

Collaborative Innovation and Organizational Transformation in the Education Sector during the Pandemic of COVID-19

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Abstract

For decades, the innovation concept has been under study; like so many sectors, disciplines and businesses, we are trying to understand and adopt innovation in our daily work operation. Furthermore, a plethora of research conducted in order to understand innovation profoundly. This study is attentive to understanding and analysing factors that impact collaborative innovation in education, which may influenced the education sector in the UAE during the pandemic time. Using five independent variables, which are human resource practices (HRP), employee engagement (EE), employee adaptability (EA), training and development (T&D), technology knowledge (TK), and intermediate variable innovation at education (IAE), and one dependent variable transformation and performance (T&P). The study followed a random sample from multiple education establishments in the UAE surveying teachers. The findings of the study revealed significant relationships among all dependent variables (DV) and intermediate variable (MV), as well as between intermediate variable (MV) and dependent variable (DV), which indicates that when (IV) is utilised and attained, innovation in education will be accomplished, and as a result, robust performance and transformation process could be in place.

Keywords: Innovation, education, transformation, training and development, adaptability.

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Introduction

Education is one of the most significant fundamental aspects of life. It is very crucial for anyone to have his/her education accumulated in order to peruse his/her life patterns and career chronology. UAE government, along with education entities, are working too hard to make sure that education is conducted in a very professional and easy-learning climate. However, the pandemic of covid-19 hits the globe adversely and encounters a major lockdown and drawback, impacting the conventional education model. Therefore, we will discuss in this literature factors that had a direct relationship with innovation in education, which could elucidate employees' performance and lead to organisational transformation. Innovation in education has been one of the major pillars that could foster employees' performance and lead to organisational transformation. There is a plethora of theories, frameworks, experiments and practices that were discussed briefly to measure how could innovation impact positively on employee performance and work effectively toward transformation in the education sector. Similarly, factors that influence innovation were highlighted widely in the literature by many articles and publications.

Scholars suggested major elements that are essential for innovation in education which could lead eventually to enhancing employees' performance and organisational transformation, such as human resource practices, training and development, employees' engagement, technology knowledge and adaptability. The pandemic has affected learners all over the globe adversely, with more than 1.6 billion learners across more than 200 countries getting impacted in a direct way (Pokhrel, 2021). This study will first anticipate factors that influence innovation in education that elucidate employees' performance and lead to organisational transformation first, and then will conduct a pilot survey regarding the same

concept in the context of UAE to provide a clear example, as well as lead us to minimise the literature gap which wasn't cover briefly in scholars' literature. Finally, this study will conclude the impact of the mentioned factor on the collaborative education process during the pandemic time and will illustrate the contribution of this study to the education discipline in the UAE during the pandemic time.

Theory

Numerous conditions and procedures are associated with human resource management, including innovation, transformation, and knowledge. First and foremost, innovation is regarded as the backbone of the modern human resource team managerial style, as it explicitly allows the department to have intelligent control over their team, as there is no effective management with only an innovative process of planning, monitoring, and utilising (Kianto, 2017).

Scholars have emphasised significant factors that affect workers' trust in their management. According to Macky and Boxall (2007), sympathetic human resource management practices will significantly increase subordinates' commitment to human resources' preferred organisational objectives. Mayer (2005) illustrated that one of the essential things for human resources is to work on their habits and on building trust because the more a manager treats his team members with honesty and transparency, the more likely they believe in them and their behaviour, regardless of its accuracy, and all of this becomes immense as a method and component of human resource practices.

There is another technical term within that path, and it is called significant commitment to human resource management. It consists of five primary elements: performance appraisal, development and training, job chronology, career advancement, participation, and compensation, and these are the leading

indicators of effective high participation human resource management (browning, 2006).

HR practices have evolved to counterfeiting the impact of distance learning when it comes to education. For instance, (Fraij, 2021) emphasised the way human resource practices overcome the undesirable consequence of the pandemic on education. His study that was conducted in Jordan, using semi-structured online interviews due to pandemic, revealed that the online model of human resources is the best alternative for the traditional way of workstyle, which proposed that such kind of direction could assess in the innovation process, through teaching online and dealing with daily operation cases that cater for organisational transformation. In the same context, (Kutieshat, 2022) explained that the innovative approach of human resource management could effectively act during the pandemic. The study that was conducted by the ministry of education in Amman, collecting data from 450 employees, found that there is a strong link between innovative new management in human resources and the transformation process in the education sector, supported by mediating factor of organisational innovation that leads to enhanced performance of employees in the education industry.

As can be seen, the management practices of human resources can play an important role in the operation of the organisation. Collaborative innovation fosters the transformation process to support the performance of employees, which results in enhanced practices in the education discipline (Rubel, 2018). According to research, there is a strong relationship between employee engagement and organisational achievement, and they have recognised three main layers or elements of interaction, which are absorption, determination, and vitality, where uptake is achieved by recognising the requirement of the role of been executed by preferred employees, that he or she would highlight as well as fully comprehend goals and objectives and what function they play in achieving it. Furthermore, understanding their immense insight will not only improve their

organisation's performance but will also put a spotlight on them as their manager will most likely admire the effort and reward them, leading to higher motivation and performance.

The second element is devotion, which is a core component of any business survival because dedication reflects the commitment and loyalty, which reflects how much staff members are willing to go the extra mile to attain a sustainable organisational objective, and that requires outstanding making plans and treatment from human resource personnel and leaders to get the superiors back on board and strategy to get the best out of them.

The third and most important element is vigour. You may have employees to adhere and faithful, and you can participate them as a potential leader; however, at times, particularly in difficult circumstances, a giant firm requires employees who have the personality and vigour to be stable against considered challenging and market decline, and to act as a safety valve (Aldalhmeh, 2018). Employees' engagement in education can also have an essential role, especially at the time of a pandemic. (Ahmed, 2020), identified the significance of employees' engagement in the education sector. His study found that employees' engagement along with knowledge sharing has a significant influence on enhanced organisational performance. This finding enabled the education sector to be creative and work under pressure in order to find superb alternatives and solutions for a better education experience.

Training and development is a fundamental elements in organisational success and blossoming (Tannenbaum, 1992). Training and development are part of practices that are carried out by human resource management team, and the definition adopted from the study of Salas et al. (2012) is the process of direction, interest, and effort to advance the skills of an employee to pursue their career chronology and acquire the necessary experience that they need. Learning and development play a critical role in the development and progression of businesses for the next generation of business assimilation. In order to deal with business fluctuations,

senior management must play a critical role in directing subordinates to follow its strategic decisions, which are linked to training and development. Besides that, in any workplace, the adaptability of generating new skills and implementing innovation is essential (Pawar and Raut, 2012; Raut and Pawar, 2016; Vey, 2017).

Ceesay (2021) explained how could training and development affect on education sector during the pandemic. He emphasised in his study that people's perception in Africa has gone negatively during work from home and negative news. However, by implementing training and development, which was already impacted, the innovative approach can replace the traditional model of working, which was highly required. Similarly, (Mardiah, 2020) found that training and development in using E-Learning is the only way to overcome the outbreak of the pandemic. As we can see, learning and development can play a fundamental role in innovative approaches that lead to advanced performance and organisational transformation.

Employee job adaptability refers to "a personal trait useful in dealing with ambiguity, uncertainty, and stress, as well as working outside of traditional temporal and geographic boundaries" (Pearlman & Barney, 2000). This means that when an employee faces severe conditions such as working from a distance like (Covid-19) pandemic situation or any other vital change, he or she can adapt to that change and keep their performance up to the expected level. Due to the ambiguity surrounding the concept of employee adaptability, Pulakos, Arad, Donovan and Plamondon (2000) developed a taxonomy with eight dimensions to clarify its meaning.

Employee job adaptability was extremely needed during the pandemic as the crisis emerged. For example, (Rivera, 2021) showed that job adaptability, which is built based on hope and resilience, can confront the

undesirable impact of covid-19 on the education sector. Furthermore, Ma, K., Chutiyami (2021) linked job adaptability and self-efficacy as part of teachers' responsibility to adapt to the situation of the pandemic, which could facilitate their job and improve their performance.

Technology knowledge is an essential factor for multiple stakeholders such as business managers, business owners and employees. It is very hard to provide a value without having a piece of sound knowledge in Technology; therefore, we need to illustrate the significance of knowledge technology for both employees and management, which could foster the performance of employees as well as assist on company's transformation (Saleh, 2018). According to (Nonaka, 2014), its very crucial for any management to have interaction with its' employees, and having a technology knowledge base is a mediating factor in accomplishing that. For instance, having proper technological knowledge in terms of data restoring, computer-based related work, and other technological aspects will upscale the management performance in dealing and interacting with its' employees. The covid-19 outbreak made it a bit difficult to conduct a face to face meetings; therefore, the utilisation of Technology-enabled managers to communicate effectively with their subordinates also applies to the social education system (Davidović, 2020).

The concept that the technical knowledge could elucidate the transformation of an organisation is discussed; as that supports the role of Technology in enhancing companies' transformation; by using several advanced technologies such as the Internet of things (IoT), predictive analytics (PA) and cloud computing (CC), and other technological aspects, will speed the transformation process in the company (Ardolino, 2018).

In the same context, (Fontes, 2005) explained that the spin-off firms are to orchestrate technology knowledge in order to have a smooth and dynamic transformation, especially as technology advancement could asses

tremendously on the process of transformation, which could obtain organisational goals. Technology use is a key for innovation strategy, as the calibre is how to utilise technology knowledge toward an innovative approach within the education sector. For example, (Al-Marroof, 2020) explained that the use of Google Meet could help in meeting the need of education personnel during the pandemic. While (Wiyono, 2021) shed light on technology use by anticipating technology-based-communication-media to have effective communication methods in the education sector during a pandemic.

Innovation is a very crucial and momentous concept in business (Neely, 1998). It can be defined as “Innovation is widely considered as the lifeblood of corporate survival and growth”. Innovation is recognised to play a central role in creating value and sustaining competitive advantage (Baregheh et al., 2009). He identified six steps for what is called (Innovation process), which encompasses six components. Stage: which comprises creation, generation, implementation, development and adoption. Social: which comprises firms, organisations, customers, employees and developers. Means: which comprises ideas, Technology, invention, creativity and market. Nature: which comprises new, improvement and change. Type: which comprises products, services and technologies. Aim: which comprises succeed, differentiate and compete. After we have a general understanding of innovation in general, we need to emphasise more on innovation in education. Innovation in education refers to how could means of creativity and imagination, along with real experience and learning, could foster the process of positive change and lead to transformation that impacts overall performance (Westera, 2004).

Innovation in education was always needed. Whether in the traditional way or the modern way. Indeed, it was never required that the pandemic era, as covid-19, changed the way the world is acting. Innovation in education led to a huge substitutional way of teaching, such as online teaching, using multiple advanced

software, conducting exams from home and arranging meetings among faculties using an online portal such as zoom and Microsoft team (Adedoyin, 2020). Furthermore, innovation in education is very significant, as it may provide teachers with innovative capabilities that they can pursue with their career chronology, as it represents an important aspect of quality (Novitasari et al., 2020). This means that innovation is linked with flexibility, adaptability, quality, learning and development and creativity, which is required tremendously by teaching and managerial staff working in the education sector, especially at the time of covid-19. In the UAE, all the higher education institutions and universities followed online and distance learning, during the pandemic (Crawford et al., 2020).

The most important aspect of transformation is the technological transformation, particularly when it comes to investing in long-term learning and development (Gilbert, 1995), however, others might see that innovative approaches, leadership and other related factors are the main drivers behind advanced performance (Kaser, 2009). Employees’ performance and transformation could be defined as the process where employees leverage their performance to cope with the necessary changes required by management or forced by the business atmosphere that require an approach that assesses transformation Quality (Muliaty. et al., 2017). Furthermore, it indicated the level that employees can go the extra mile to cross their comfort zone and work toward changing the way they used to work. In this study, our concern is the performance of employees in the education system within the education discipline and their adaptability to the new situation that needs transforming from the traditional way of teaching to the online teaching model (teaching from a distance) approach.

According to Petrenko et al. (2020), educational institutions that follow learning from a distance will face a problem in case they don’t have the qualified team to execute this task, so that, in the training and vocational educational entities,

the experience will be successful if they utilise junior learning specialists, as well as, well-trained teachers who can use the advance technology and who are ready for the transformational process.

Online education is considered one of the fundamental drivers of education transformation. However, the study by Firmansyah et al., (2017) revealed that online teaching is leading the path of enhancing E-performance, but not the only thing that matter for educational transformation. His study that was conducted on K-12 grade and higher education, using American sources for education, research more than a million students who are using online education, represented that the quality of teaching, students' particular needs, and acceptance among all education stakeholders must be in place to lead full transformation at education in the future. As Firmansyah et al. (2017) represented the need for a quality set of education, we need to find out how it could performance scaled up among employees working in the education sector while E-learning. Moreover, the students should also adapt to the process and need mutual familiarisation from both teachers and students. Starting with students, the study of Kauffman (2015) showed that appropriate facilitating learning methods, critical feedback from instructors, time management and course design, learning style and self-motivation. On the other hand, factors that could enhance the performance of teachers while online learning is technological advancement, perception and acceptance from teachers regarding online teaching, and availability of computer labs, while the obstacles are major technical errors, unstable Internet, senior teachers who prefer traditional face-to-face and lack of adaptability (Zalat et al., 2021). In the same context, the involvement of an advanced teachers' development program to familiarise teachers with online learning, advanced technology, the way to control students online, and other related factors enable teachers to cope with the concept of distance learning and lead them to improve

their performance along with the required teaching-climate change (Kafyulilo, 2016).

Research Method

The research phenomena have discussed the influence of the pandemic of covid-19 on the education sector and how could innovation influence performance overcome this impact. From this, the objectives of the research include identifying the effective practices of human resources on innovation in education, explaining the influence of training and development on innovation in education to represent how could innovation boost the performance of employees and assess on organisational transformation in the education sector.

To achieve the objectives set for this study and to answer the questions, the researcher could use the descriptive method along with hypothesis generation. The explanation is one of the methods well-thought-out in the study of contemporary phenomena and subsidises providing a true image of the present state of the issue below thought (Kemp, 2018).

This potential study's population of the investigation is including of the whole staff of the education sector, irrespective of their order of importance in the object's pyramid. This signifies all the labours in several sections and dissimilar business parts. Random sampling will be used in this study. Also, It's an effective method, manner in attention the thought of the study's populace is comparatively big and was recognised to be interesting and very hard for the investigator to determine the labours to income share in the investigation so that this research conducted on available and willing to participate.

A survey with several self-assessment items was used as the primary method of data collection. This methodological approach includes statistical analysis of survey data that provides a quantitative description of population attitudes, trends, and opinions by testing a random sample of that population. The

study used a cross-sectional approach, with respondents being polled only once at a predetermined time.

Data Analysis:

Demographic analysis

60% of the respondent were between the age of 31-40, which indicated the relatively young labours that work in the UAE market within the educational sector. The above, 73.7 % of the participants were female, and that explained as the researcher is female, and probably she has

more contact with the same gender, or probably that females were more willing to participate. 60% of the participants have completed their bachelor's degree, followed by 20% with higher education; this explains that the majority of UAE citizens and residents who are working within the educational sector are well-educated. Almost 58 % of participants have 4-6 years experience, and this is obvious, as some of them probably have changed their careers to the education sector or may be started from the beginning of their career.

Correlation analysis

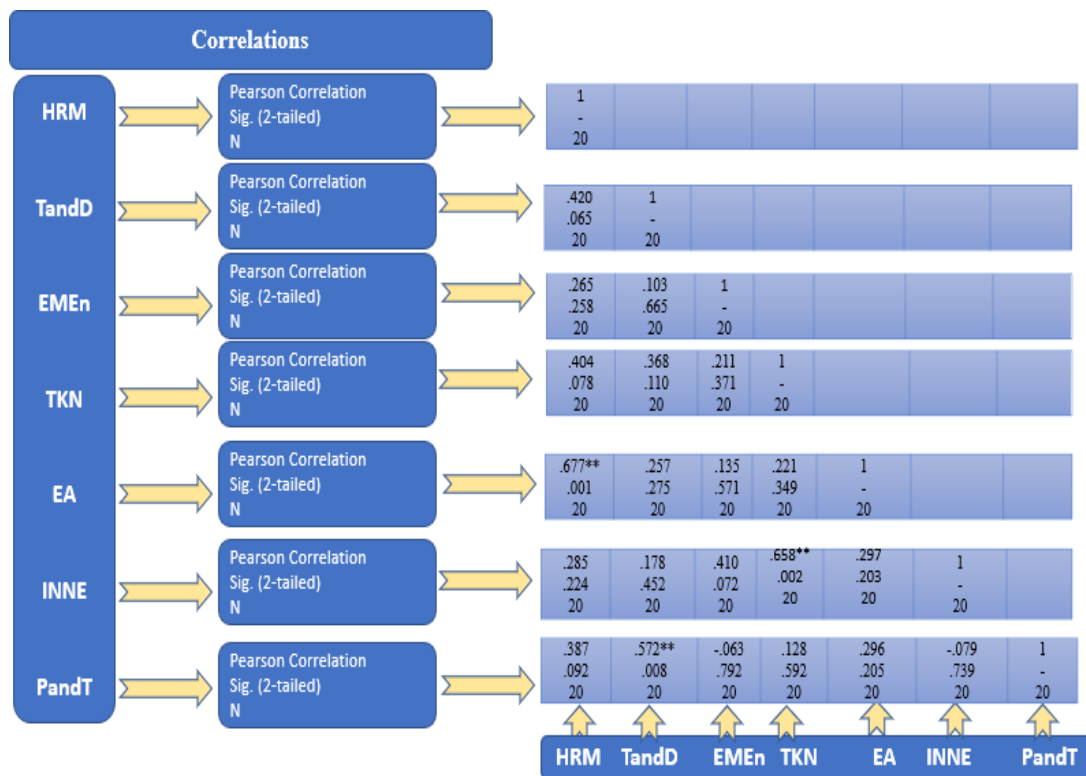


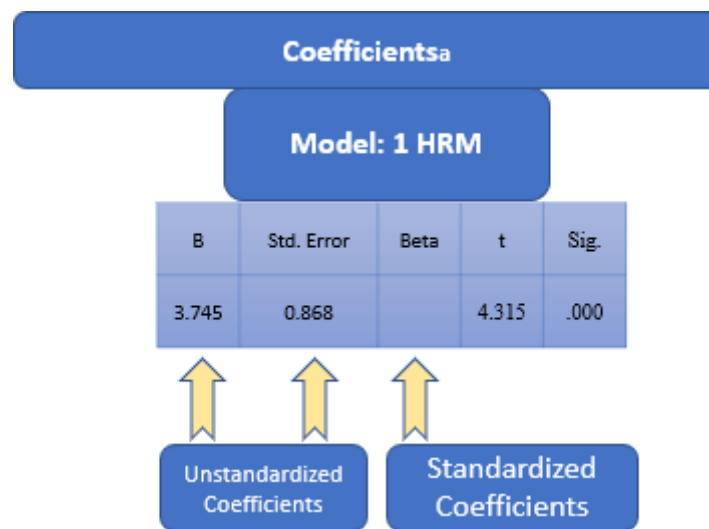
Figure 1: Correlation analysis

In the above table, there are multi values for correlation, with the highest of (0.677) between employee adaptability and performance and transformation. Which means it is highly correlated. Similarly, the correlation value between innovation in education and

technology knowledge is also high, with a value of (0.658). Other values range between (0,224) and (420), which means a poorly and moderate correlation, but still a positive correlation.

Multiple regression model (Hypothesis testing)

Regression Model (1)



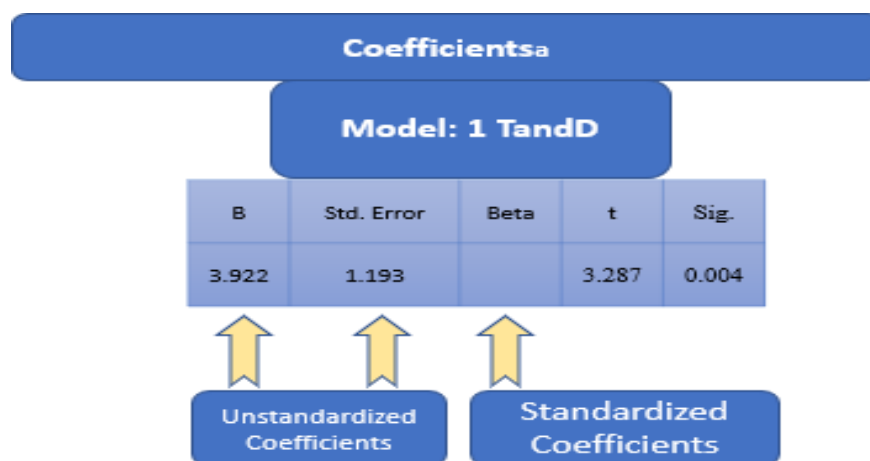
a. Dependent Variable: INNE

Figure 2: Regression Model (1)

According to the regression model above, the P-value is less than 0.05, which means that the relationship between human resource

management and innovation in education is significant, and hence, we accept the hypothesis.

Regression Model (2)

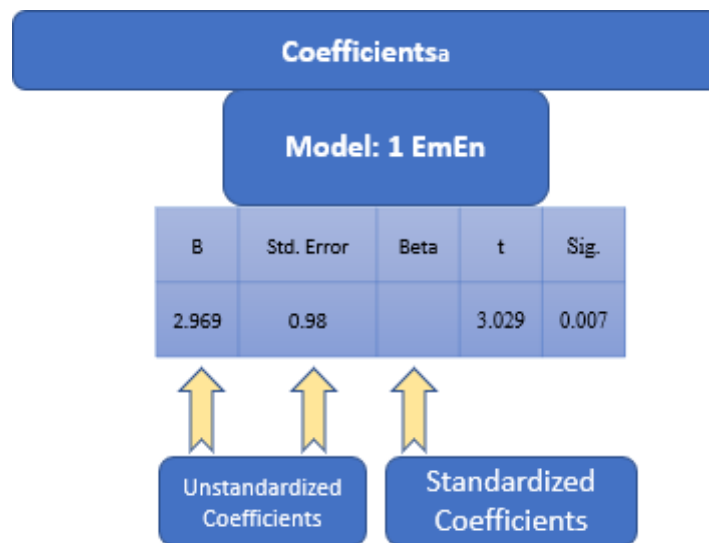


a. Dependent Variable: INNE

Figure 3: Regression Model (2)

According to the regression model above, the P-value is (0.04) less than 0.05, which means that the relationship between training and development and innovation in education is

significant, and hence, we accept the hypothesis.

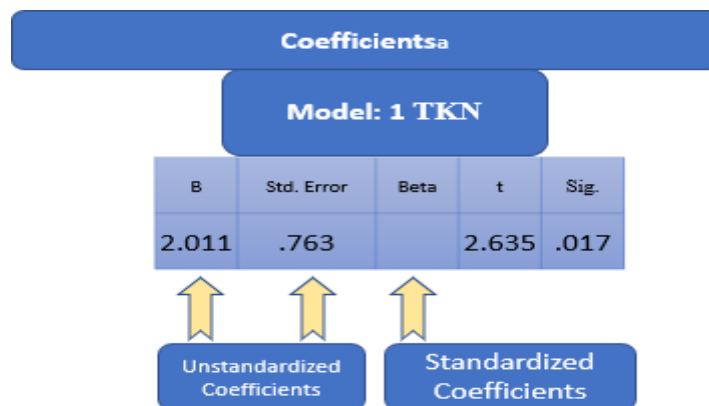
Regression Model (3)

a. Dependent Variable: INNE

Figure 4: Regression Model (3)

According to the regression model above, the P-value is (0.07) less than 0.05, which means that the relationship between employee

engagement and innovation in education is significant, and hence, we accept the hypothesis.

Regression Model (4)

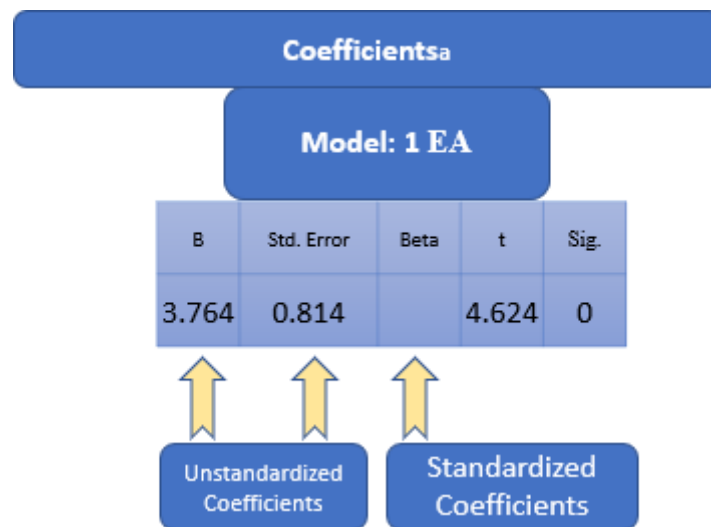
a. Dependent Variable: INNE

Figure 5: Regression Model (4)

According to the regression model above, the P-value is (0.17) less than 0.05, which means that the relationship between technical knowledge and innovation in education is

significant, and hence, we accept the hypothesis.

Regression Model (5)



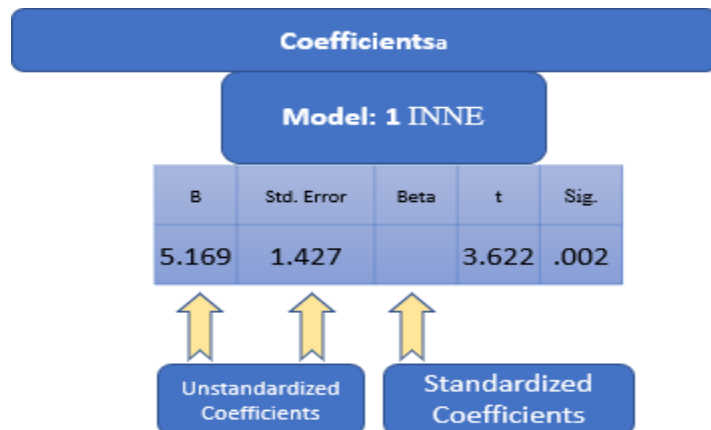
a. Dependent Variable: INNE

Figure 6: Regression Model (5)

According to the regression model above, the P-value is (0.00) less than 0.05, which means that the relationship between employee

adaptability and innovation in education is significant, and hence, we accept the hypothesis.

Regression Model (6)



a. Dependent Variable: P and T

Figure 7: Regression Model (6)

According to the regression model above, the P-value is (0.02) less than 0.05, which means that the relationship between innovation in education and performance and transformation is significant, and hence, we accept the hypothesis.

There are several factors that determine innovation in education, which is reflected in employees' performance and transformation process. There were five independent variables that this study adopted which are human resource practices (HRP), employees' engagement (EE), training and development (T&D), employee adaptability (EA), technology knowledge (TK), and one

Discussion and Conclusion

intermediate variable, which is innovation at education (IAE), and one dependent variable which is employee performance and transformation (EPT). The out clearly indicates that there is a relationship between human resource practices, employees' engagement, training and development, employee adaptability, technology knowledge and employee performance and transformation and innovation in education.

Every variable was highlighted individually, along with focusing on its' impact on innovation in education, especially at the time of the covid-19 pandemic. Indeed, the study showed that innovation in education is a massive concept, and the UAE has adopted innovation in education in a very intelligent manner; hence, online or distance learning in the UAE could be taken as an example to be copied and imitated.

This study has several limitations: first, the sample size selected is very small, and it represents their opinion and point of view, which may or may not apply to other participants in the same field under the same conditions. Finally, the researcher could have had an interview for a mixed approach of quantitative and qualitative; however, due to time and cost, this option was not possible.

The theoretical and practical recommendation is to conduct further research in the UAE regarding innovation in education, as there is a real gap that needs to be fulfilled, and this research can be taken as an example. For practical implications and for a recommendation for decision-makers, development programs and workshops for people working within the educational sector, especially teachers, should be conducted in order to familiarize them with the advancement in technology and get them adopted. Furthermore, training and development needed for both workforce in the education sector, as well as students, on how to use those platforms effectively and efficiently.

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