better personal and professional life, besides being ranked first worldwide in drawing talent from the globe. In last ten years, efforts of UAE have ended in giving it third spot in Northern Africa and Western region and 35th globally among 127 countries with respect to performance in the 2016 Global Innovation Index (Cornell University, INSEAD, & WIPO, 2017) as shown in Table 1.1.

Table 0.1: Global Innovation Index 2017 rankings (Cornell University, INSEAD, and WIPO, 2017)

Country/Economy	Score (0–100)	Rank	Income	Rank	Region	Rank	Efficiency Ratio	Rank	Median: 0.62
Switzerland	67.69	1	HI	1	EUR	1	0.95	2	
Sweden	63.82	2	HI	2	EUR	2	0.83	12	
Netherlands	63.36	3	HI	3	EUR	3	0.93	4	
United States of America	61.40	4	HI	4	NAC	1	0.78	21	
United Kingdom	60.89	5	HI	5	EUR	4	0.78	20	
Denmark	58.70	6	HI	6	EUR	5	0.71	34	
Singapore	58.69	7	HI	7	SEAO	1	0.62	63	
Finland	58.49	8	HI	8	EUR	6	0.70	37	
Germany	58.39	9	HI	9	EUR	7	0.84	7	
Ireland	58.13	10	HI	10	EUR	8	0.85	6	
Korea, Rep.	57.70	11	HI	11	SEAO	2	0.82	14	
Luxembourg	56.40	12	HI	12	EUR	9	0.97	1	
Iceland	55.76	13	HI	13	EUR	10	0.86	5	
Japan	54.72	14	HI	14	SEAO	3	0.67	49	
France	54.18	15	HI	15	EUR	11	0.71	35	
Hong Kong (China)	53.88	16	HI	16	SEAO	4	0.61	73	
Israel	53.88	17	HI	17	NAWA	1	0.77	23	
Canada	53.65	18	HI	18	NAC	2	0.64	59	
Norway	53.14	19	HI	19	EUR	12	0.66	51	
Austria	53.10	20	HI	20	EUR	13	0.69	41	
New Zealand	52.87	21	HI	21	SEAO	5	0.65	56	
China	52.54	22	UM	1	SEAO	6	0.94	3	
Australia	51.83	23	HI	22	SEAO	7	0.60	76	
Czech Republic	50.98	24	HI	23	EUR	14	0.83	13	
Estonia	50.93	25	HI	24	EUR	15	0.79	19	
Malta	50.60	26	HI	25	EUR	16	0.84	8	
Belgium	49.85	27	HI	26	EUR	17	0.67	47	
Spain	48.81	28	HI	27	EUR	18	0.70	36	
Italy	46.96	29	HI	28	EUR	19	0.73	31	
Cyprus	46.84	30	HI	29	NAWA	2	0.74	28	
Portugal	46.05	31	HI	30	EUR	20	0.71	33	
Slovenia	45.80	32	HI	31	EUR	21	0.68	44	
Latvia	44.61	33	HI	32	EUR	22	0.74	26	
Slovakia	43.43	34	HI	33	EUR	23	0.75	25	
United Arab Emirates	43.24	35	HI	34	NAWA	3	0.49	104	

The current focus of UAE over innovation proves its commitment for developing the economy and increasing global competitiveness. The Cabinet in 2016 approved federal budget of Dh248 billion for 5 years out of which Dh2bn were allocated to establishing the Mohammad bin Rashid innovation fund (National Editorial, 2016). The dedication of innovation fund supports vision for UAE to place itself among the top ten most innovative international countries by 2021. Innovation is not something that occurs suddenly; rather it requires long-term investment and change of mind-set, culture and environment. Giving support to innovative ideas will not only strengthen the economy but also will develop numerous sectors such as transport, space exploration and renewable energy. It could also assist in resolving national issues such as food and water security (National Editorial, 2016). Despite the effort of UAE government in fostering the human capital in the country, the labor force participation rate in UAE has been dropped to 81.0 % in later 2020, compared with the previous years as shown in Figure 1.1 below.

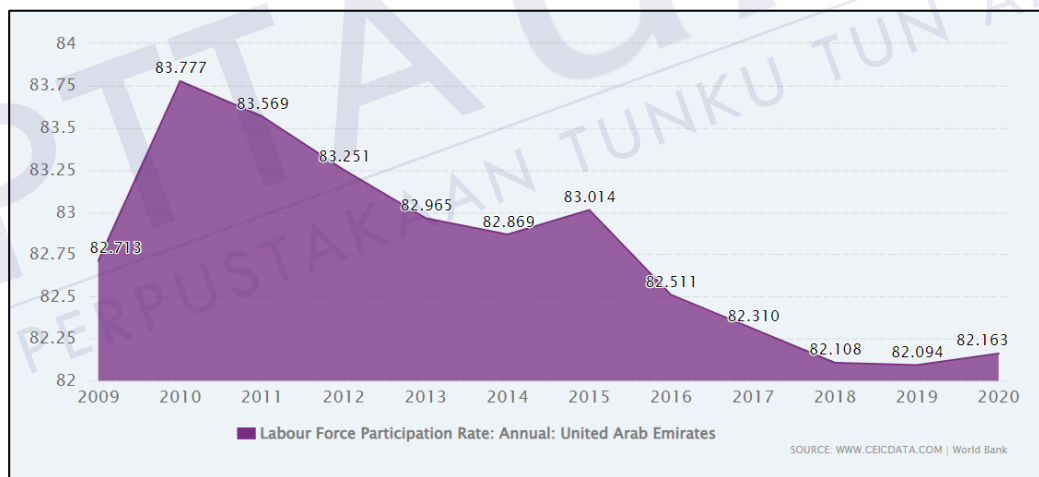


Figure 0.1: Labor force participation rate in UAE (CEIC Data)

Today, public and government organizations should practice innovation and manage innovation properly so that the workforce could be more capable to improve their skills in the work (Almaz & Roudaina, 2018). Therefore, the motivation behind conducting this study is to explore and analyze how MOCD engaged in innovation plans to foster human capital development in the country. So far, only limited studies have

explored the challenges associated with innovation facing UAE government and public organizations. The literature reveals the significant role of innovation practices on human capital development but does that apply in UAE as well. This question requires a robust answer; to what extent do innovation practices foster development programs for human capital in MOCD. This question requires further investigation and validation. In addition, developing an innovation framework to understand the role of innovation practices and innovation management on human capital should help MOCD to know the reality of innovation inside public organizations in UAE.

### 1.3 Problem Statement

The process of human capital development when linked to innovation will improve the competitiveness of organizations (Debrah *et al.*, 2017). The importance of innovation practices and human capital development have been studied in various countries but was not yet synthesized empirically. However, the problem of skills shortage seems worst in developing and emerging economies where the teeming youthful population is lacking in the skills valued by employers (Horwitz, 2014). Hence, innovation management could be an essential factor to improve the performance of workforce when traditional methods to develop human capital is not enough. At the present time, organizations are aware of the challenges in the market which required linking innovation with human capital in the right direction to achieve sustainable business development (Sharma & Sharma, 2018).

It is evident that skills human capital is connected to innovation. In any organization when only, skilled individuals are considered for the job it means that innovation will be higher. There is strong evidence for the hypothesis that human capital development facilitated by training is complementary to innovation and technological change (Baldwin, & Johnson, 1995; McDowell *et al.*, 2018; Capozza & Divella, 2019). As a result, the higher development of the human capital the higher the innovation when all necessary resources available to carry out the innovation appropriately. Although innovation and human capital development indirectly associated with each other, but little academic works have been done to approve indirect relationship between them.

In UAE, one innovation survey involving the Government of Dubai employees demonstrated the importance of taking a systems perspective which would facilitate interaction at three levels: organization, team and individual. The survey also highlighted the significance of supporting innovation mechanisms such as culture and processes (Moonesar *et al.*, 2019). In the same context, Al Marzouqi *et al.*, (2019) examines the capabilities that influence innovation practice in the UAE public sector. Their results showed that some organizational capabilities, such as culture, communication, finance, and IT have a strong impact on innovation practices. Thus, the most important aspects that UAE public organizations have to commit is providing sufficient capabilities during implementation of innovation practices.

In the same context AbdulQuddus (2019) investigated factors to innovation practices in UAE and the preliminary result from the study shows a strong relationship between the innovation practices and growth in the UAE. He also found different barriers and enablers of innovation. The major enabler is the UAE government's positive attitude to innovation through its innovation strategy that recognizes innovation as an important element of social and economic development in UAE. An important enabler is the competitive technology resources for the communication and sharing of knowledge among educational, research institutions and innovation incubators (AbdulQuddus, 2019). It is evident that the Emirati entrepreneur innovation process is like processes in other parts of the world, but there is no access to government research centers or public research available. The findings suggest that support is needed to increase the efficiency and effectiveness of innovation practices in the UAE (Van Horne & Huang, 2013).

It is clear that human capital is well defined in the resources-based view theory (RBV) as a useful resource to the organization, whereas RBV did not distinguish between different sorts of human resources (Kraaijenbrink, 2011). Furthermore, RBV has shown that human capital is effectively working as intangible resources to organizations, as well as one of the primary sources of knowledge, allowing the organization to operate better and generate high-quality output. In this study human capital are the intangible resources in RBV who can be developed through development

practices (i.e., training, mentoring, and performance appraisal) in the efforts to foster innovation in government organizations in the UAE, where knowledge and skills accumulated among staff and employees working in MOCD are critical success factors. Yet, the literature did indicate empirical results on the role of RBV in fostering human capital development with the aid of innovation. The need for a framework explaining how human capital development could be influenced by innovation is necessary for academics and organizations aim to implement innovation practices in their business strategy (Alsufyev, 2013). In other words, this theoretical gap has not been examined, and more researching is needed to explain how innovation practices and innovation management could enhance the skills of individuals from the perspective of intangible resources as justified by RBV theory.

In brief, many studies covering innovation practices and human capital development. But it is a challenging issue to understand how innovation practices and innovation management can influence human capital development. Yet, the influence of innovation management in between innovation practices and human capital development is still unclear. Accordingly, this study is designed to analyze current practices of government innovation toward human capital development. This research will not only analyze the relationship between innovation practices and human capital development in government bodies in UAE, but it will analyze how this relationship is influenced by other variables such as innovation management. Moreover, as an absence of a general innovation framework for human capital development is one of the problems delaying implementation of the National Innovation Strategy, this research project will help government bodies such as MOCD to boost future innovation strategies in the country.

#### **1.4 Research Questions**

Based upon the research objectives, this study is designed to answer following research questions:

- i. Do innovation practices affect human capital development of MOCD - UAE?

- ii. Do innovation practices affect innovation management of MOCD - UAE?
- iii. What is the extent of effect of innovation management on human capital development?
- iv. Does innovation management have a mediation role on the relationship between innovation practices and human capital development?

### **1.5 Research Objectives**

Drawing upon the above discussion, this study was carried out for achieving the following objectives:

- i. To examine the effect of innovation practices toward human capital development of MOCD - UAE.
- ii. To analyze the effect of innovation practices on innovation management of MOCD - UAE.
- iii. To analyze the effect of innovation management on human capital development by MOCD - UAE.
- iv. To investigate the mediation role of innovation management on the relationship between innovation practices and human capital development of MOCD - UAE.

### **1.6 Scope of the Study**

This study is motivated to evaluate the impact of innovation practices and innovation management on human capital development. The population are the staff of different occupations working in the Ministry of Community Development (MOCD) of UAE. Quantitative methods have been used to answer research questions and test the hypotheses. Questionnaire is the data instrument. IBM-SPSS-AMOS software is used to accomplish all data analysis in this study.

### 1.7 Significance of the Study

The importance of this study comes from the analysis of innovation role in developing the skills of human capital in government organizations. The study attempt to contribute to academics by providing a valid and reliable scales for innovation management, innovation practices, and human capital development. This outcome of this research project provided a meaningful insight on the methodological, empirical, practical as well as theoretical aspects. From a practical point of view, the findings are useful for the UAE government to consider innovation as one of the means for developing the performance of human capital and take the necessary initiatives in innovation management, such as innovation strategy innovation culture. Today, the functions of human resources management can be enhanced with the support of innovation tools. Therefore, the findings will help the leaders of MOCD to know the weakness of human capital and understand why innovation practices is helpful in developing human capital through training, mentoring, performance appraisal.

Moreover, the study adds to innovation theory new evidence, and responds to the lack of research into RBV in innovation strategies. From the theoretical stance, there is a lack of proper mechanism by which RBV theory is related to innovation management (Heriyanto *et al.*, 2021). There was a gap where previous research tends to get a competitive advantage from increasing innovation. However, the findings of this research have two explanations, first is the core of the RBV is that organizations (MOCD) that are aware, and how the theory of 4Ps explains human capital development through the four constructs (product, process, position, and paradigm). In short, there is a dearth of researching on the role of RBV and 4Ps theories in the public and government domain from the perspective of human capital development.

Finally, the findings of this study will support the policy makers in the UAE government by presenting a clear overview and statistics on current situation of innovation in MOCD so that to the necessary initiatives in this regard. The policy makers will devise better policies if the current innovation practices are not matching the UAE innovation vision of 2021. In other words, through the critical analysis of the results come out from the survey, the policy makers in the government agencies will

make better steps for human capital development and remedy any defaults in the performance of human resources.

## 1.8 Operational Definitions

### 1.8.1 Innovation

“The aspiration of individuals, private institutions and governments to achieve development by generating creative ideas and introducing new products, services and operations that improve the overall quality of life. Innovation is key to promoting economic growth, increasing competitiveness and providing new job opportunities” (UAE National Innovation Strategy, 2015, p. 5).

### 1.8.2 Innovation Practices

Innovation practice is the combination of overall organizational achievements as a result of renewal and improvement efforts done considering various aspects of firm innovativeness, i.e., processes, products, marketing, and organizational innovation (Fontana & Musa, 2017). It is measured through four dimensions (sub-variables):

- i) **Process innovation:** Administrative innovation indirectly related to the work activities which relates primarily to process innovation (Al-Husseini, 2014).
- ii) **Product innovation:** Modifications made in the end consumer’s product and service (Valencia *et al.*, 2010).
- iii) **Organizational innovation.** The methods of innovation that changes organizational conduct and outcome (Demircioglu, 2016).
- iv) **Marketing innovation:** Implementation of new marketing practices involving significant changes in the design, packaging, distribution, promotion or pricing of a product or service (Oslo Manual, 2005).



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