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## The impact of digital capability on working from home employee productivity

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CHRONICLE	A B S T R A C T
Article history: Received: July 11, 2024 Received in revised format: August 2, 2024 Accepted: August 14, 2024 Available online: August 14, 2024 Keywords: Digital capability Employee productivity Digital leadership UAE	This study aims to identify the impact of digital capabilities on working from home employee productivity in the UAE banking industry. In order to achieve the objective of this study, data were collected by questionnaire from employees working in e-businesses such as online shopping agents, numbering (268). After verifying the validity and reliability, the effects were examined using simple regression to examine the direct effect and path analysis to examine the indirect effect. The results of the study indicated that the study community was highly electronic, and the cost variable was the highest application of investment, applying digital leadership capabilities followed by digital work environment. The results showed a strong relationship between the elements of the independent variable (digital capabilities) and working from home employee productivity. The study recommended repeating such studies on the same industry and other industries, and the same variables.

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#### 1. Introduction

As a result of the growing development in information technology and communication methods, some related concepts have emerged in the world of communications and the Internet, such as e-business. The idea of remote work came from the human resources terms that means completing the tasks assigned to workers without the need for the work parties to be together or in a specific place (De Vasconcellos et al., 2021). However, the technical progress in the world of modern technology and communications, with its various techniques and tools, has contributed to a clear change in a group of life and social behaviors, of which work is one of the most important (Tariq et al., 2024). In addition to keeping pace with developments in management and the development of organizations, the developments have been observed in the organization, planning, and monitoring of labor and human resources management. As a result of this development, organizations used remote work technology, which helped facilitate tasks, distribute roles to individuals, and define their responsibilities, and contributed to bridging communication distances between each other (Wulandari et al., 2023).

Remote work has become a solution to a variety of problems facing individuals and communities for large groups and organizations, in addition to creating new job opportunities for people with disabilities and other disadvantaged or less fortunate groups geographically and economically (Rahmat et al., 2021). It helped reduce labor costs and increase productivity, also provided qualitative improvements that affected the lives of workers in the field of remote communication by increasing their job satisfaction and reducing stress while performing their tasks. The issue of productivity is an indication of management's efficiency in

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exploiting the resources and capabilities available to it, and obtaining the best possible result through these capabilities. From the perspective of the national economy, productivity is considered a reflection of the average performance of the various sectors (Afrianty et al., 2022).

As for society as a whole, productivity affects the well-being of society, the abundance of services and goods that are provided to individuals and organizations of society and their quality improves (Firoozan Sarnaghi et al., 2020). The importance of productivity also appears in its ability to explain the efficiency in the use of human and non-human resources available within the organization, and it is considered the best evidence of the scientific and technical development that accompanies economic units, which increases the importance of studying and measuring productivity in the national economy, because measuring productivity is considered a method to judge efficiency and effectiveness (Brynjolfsson et al., 2024).

In line with the new reality, the worldwide organizations have provided many opportunities for many people, especially residents of areas far from cities, to apply for jobs online. According to the concerned authorities, remote work helps solve many logistical problems and saves the employee transportation and time (Thuda et al., 2023). As for the country as a whole, remote work is considered part of the comprehensive strategy to combat the repercussions of the COVID-19 epidemic, support technology and achieve the digital transformation process (Fregnan et al., 2022). All types of companies and sectors responded to the transformations imposed by the new reality by adopting the necessary competencies and skills in the field of technology and technology. Given its current position and the progress it has achieved in digital competitiveness indicators, the organizations are taking distinct initiatives in terms of implementing decisions and adopting a new approach that supports the remote work policy (Al-Habaibeh et al., 2021).

The technological progress is reflected positively at all levels, especially with the adoption of the digital economy, the development of digital infrastructure, and the implementation of the future vision based on digital transformation. It is impossible for organizations to adapt to these transformations and adapt to the foundations of digital and smart businesses that are based on technological technologies, thus enhancing the level of services and providing a better customer experience (Dolci & Maçada, 2022). In turn, the governments activated the remote work policy to ensure that companies integrate into the digital strategy, reduce expenses and increase production, as it is expected that 50% of jobs will become virtual, remotely, during the next stage (Ginty, 2021). Moreover, the government agencies also aim to transform the society that provides citizens with all the elements of development, progress, innovation, and the ability to control and manage daily life in a modern way that keeps pace with the age of digitization (Arkhipova & Bozzoli, 2018). Therefore, the current study aims to address the digital capability of the employees on their productivity while working from home.

#### 2. Literature review and hypotheses development

From the point of view of related discussion and literature, the digital transformation of the organizations is one of the growing modern topics that emerged at the beginning of the century. The importance of digital transformation stems from the fact that digital technology has the ability to improve the capabilities and results of workers within modern-day organizations (Proksch et al., 2024). Further, the digital transformation creates the opportunities to provide innovative and creative services away from traditional methods of providing services. In the same vein, the digital transformation can help other institutions and companies expand and spread on a larger scale and reach a larger segment of customers and the public (Freitas et al., 2017). For institutions, it is the process of analyzing customer needs and taking advantage of technology to improve the end-user experience.

In recent years, the human resources industry has transformed into a field that increasingly requires the use of technology to improve efficiency and productivity and reduce costs. Digital transformation in the field of human resources is one of the vital areas that benefits from modern technology and digital transformations. It is an effective means of improving procedures related to human resources management and helps analyze data, simplify processes, and reduce human errors (Rupeika-Apoga et al., 2022). On the other hand, digital programs and applications can be used to manage various human resources processes such as performance management, recruitment, training and development, and communication between employees (Malchenko et al., 2020). In addition, modern technology helps improve the employee experience, as employees can access information related to their salaries, bonuses and other entitlements through smartphone and personal computer applications (Utomo et al., 2023). The employees can also update their personal information and manage their personal files through the Internet and their capabilities can also be used to analyze and track employee-related data such as performance, training, development, and recruitment.

The lack of competencies and capabilities within the organizations capable of leading digital transformation and change programs is one of the most important obstacles to the successful implementation of digital transformation programs and achieving their desired goals (Porokhovskiy, 2019). To implement digital transformation programs, the organizations plan to develop human capabilities within the organization, through employing experienced new competencies and capabilities in transformation programs by utilizing technological means (Jeske et al., 2019). In parallel with developing the capabilities of the organization, this development is not limited to developing the competencies of using technological means, but rather goes beyond it to establish

the importance of the program (Mollins & Taskin, 2023). The digital capabilities of the employee, the development of entrepreneurship and flexibility, and how to develop the efficiency of daily work in the business and the most important functions after benefiting from technology in the daily business (Krutova et al., 2022). The study formulates a hypothesis as follow:

## H1: Employees digital capabilities influence positively working from home employee productivity.

Initially, the rapid developments in the digital age have prompted companies in both the private and public sectors to radically change the way organizations operate. The companies have found themselves forced to innovate new ways of thinking about providing their services, which forces them to change the way they design business models, which in turn affects directly on jobs and their role in defining new methodologies for managing the resources (Kharlamov & Parry, 2021). The planning of future workforce capabilities in the digital economy includes complex challenges and tasks for HR departments, such as the ability to integrate the right employees into a dynamic organizational environment and help current employees and leaders acquire new digital competencies so they can lead transformation (Song et al., 2022). The study formulates a hypothesis as follow:

## H2: Employees digital orientation influences positively working from home employee productivity.

During the digitalization era and transformation, the modern human resources management in most organizations is trying to benefit from the modern technologies, and so that the digital challenges of human resources management do not affect the business plan and digital transformation goals (Ballestar et al., 2020). To make the experience valuable to its employees, the organizations through all their strategies considered the need to face related technology challenges. This also occurs during the digital transformation of all its various departments, and some tips for mitigating these challenges include creating an appropriate environment for the digital transformation since the work environments change very quickly and work technologies develop. So the old ones disappear and are replaced by everything that is modern (Nwankpa & Roumani, 2024). And in business development it has become in the field of communications, robots, and artificial intelligence.

The emerging technologies can be used to teach and develop individuals by including them in actual communities to increase belonging and appreciation. When the employees feel their ability to develop appropriately, the transformation will take place in a flexible and automatic manner, thus placing the talent development as a priority for digital transformation (Nucci et al., 2023). The organizations then can maintain continued digital maturity and reach advanced stages of transformation by developing the skills and talents of their employees, which can raise competition to meet the digital challenges of human resources management (Cetindamar et al., 2021). Consequently, making decision-making one of the basics of company performance, the digital transformation is taking place in many organizations by enabling people to have independence in managing projects and implementing various goals and priorities, which strengthens employees' capabilities, participates in decision-making, and solves all digital challenges for employee productivity (Suryanto et al., 2023). The study formulates a hypothesis as follow:

#### H<sub>3</sub>: Employees digital knowledge influences positively working from home employee productivity.

Digital capacity development of the employees refers to the process of creating and building capabilities and then using, managing and maintaining them. This process emanates from within and stems from the potential of existing national capabilities. Capacity building also indicates a process that supports only the initial stages of building and creating capabilities and is based on the assumption that there are no capabilities from which to build. So, it is less of a capacity development process (Raia, 2017). Therefore, it refers to a process that begins with a pre-determined design with a blank surface and involves the step-by-step construction of a new building, based on experience that has shown that it is difficult to succeed in improving capabilities, most of it may be due to the destruction of capacities or the displacement of capacities. Creating an enabling environment facilitates the process of building digital competencies and contributes to achieving the benefit of these competencies, the enabling environment can be enhanced through investment in infrastructure, institutional development and entrepreneurship, among others (Syahchari et al., 2021). Digital infrastructure is also an essential element of countries' digital capacity, and only countries with digital connectivity and the required competencies will be able to benefit from the development opportunities offered by current changes in technology. The study formulates a hypothesis as follow:

#### H4: Employees digital experience influences positively working from home employee productivity.

Digital strategy indicates the process of converting traditional operations and activities in the companies into digital processes using modern technology. This includes the development and improvement of software and systems, the use of graphic analyzes, artificial intelligence and cloud computing to improve efficiency and increase productivity (Firoozan Sarnaghi et al., 2020). Digital strategy also aims to achieve significant improvements in customer experience and increase competitiveness. The transformation strategy is the plan that the companies develop to implement the process of digital transformation effectively (Gobble, 2018). This strategy includes setting the desired goals and outputs of the transformation and setting the steps and resources required to achieve

these goals. The presence of a clear strategy for digital transformation can help the companies achieve greater success in this process which in turn increasing efficiency and achieving a balance between human resources and organizational goals (Lipsmeier et al., 2020). The digital strategy enables the companies to simplify administrative processes, improve human resources employment and reduce costs. In addition, it enhances employee satisfaction and contributes to keeping them by providing a better work experience and easy access to information and job benefits (Yeow et al., 2018). The systems and digital technology provide effective means of communication that make the interaction between the company's sections easier and faster that can achieve better coordination in the exchange of financial and administrative information, which enhances transparency and efficiency in operations. The study formulates a hypothesis as follow:

#### H<sub>5</sub>: Digital strategy influences positively working from home employee productivity.

Capacity building includes investing in digital infrastructure, investing in data resources, and in facilities and capabilities for collecting, analyzing, and using big data. The efforts in this area include establishing national big data centers, achieving full broadband coverage, and investing in regional high-speed computing and processing facilities for big data analysis (Ndubuisi et al., 2021). Investing in infrastructure can also help build digital competencies, for example, the digital platforms and applications can help countries educate and train the workforce. However, for data to be relevant to societies, it is also necessary to build analytical capabilities in policy-making and decision-making processes (Tang & Zhao, 2023). The study formulates a hypothesis as follow:

#### H<sub>6</sub>: Digital infrastructure influences positively working from home employee productivity.

Digital leadership can integrate new digital technology into workplaces that will enhance the drafting of employees, specifically, to keep pace with the development of digital technology, employees will improve work in new methods to achieve automation and intelligence in their work (Sudiana & Saputra, 2021). The digital leadership of employees is freedom of behavior and enhances the motivation of individuals and a feeling of the ability to perform tasks. Although the concept of digital leadership is so modern that it has not been studied, deep merging digitization into the management of the organization enhances the effectiveness of communication between the administrative levels (Saputra & Sutanto, 2023). Therefore, productivity increases, and digital leadership improves the role of outputs, which leads to customer satisfaction and a greater share in the market, as it is decisive in building the organization's vision and implementing initiatives that enable this vision. During the dependence on employee enthusiasm and increasing the effectiveness of operations, digital leadership pattern leads to optimal use of the organization's resource of achieving a sustainable competitive advantage, as this leadership pattern leads to optimal use of the organization's resources and improving its efficiency (Okechuku & Nebo, 2020). Besides the dependency of digital driving on technological development and interaction with the business environment can reduce a period of time working due to the low percentage of defects and accurate information. The study formulates a hypothesis as follow:

#### H<sub>7</sub>: Digital leadership influences positively working from home employee productivity.

One way to face work challenges is a distance to have a security strategy to counter various digital threats. Moreover, organizations can implement other safety features, such as examining harmful programs, to protect employees and institution data. Thus, they should provide employees from a distance to work remotely (Baptista et al., 2020). The internet connections for employees can determine their contribution to the company's productivity. Providing effective communication tools at work, so the managers can use official and unofficial communication channels (Chatterjee et al., 2023). Unofficial communication channels are essential to work remotely because they are effectively building employee relationships. And the communication strategies should allow bilateral contact as employees can seek help in the event of additional challenges or support. In addition, the current solutions to assist the organizations in remote work productivity management will lead the correct management to work remotely to improve productivity (Oberländer et al., 2020). Therefore, improving the recruitment process ensures that the company is in a good position to achieve its productive goals. This requires making decisive decisions regarding the appointment of contractors and employees, in preparation and management of salary statements and other tasks related to human resources. The complexity of these decisions can impede the company's productivity, especially when making wrong decisions at critical points (Bellis et al., 2022). The study formulates a hypothesis as follow:

Hs: Digital work environment influences positively working from home employee productivity.

#### 3. Method

The study used a quantitative research approach to achieve the state research objectives by using the instrument of survey questionnaire that included the respective model variables as well measures which have been screened and edited among the relevant literature. Moreover, the measures were considered great validity and reliability through the process of selection of these measures through the related literature (e.g., Chatterjee et al., 2023; De Vasconcellos et al., 2021; Nwankpa & Roumani, 2024). All measures were ranked by using five-Likert scale strongly disagree (1) to strongly agree (5). The research sample frame was all those employees who are working in the banking and financial sector and operate within the UAE setting. The numbers of the employees working in these businesses weren't available due to privacy considerations. Thus, the study conducted a convenience sampling approach to select the target sample like CEOs, marketing managers and professionals. The study to calculate the minimum sample size applied G\*Power program to achieve and run the power analysis using the effect size at significance level of 0.05, the minimum sample size required to test the research model was 244.

Moreover, the research increased the sample size as recommended to mitigate the potential errors in the sample size and consider the nonresponses by some individuals. A total of 290 questionnaires were distributed to the sample. The study collected 277 questionnaires before reviewing the gained data, the final valid responses used in the further analysis was 268 after excluding the missing copies that weren't retrieved after several communications with the banks. The description of respondents' demographics is shown in the table below.

#### Table 1

Demographics of the Sample

Demographic	Options	Frequency
Gender	Male	188
	Female	80
Age	25-35 years	62
	36-45 years	84
	46-55 years	79
	Above 55 years	43
Education	Diploma and less	46
	Bachelor	167
	Graduates	55
Experience	1-5 years	39
-	6-10 years	97
	11-15 years	70
	Above 15 years	62

The statistical technique used in this research was structural equation modeling (SEM) as a second-generation statistical method that proxy measures can involve to quantify the unobservable construct. The approach of SEM is superior to first-generation analysis models like regression and correlation because of its ability to evaluate the estimation and measure errors. SEM further can epitomize the priori data analysis methods that evaluate the research suggested framework and hypotheses within a causal model (Memon et al., 2021). Hair et al. (2021) indicated the SEM approach has key streams including covariance-based SEM as a technique used to test and confirm a theory, and PLS-SEM as an approach applied to explore the associations with a theoretical basis and outcomes prediction. The study used PLS-SEM which stresses the predicting as well explaining the variances of the outcome constructs and it works with small sample size with no normality assumption (Rasoolimanesh, 2022). However, this technique concerns causal-prediction and assesses the predictive quality of the outcomes, so that the current research opts for PLS-SEM for the reasons associated with the research small sample size and research aim to quantify the prediction of the predictors of the outcome constructs.

#### 4. Analysis

The research adopted and adapted its key constructs from the previous relevant literature works and studies, measured the same construct with measuring validated items. Eight different independent variables were evaluated using three items for each. Employee productivity (dependent variable) was also measured by six items. The results presented in the respective table include item loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). In the analytical procedures as stated by Hair et al. (2017), the SEM using PLS through the software of SmartPLS requires an approach with two-steps, first assessing the measurement model then the structural model. Table 2 presents the results of the measurement model for each single item through the factor loading that mostly achieved good results  $\geq 0.6$  which were acceptable. The reliability results also through the alpha found a reliable scale of the measures which this test used to evaluate the measures' reliability, and the results exceed the minimum values of  $\ge 0.7$  which is also acceptable (Hair et al., 2017). On other hand, the reliability issues examined in this study through the composite reliability CR that is widely checked to evaluate the variables' internal consistency (≥0.7). Moreover, another indicator used for this purpose is the AVE that is used to assess the convergent validity ( $\geq 0.5$ ). The present research applied the criteria of Fornell and Larcker to conduct this type of validity and examine whether the AVE's square root for a particular construct exceeds its shared correlation with another construct in the model. Table 3 presents the results of this analysis through presenting the correlation with the obtained diagonal values that found more than the inter-correlation variables, thus concluding acceptable discriminant validity. In addition, the current research applied another approach namely bootstrapping and blindfolding through PLS-SEM method in order to evaluate the ability of structural models in prediction (Streukens & Leroi-Werelds, 2016). Importantly, examining the structural model of the present study required presenting the path-coefficients,

significance level, coefficient of determination ( $R^2$ ), and predicative relevance ( $Q^2$ ). The values of coefficient of determination according to Cohen (1992) that range 0.60, 0.33, and 0.19 are considered substantial, moderate and weak respectively.

# Table 2

Measurements Model Results

Construct	Items	Loadings	Alpha	CR	AVE
Digital capabilities	Q1	0.890	0.88	0.90	0.65
	Q2	0.835			
	Q3	0.839			
Digital orientation	Q4	0.867	0.82	0.85	0.63
	Q5	0.828			
	Q6	0.850			
Digital knowledge	Q7	0.859	0.86	0.91	0.72
	Q8	0.818			
	Q9	0.846			
Digital experience	Q10	0.851	0.87	0.84	0.65
	Q11	0.876			
	Q12	0.856			
Digital strategy	Q13	0.880	0.89	0.90	0.71
	Q14	0.854			
	Q15	0.863			
Digital infrastructure	Q16	0.863	0.80	0.85	0.69
	Q17	0.844			
	Q18	0.875			
Digital leadership	Q19	0.867	0.82	0.88	0.70
	Q20	0.870			
	Q21	0.890			
Digital work environment	Q22	0.853	0.81	0.84	0.66
	Q23	0.864			
	Q24	0.899			
Employee productivity	Q25	0.853			
	Q26	0.784			
	Q27	0.893			
	Q28	0.820			
	Q29	0.852			
	Q30	0.848			

# Table 3

# Discriminant Validity

	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Work
	capabilities	orientation	knowledge	experience	strategy	infrastructure	leadership	environment
Digital capabilities	0.855							
Digital orientation	0.634	0.800						
Digital knowledge	0.799	0.643	0.574					
Digital experience	0.645	0.743	0.658	0.833				
Digital strategy	0.653	0.584	0.110	0.651	0.765			
Digital infrastructure	0.587	0.522	0.287	0.451	0.665	0.677		
Digital leadership	0.538	0.590	0.384	0.560	0.415	0.466	0.625	
Work environment	0.574	0.652	0.483	0.341	0.505	0.345	0.372	0.678

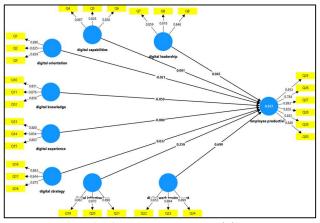


Fig. 2. Measurement Model

The goodness of the measures in SmartPLS-SEM is not agreed, but Hair et al. (2019) indicated some arguments about using PLS-SEM by SmartPLS for testing or confirming the theory. Some methods endorsed the goodness of the measure of PLS-SEM (Henseler, 2017). For example, the measure of standardized root mean square residual SRMR is used to evaluate the fit of goodness. The present research results of SRMR had a value 0.055, which is with the acceptable value (<0.08) (Hair et al. 2017). The respective results of this test are illustrated in Table 4 which revealed acceptance of all research hypotheses according to the criteria of (t-value > 1.96, p-value < 0.05). Therefore, H1 is accepted as employee digital capabilities had a significant effect on employee productivity ( $\beta = 0.300$ , p = 0.041). Further, a significant effect was also evidenced between employee digital orientation and employee productivity ( $\beta = 0.120$ , p = 0.002), hence support for H2. In addition, the study also found a significant effect between employee digital knowledge and employee productivity ( $\beta = 0.223$ , p = 0.000), thus supporting H3. Additionally, H4, H5, H6, H7 and H8 is accepted as employee productivity ( $\beta = 0.308$ , p = 0.002),  $(\beta = 0.308$ , p = 0.004), ( $\beta = 0.253$ , p = 0.000), ( $\beta = 0.198$ , p = 0.000), ( $\beta = 0.265$ , p = 0.000) and ( $\beta = 0.202$ , p = 0.002).

## Table 4

Hypotheses Testing

Hypothesis	Coefficient	Mean	SD	t-value	Result
H1	0.300	0.300	0.045	3.698	Accepted
H2	0.120	0.655	0.043	3.552	Accepted
H3	0.223	0.751	0.021	2.245	Accepted
H4	0.308	0.509	0.043	3.009	Accepted
Н5	0.253	0.472	0.063	3.113	Accepted
H6	0.198	0.350	0.050	3.421	Accepted
H7	0.310	0.288	0.097	2.387	Accepted
H8	0.302	0.309	0.044	2.345	Accepted

In terms of the research hypotheses (H1–H8), the most robust relation was found between digital leadership and employee productivity ( $\beta = 0.310$ ), which means change with one unit in digital leadership will result in a 31% change in employee productivity. This result is in line with Okechuku and Nebo (2020) which explored the effect of digital leadership on team productivity.

#### 5. Discussion

This study investigated the impact of digital capability on working from home employee productivity as an administrative phenomenon representing the attempt of e-business businesses to enhance their digital capabilities by activating the e-business capabilities. Especially in light of the uncertain circumstances that the enterprises are experiencing and the unwillingness of many employees to use the e-business technology tools that the group provides to their employees. The findings confirmed the notion that if e-business is used effectively, it can develop competitive capabilities that are difficult for competitors to imitate, especially if it enhances the productivity of human resources. The Arab studies such as this conducted in the UAE environment are still superficial and have not yet addressed how to build e-business digital capabilities that enhance productivity. This constitutes an obstacle for the research to verify the accuracy of the results reached by the study and compare them with the results of the previous study.

However, the findings did not show how to create the value that e-business digital capabilities can create in the performance of the human element, which leads to improving working from home employee productivity. To answer the study questions, a set of hypotheses were formulated that reflect a hypothetical answer to each of the questions raised in the positive form (alternative hypothesis) to demonstrate the impact of e-business digital capabilities on working from home employee productivity. The study reached a set of results that contributed to solving the study problem, answering its questions, and testing the validity of its hypotheses. The results also showed that the employees' digital orientation in e-business came at a high level from the point of view of the study sample members. It also agreed with the study of Thuda et al. (2023) that digital orientation represents the basic dimension of the success of the companies through the speed of response to the needs of customers. The results further found that the employees' digital experience ability of e-business came at a high level from the point of view of the study sample, which is also in line with Syahchari et al. (2021) that the employees' digital experience.

Through it, the results recommended that of digital strategy and infrastructure be an important goal in business organizations so that they do not end up collapsing and deteriorating. Thus, this supported that productivity issues among the organizations and employees in terms of market share, profitability and customer satisfaction came at significant levels from the point of view of the study sample. This result is consistent with the study of Rahmat et al. (2021) that organizations are currently moving towards supporting administrations with technological means to achieve sufficient profit valuesto distribute them to investors and obtain a high market share by expanding and spreading at the lowest costs and obtaining customer satisfaction by fulfilling their desires and following up with them through electronic business systems.

In employee productivity, the study results revealed that the digital leadership and digital work environment are the most influential among the digital capabilities of e-business at a significance level of  $\alpha \leq 0.05$ . It agreed with the study of Okechuku and Nebo (2020) where the results of the study indicated that there is a positive impact of digital leadership on working from home employee productivity which is positively reflected in the performance of companies with high quality at the organizational productivity levels. Furthermore, this supports the arguments that maturity in business processes and business classifications can help in the possibility of developing and setting a model for implementing the e-business capabilities plan and implementing ebusiness processes. In addition, confirmed that the quality of services is of great importance to customers as well as to businesses that provide the service that directly affects the cost of the customer service process, and showed that the quality of electronic competencies of the human resources has effect on employee's productivity and the quality of the infrastructure of digital systems is what has a clear positive effect on employee's productivity.

#### 6. Conclusion

This research provides some contributions as well as draws a focus toward the significance of the role of digital capability and employees productivity for those working from home in the UAE e-business. There are many research papers that addressed the effects of these constructs on vital aspects of the employee; however, the recent literature of the context of banking is little scant, thus the current empirical study was conducted for further grasp about how the significant organizational practices can carry out and develop a positive employee capability. On other hand, this research contributes to advance the direct conceptual association between many several constructs about the digitalization aspects of the employee to enhance their overall productivity in a dynamic setting. The research's findings showed that both digital capability and employees' productivity had a significant relationship in the developing context. Furthermore, the findings provide evidence that digital leadership, strategy, infrastructure and other factors had a direct positive influence in enhancing employee's productivity.

This present study also adds to the relevant body of the literature on employee's productivity, as most businesses have a state of lower attention regarding the factors influencing the employee's productivity. Moreover, it offers a further understanding of some influential factors to identify the direct role of digital capabilities in this issue which is a significant contribution to the literature. The study's findings support the theory of planned behavior contribution to employee positive behavior (e.g., productivity). Moreover, the study was carried out to contribute to the scant knowledge and literature devoted to the effect of digital capabilities. Generally, employee's productivity has become the most common and interesting topic for human resources management and strategic planners. This research highlighted that businesses management should be more aware of their employee's productivity and pursue to increase it. Some consequences related to employee's productivity in relation to the organizational digital capabilities should be also considered mainly within the rapid technological changes and development for quick effective resistance with lower cost and higher employees productivity.

The research limitations suggest some future research direction for gaps fulfillment. The study was conducted in a developing economy setting, with a focus particularly on e-business that are operating in the UAE. Hence, the process of analysis in the different context and culture with regard to the digital capability factors in this study (i.e. digital experience, digital leadership) would be interesting future research. Further, the present study applied collective dimensional constructs, therefore, a future study can employ new different dimensional constructs for better understanding this topic among different sectors and population as well as test the current obtained results. In addition, the present research conducted simple regression, this would encourage the future workers to consider this limitation to provide further insights and distinctive facets that can concentrate on the best employee's productivity related influential factors.

#### References

- Afrianty, T. W., Artatanaya, I. G., & Burgess, J. (2022). Working from home effectiveness during Covid-19: Evidence from university staff in Indonesia. Asia Pacific Management Review, 27(1), 50-57.
- Al-Habaibeh, A., Watkins, M., Waried, K., & Javareshk, M. B. (2021). Challenges and opportunities of remotely working from home during Covid-19 pandemic. *Global Transitions*, 3, 99-108.
- Arkhipova, D., & Bozzoli, C. (2018). Digital capabilities. CIOs and the digital transformation: A new leadership role, 121-146.
- Ballestar, M. T., Díaz-Chao, A., Sainz, J., & Torrent-Sellens, J. (2020). Knowledge, robots and productivity in SMEs: Explaining the second digital wave. *Journal of Business Research*, 108, 119-131.
- Baptista, J., Stein, M. K., Klein, S., Watson-Manheim, M. B., & Lee, J. (2020). Digital work and organisational transformation: Emergent Digital/Human work configurations in modern organisations. *The Journal of Strategic Information Systems*, 29(2), 101618.
- Bellis, P., Trabucchi, D., Buganza, T., & Verganti, R. (2022). How do human relationships change in the digital environment after COVID-19 pandemic? The road towards agility. *European Journal of Innovation Management*, 25(6), 821-849.
- Brynjolfsson, E., Jin, W., & Steffen, S. (2024). Do IT Capabilities Still Drive Productivity and Innovation in the Digital Age?. Available at SSRN 4765508.

- Cetindamar, D., Abedin, B., & Shirahada, K. (2021). The role of employees in digital transformation: a preliminary study on how employees' digital literacy impacts use of digital technologies. *IEEE Transactions on Engineering Management*.
- Chatterjee, S., Chaudhuri, R., Vrontis, D., & Giovando, G. (2023). Digital workplace and organization performance: Moderating role of digital leadership capability. *Journal of Innovation & Knowledge*, 8(1), 100334.
- De Vasconcellos, S. L., da Silva Freitas, J. C., & Junges, F. M. (2021). Digital capabilities: Bridging the gap between creativity and performance. *The Palgrave handbook of corporate sustainability in the digital era*, 411-427.
- Dolci, P. C., & Maçada, A. C. (2022). A model to understand digital capabilities, shadow IT and individual performance in the context of remote work.
- Ervinta, T. T. V., Prihanto, J. N., & Sudiyono, K. A. (2021, April). Enhancing Employees' Digital Experience Through Internal Platform. In ICEBE 2020: Proceedings of the First International Conference of Economics, Business & Entrepreneurship, ICEBE 2020, 1st October 2020, Tangerang, Indonesia (p. 237). European Alliance for Innovation.
- Firoozan Sarnaghi, T., Tahmasebi, D., & Abedini, A. (2020). Analyzing the role of managerial and operational capabilities of digital strategy and digital culture on productivity. *Journal of Strategic Management Studies*, 11(44), 59-77.
- Fregnan, E., Scaratti, G., Ciocca, L., & Ivaldi, S. (2022). New working capabilities for coping with COVID time challenges. Frontiers in Psychology, 13, 814348.
- Freitas Junior, J. C. D. S., Maçada, A. C. G., & Brinkhues, R. A. (2017). Digital capabilities as key to digital business performance.
- Ginty, C. (2021). Building Digital Teaching and Learning Capabilities with Digital in Response to a Global Pandemic. *All Ireland Journal of Higher Education*, 13(1).
- Gobble, M. M. (2018). Digital strategy and digital transformation. Research-Technology Management, 61(5), 66-71.
- Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123.
- Hair, J. F., Astrachan, C. B., Moisescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, 12(3), 100392.
- Henseler, J. (2017). Partial least squares path modeling. Advanced methods for modeling markets, 361-381.
- Jeske, T., Weber, M. A., Würfels, M., Lennings, F., & Stowasser, S. (2019). Opportunities of digitalization for productivity management. In Advances in Human Factors and Systems Interaction: Proceedings of the AHFE 2018 International Conference on Human Factors and Systems Interaction, July 21-25, 2018, Loews Sapphire Falls Resort at Universal Studios, Orlando, Florida, USA 9 (pp. 321-331). Springer International Publishing.
- Kharlamov, A. A., & Parry, G. (2021). The impact of servitization and digitization on productivity and profitability of the firm: a systematic approach. *Production Planning & Control*, 32(3), 185-197.
- Krutova, O., Koistinen, P., Turja, T., Melin, H., & Särkikoski, T. (2022). Two sides, but not of the same coin: digitalization, productivity and unemployment. *International Journal of Productivity and Performance Management*, 71(8), 3507-3533.
- Lipsmeier, A., Kühn, A., Joppen, R., & Dumitrescu, R. (2020). Process for the development of a digital strategy. *Procedia* Cirp, 88, 173-178.
- Malchenko, Y., Gogua, M., Golovacheva, K., Smirnova, M., & Alkanova, O. (2020). A critical review of digital capability frameworks: a consumer perspective. *Digital policy, regulation and governance*, 22(4), 269-288.
- Memon, M. A., Ramayah, T., Cheah, J. H., Ting, H., Chuah, F., & Cham, T. H. (2021). PLS-SEM statistical programs: a review. Journal of Applied Structural Equation Modeling, 5(1), 1-14.
- Mollins, J., & Taskin, T. (2023). Digitalization: Productivity (No. 2023-17). Bank of Canada Staff Discussion Paper.
- Ndubuisi, G., Otioma, C., & Tetteh, G. K. (2021). Digital infrastructure and employment in services: Evidence from Sub-Saharan African countries. *Telecommunications Policy*, 45(8), 102153.
- Nucci, F., Puccioni, C., & Ricchi, O. (2023). Digital technologies and productivity: A firm-level investigation. *Economic Modelling*, 128, 106524.
- Nwankpa, J. K., & Roumani, Y. F. (2024). Remote work, employee productivity and innovation: the moderating roles of knowledge sharing and digital business intensity. *Journal of Knowledge Management*.
- Oberländer, M., Beinicke, A., & Bipp, T. (2020). Digital competencies: A review of the literature and applications in the workplace. *Computers & Education*, 146, 103752.
- Okechuku, E. U., & Nebo, G. N. (2020). Assessment of relationship between e-leadership and virtual team productivity in ebusiness firms in South East, Nigeria. Assessment, 4(8), 158-169.
- Porokhovskiy, A. (2019). Digitalization and productivity. USA & Canada: ekonomika, politika, kultura, (8), 5-24.
- Proksch, D., Rosin, A. F., Stubner, S., & Pinkwart, A. (2024). The influence of a digital strategy on the digitalization of new ventures: The mediating effect of digital capabilities and a digital culture. *Journal of small business management*, 62(1), 1-29.
- Rahmat, A., Mohd, I., & Omar, M. (2021). Digital capabilities in the digital environment: employers' view on Malaysian youth capabilities. *Intelligent Systems in Accounting Finance & Management*, 199-207.
- Raia, M. (2017). Providing a better digital experience for employees. Strategic HR Review, 16(2), 71-75.
- Rasoolimanesh, S. M. (2022). Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach. *Data Analysis Perspectives Journal*, 3(2), 1-8.

- Rupeika-Apoga, R., Petrovska, K., & Bule, L. (2022). The effect of digital orientation and digital capability on digital transformation of SMEs during the COVID-19 pandemic. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(2), 669-685.
- Saputra, N., & Sutanto, H. (2023, November). Verifying the Effect of Digital Leadership, Motivation, and Performance Management as Predictors of Work Productivity. In 2023 International Conference on Informatics, Multimedia, Cyber and Informations System (ICIMCIS) (pp. 600-605). IEEE.
- Song, M., Tao, W., & Shen, Z. (2022). The impact of digitalization on labor productivity evolution: Evidence from China. *Journal* of Hospitality and Tourism Technology.
- Streukens, S., & Leroi-Werelds, S. (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results. *European management journal*, *34*(6), 618-632.
- Sudiana, K., & Saputra, N. (2021, October). The Role of e-Leadership on the Productivity of Virtual Work in Higher Education. In 2021 Universitas Riau International Conference on Education Technology (URICET) (pp. 377-381). IEEE.
- Suryanto, A., Nurdin, N., Irawati, E., & Andriansyah, A. (2023). Digital transformation in enhancing knowledge acquisition of public sector employees. *International Journal of Data and Network Science*, 7(1), 117-124.
- Syahchari, D. H., Herlina, M. G., Saroso, H., Sudrajat, D., & Jordaan, H. K. (2021, August). The Influence of Digital Employee Experience and Employee Agility: Do They Boost Firm's Effectiveness?. In 2021 International Conference on Information Management and Technology (ICIMTech) (Vol. 1, pp. 67-71). IEEE.
- Tang, J., & Zhao, X. (2023). Does the new digital infrastructure improve total factor productivity?. Bulletin of Economic Research, 75(4), 895-916.
- Tariq, A., Sumbal, M. S. U. K., Dabic, M., Raziq, M. M., & Torkkeli, M. (2024). Interlinking networking capabilities, knowledge worker productivity, and digital innovation: a critical nexus for sustainable performance in small and medium enterprises. *Journal of Knowledge Management*.
- Thuda, A., Kartono, R., Hamsal, M., & Furinto, A. (2023). The Effect of Digital Talent and Digital Capability on Bank Performance: Perspective of Regional Development Bank Employees. In *Proceedings of the International Conference on Business Excellence* (Vol. 17, No. 1, pp. 2053-2069). Sciendo.
- Utomo, A. A., Maulida, M., & Musa, S. (2023). Organizational inertia, digital capabilities, digital transformation, and firm competencies. *The South East Asian Journal of Management*, 17(1), 130-145.
- Wulandari, A. R., Arvi, A. A., Iqbal, M. I., Tyas, F., Kurniawan, I., & Anshori, M. I. (2023). Digital Hr: Digital Transformation In Increasing Productivity In The Work Environment. Jurnal Publikasi Ilmu Manajemen, 2(4), 29-42.
- Yeow, A., Soh, C., & Hansen, R. (2018). Aligning with new digital strategy: A dynamic capabilities approach. The Journal of Strategic Information Systems, 27(1), 43-58.



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