

# THE EFFECT OF ORGANIZATIONAL INNOVATION PRACTICES ON HUMAN CAPITAL DEVELOPMENT: THE MEDIATING ROLE OF INNOVATION MANAGEMENT

Zayed Hussain Salih Alhemairy, Universiti Tun Hussein Onn Malaysia  
Wan Fauziah Wan Yusoff, Universiti Tun Hussein Onn Malaysia  
Nagwan AlQershi, Universiti Tun Hussein Onn Malaysia

## ABSTRACT

*Innovation is one of the success pillars in any business because it reflects the overall organizational achievements as a result of renewal of ideas and improvements in various aspects of the organization. However, there is a lack of empirical evidence showing the role of innovation management in human capital development in the United Arab Emirates (UAE) and other Middle Eastern countries. This study therefore investigates the relationship between Organizational Innovation and Human Capital Development, and the mediating role of Innovation Management in this relationship. To achieve the objective of the study, a quantitative approach has been adopted involving 387 participants from the staff of the UAE Ministry of Community Development (MOCD). The result revealed that organizational innovation practices affect human capital development both directly and, through innovation management, indirectly. This covers all aspects of innovation including product, process and marketing innovation. Establishing an innovation strategy and innovation culture in any organization will improve the skills and knowledge of the workforce and foster their ability to deal with the challenges of fast development in technologies used in the workplace.*

**Keywords:** Organizational Innovation Practices (OIP), Human Capital Development (HCD), Innovation Management (IM)

## INTRODUCTION

Innovation is one of the elements that have transformed business in recent decades (Edwards-Schachter, 2018; Gomber et al., 2018; Todeschini et al., 2017). The concept of innovation has enabled both developing and developed countries to bring together extensive transformations leading to their success (Burström et al., 2021; Gomber et al., 2018). Innovation also contributes to increased operational effectiveness and efficiency (Gemünden et al., 2018). It is, therefore, reasonable to say that constant innovation requires new marketing methods and improving customer satisfaction by meeting their changing needs. Moreover, organizations launch new products and improve current products to increase sales and to become leaders in the market (Liu & Atuahene-Gima, 2018). Providing new services and products to match the needs of customers enables firms to keep abreast with the changing customer needs and enhance their brand image. Meeting customer needs should result in successful business operations (Liu & Bell, 2019).

In fact, innovation, converted into a plan, deals principally with an organization's growth through the development of new products, services, processes or business models to attain certain objectives (Iplik et al., 2014). Most notably, it is a significant way for innovation to create growth and sustain and develop performance in a dynamic and changing environment (Porter, 2011). Innovation is a foremost strategic tool to gain competitive advantage in such complex environments (Salunke & Weerawardena, 2014).

In addition, organizations are often dependent on the effective utilization of their assets to improve their profitability and on the application of innovative practices to reinforce their value, when imitated by rivals. In this context, the effects of Organizational Innovation (OI) on Human Capital Development (HCD) can be studied through the evaluation of innovation management (IM) in light of product/service quality (Mashahadi, Ahmad & Mohamad, 2016).

In another scenario, UAE seeks to develop an environment to enable and promote innovation through the development of an adequate regulatory framework, providing broad enabling services, improving the technological infrastructure and warranting the availability of incentives and investments. That is, the key for success in innovative endeavours is the creation of the right environment (Mohammed, 2019; UAE National Innovation Strategy, 2015). Human Capital (HC) is the base of innovation, as is evident from the increasing concern of governments and companies worldwide to recognize and promote innovative individuals and groups (OECD, 2014). Thus, the UAE government is focusing on encouraging individuals who have a strong feeling for innovation (AlNuaimi & Khan, 2019). It aspires to empower the nation through the development of innovative people and their capabilities in technology, science, mathematics and engineering, by equipping them with 21st century skills (UAE National Innovation Strategy, 2015). As the impact of innovation on HCD in the UAE has not yet been explored fully, the main objective of this study is to analyse current practices of government innovation towards HCD in UAE.

The results of our study are expected to have implications for academics and policy makers concerned with the role of OI practice in enhancing HCD, and investigating IM as a mediating variable. This can be used by UAE governments to clarify and determine the importance of OI practice and the relevant activities in bringing about optimal HCD.

To fill the gaps in the literature, our work aims to answer two important questions, considering OI practice within the context of the UAE's MOCD:

- 1- Is there any relationship between organizational innovation practice and human capital development?
- 2- Does innovation management mediate the relationship between organizational innovation practice and human capital development?

## LITERATURE REVIEW

### Organizational Innovation Practices (OIP)

Innovation is the continuous process through which productive resources are developed and utilized to produce higher quality products at lower cost than had previously been available (Pisano, 1997). In the same context, Nandram et al., (2016) defined OIP as new knowledge incorporated in process, product, and service development. Innovation begins with sequential processes from the recognition of a problem or discovery of a novel idea, through problem solving and the creation of productive ability to the introduction of the creative product and service in the marketplace (Hevner & Gregor, 2020). OIP can also be defined as the representation of a process, usually an activity developing a new service or a product, a new process in technology, a new organization, or improvement of the existing service or product (Rossignoli et al., 2015; Cross et al., 2010). OIP can improve levels of efficiency, creating distinctive innovative abilities that can be leveraged to launch new market offerings (O'Connor & Rice, 2013). Innovation is considered as modelling the organizational culture of a firm and, as such, it can be inferred that innovation impacts the firm's performance through accumulated results stemming from both positive and negative effects, as moderated by the factors making up the environment and context (Zhang et al., 2020). Therefore, despite the cumulative positive effect of innovation on the performance of firms, the effect is largely contextual.

Innovation is the creative process of finding new ways of doing things or or conducting it focuses heavily on transcending all that is traditional (Bocken et al., 2019). Innovative processes should be compatible with their environment, frequently building on earlier accomplishments in order to develop these achievements and benefit from experience (Borowski, 2021; Agarwal, 2018). Innovation is mostly the result of human need, with new requirements imposed by different environments, and one of the most prominent examples of innovation is the development of a new product that contains characteristics that were not present in old products; this is reflected in the environment of the organization or the production process as a whole, and usually comes from specialists who depend on experience and observation in developing existing methodologies, and finding more sophisticated methods for carrying out traditional tasks (Dragone et al., 2020; Anthony, 2017).

Previous studies have consistently linked OIP to HC. For example, Sartori & Scalco (2014) claimed that it may enhance HC. Jiang, et al., (2019) found that OIP also has a direct effect through HC, while Orchard (2015); Fonseca, et al., (2019) found a significant relationship between them. Van Lancker, et al., (2013) found a significant relationship between OI and radical innovation among the population investigated. Based on the above discussion, our study hypothesizes:

*H1a: There is significant relationship between organizational innovation practices and human capital development.*

*H1b There is a significant relationship between organizational innovation practices and innovation management.*

## **Innovation Management**

Innovation management is one of the most important elements contributing to national and institutional economic and social development, enhancing competitiveness; gaining a sustainable competitive advantage (Afuah, 2020) is achieved by consolidating the foundations of creativity, innovation, quality and continuous improvement. Management also plays a decisive role in starting any innovation process, and its main task is to create favourable conditions (Goodman & Dingli, 2017) for generating new ideas, implementing and improving them. At the same time, management is committed to striking a balance between promoting new developments and carrying out the traditional activities of the organization (Biemans, 2018; Maital & Seshadri, 2012).

Measurement of the process of IM is critical for both academics and practitioners (Goodman & Dingli, 2017), although the literature reports a variety of models, approaches, recommendations, and practices that can be contradictory and confusing. The consequence of this is the lack of a holistic or general framework covering the range of processes required within different industries to transform ideas into suitable and marketable services and products. According to Kadar, et al., (2014), various scholars have proposed that an organization's competitiveness can be improved through innovation by defining innovation more consistently and paying attention to innovation management, for example:

- Innovation culture is an intangible source that contributes to increased levels of innovation through searching and acceptance of the diversity of opinions and provides a new horizon of thinking and a way of acting that supports innovative ideas, accepting mistakes in order to grow, encouraging a risk-taking propensity, rewarding success, the flexibility of management about working hours and problem solving, and motivating communication and acknowledgement of the work and of team spirit (Coad et al., 2016; Harbi et al., 2014).
- Innovation strategy involves a major adaptive change in the company's business model or the adoption of a new business model. It can sometimes be driven by innovations that occur within the organization, such as strategic change, product and process innovations or by external innovations and challenges (AlQershi et al., 2019). External strategic changes, such as mergers, are the most common manifestations of strategic innovation. Internally focused strategic innovation generally involves structural reshaping (Doğan, 2017).

In another scenario, HC is an integral part of national wealth (AlQershi et al., 2020; Gulaliyev et al., 2019). It can be defined as the knowledge, abilities, and skills acquired by a person throughout his/her life, developed through investment and used in the process of social reproduction (Fitzsimons, 2015). Human capital development (HCD) becomes a part of an overall effort to achieve cost-effective performance (Bosio et al., 2018). Admittedly, HCD and organizational enhancement tend to make a significant contribution to organizational competence, which in turn encourages further innovativeness (Marimuthu et al., 2009).

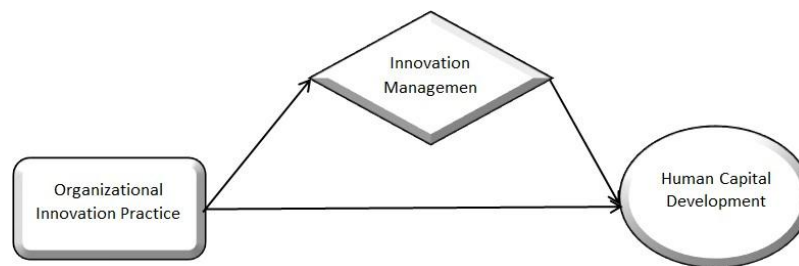
HCD represents the skills, capabilities and level of knowledge of individuals as a significant source for organizations and nations to achieve competitive advantage (Black, 2019). Both developing and developed countries place great emphasis on HCD in order to boost economic progress by dedicating the required time and efforts (Hanushek, 2013). Therefore, in the global arena, HCD is considered as one of the major solutions to influence organizational performance (Marimuthu et al., 2009).

Ang, et al., (2011) made use of statistics from 87 countries during the period 1970 to 2004 to examine whether the involvement of HC in the growth of productivity is reliant upon the structure of HC and proximity to technological innovation. They concluded that skilled HCD largely depended on technological innovation. Lengnick-Hall, et al., (2011) argued that the term “human capital” has been described as a major factor in refining an organization's resources and employees with the objective of improving productivity and sustaining competitive advantage. HCD involves training, education and other initiatives undertaken to improve the level of expertise, capabilities, values, knowledge and social assets of the workforce, resulting in employ satisfaction and improved individual and organizational performance (Marimuthu et al., 2009). In particular, a knowledgeable and highly skilled workforce underpins every function of the economy, and the development of the workforce through education and continuous training is central to gaining and maintaining international competitiveness (Debrah et al., 2018). IM plays a vital role for all firms; Dakhli & De Clercq (2004) observed a significant direct influence of human capital on innovation. Prajogo & Oke (2016) found a significant relationship between HC and improved service innovation. Other researchers, such as D'Este (2014) have found that HC plays a significant role in innovation. That is, innovation is important in all functional and operational activities that help reduce production costs, enhance quality and delivery methods, gain market share and attain superior performance and competitive advantage. Our study therefore hypothesizes:

**H2a:** *There is significant relationship between IM and HCD.*

**H2b:** *IM mediates the relationship between OIP and HCD.*

Based on the literature, a new research model has been developed as shown in Figure 1.



**FIGURE 1**  
**RESEARCH MODEL OF THE STUDY**

## RESEARCH METHODOLOGY

### Sample and Procedures

This study employed a quantitative descriptive approach using “standardized questions that can be interpreted the same way by all respondents” (Lewis et al., 2007). The data was collected using a structured questionnaire developed from the literature review. 420 questionnaires were distributed online to staff in the MOCD, resulting in 387 being valid for analysis, a response rate of 92.14%. The data was analyzed using SPSS software. Descriptive analysis, Pearson correlation and Structural Equation Modelling (SEM) (Verma, 2012; Kremelberg, 2010) were employed. In summary see Table 1:

<b>Table1</b>	
<b>SAMPLE PROCEDURE</b>	
Research Design	Quantitative
Unit of Analysis	Individuals
Sample technique	Random
Data Analysis Technique	AMOS
Sample Size	387

### Measures

The study's three major constructs are OIP, IM and the HCD. Items from previous studies were adopted to measure the constructs: The items for IOP from Armbruster, et al., (2008), IM indicators are adopted from Tidd (2001) and HCD indicators are adopted from Vaitkevičius, et al., (2015). The study employed the 5-point Likert scale to rate the survey items, 5-point Likert can capture the subtle degrees of measurement the participants intend to express (Franklin & Foa, 2002).

## RESULTS AND DISCUSSION

The output from AMOS software after running SEM analysis revealed that most indices were sufficiently satisfactory to consider the model a good fit with the collected data. However, the researcher took several steps to improve the fit of the initial structural model, including evaluation of the error indicators and modification indices as well as deleting weak factor loadings.

The values of the fit-indices were thus compatible with the cut-off points for SEM standards. PCLOSE=1.00 (perfect non-significant) which reflects a high degree of model-fit, CMIN/DF=1.560 ( $\leq 2.00$ ), CFI=0.947 ( $\geq 0.90$ ), TLI=0.944 ( $\geq 0.90$ ), and finally RMSEA=0.038 ( $\leq 0.08$ ). Evaluating the value of these fit-indices and comparing them with the cut-off points for each, the empirical data reflected a high degree of model-fit in the conceptual framework developed in this study. Moreover, all factor loadings were greater than 0.15 and the direct regressions between OIP, IM, and HCD varied between 0.42 and 0.69. Any regression (estimate) greater than 0.8 or less than 0.15 would not have been accepted as fitting the empirical data with the theoretical model.

The justification of each hypothesis is indicated in Table 2, showing that all values of CR  $\geq 1.96$  and range between the lowest value=3.052 (OIP-HCD) and the highest value=6.033 (OIP-IM). Moreover, the level of significance  $\leq 0.05$  for all relationships, as indicated in Table 2. From this result it is concluded that OIP (independent variable) influences two variables: IM (mediator variable), and HCD (dependent variable) in direct relationships. OIP affects HCD

directly and also indirectly through IM. In summary, the SEM analysis shows that all hypotheses are supported. In other words, there are significant and positive correlations (direct effects) between the constructs (OIP, IM, & HCD) of the conceptual framework.

Based on the results, it is evident that OIP influences HCD directly, and indirectly through IM. This finding is supported by empirical evidence from previous studies (McDowell et al., 2018; Kong, 2015; Okebukola, 2014). It is evident that skills development is one of factors of HC that is connected to innovation. In any organization, when only skilled individuals are considered for a job its means that innovation will be higher. Thus, HCD is involved at every stage of innovation process, development, and implementation.

<b>Hypothesis</b>	<b>Hypothesis Statement</b>	<b>CR</b>	<b>Sig.</b>
Hypothesis 1a	OIP has a significant and positive relationship with HCD.	3.052	0.002
Hypothesis 1b	OIP has a significant and positive relationship with IM.	6.033	0.000
Hypothesis 2a	IM has a significant and positive relationship with HCD.	4.157	0.000
Hypothesis 2b	IM mediates the relationship between OIP and HCD.	2.807	0.001

## CONCLUSIONS

Innovation is one of the factors which most help firms to continue in a difficult business environment, with several advantage to various aspects of the organization, *i.e.* processes, products, and marketing. Innovation: Improves product quality; develops individual personal thinking skills, through group interaction, and the practice of brainstorming; contributes to strengthening the image of the institution in the minds of customers; helps to create a spirit of competition; helps to find ways to increase the sales; contributes to improving the quality of decisions made to solve problems within the organization in various fields, whether economic, technical or marketing, in addition to solving problems related to the work environment itself; and contributes to the reputation of the institution for competitiveness by reducing the period between the issue of products.

The study found causal relationships between OIP, IM, and HCD, leading to the conclusion that all hypotheses are true and accepted. In other words, the regression models predict that the dependent variable, HCD, has significant relationships with OIP and IM. The strength of the association between these variables is moderate and positive. In other words, innovation practices affect human resources development directly and indirectly. Accordingly, it is recommended to focus on all aspects of innovation including product, process and marketing innovation, while establishing innovation strategy and culture inside the organization will reinforce the skills and knowledge of the workforce.

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