

## **New E-Technologies and Practices Adoption Framework (Ne-TPAF) Dealing with the Crucial Times**

Judith Namabira\*, Berine Rhobi Magaria, Tafuteni Nicholas Chusi  
*Lecturer, Institute of Rural Development Planning (IRDPA), Dodoma, Tanzania*

### **Abstract**

*The study investigates into the factors influencing the adoption of e-HRM technologies in order to propose a framework for the adoption of new e-technologies and practices during critical times of disruption, uncertainty, complexity, and ambiguity, as is with the case of the Covid-19 pandemic. Through the identification of the factors that influence the adoption of e-HRM technologies in one of the biggest commercial banks in Tanzania, the paper proposes a new e-Technologies and Practices Adoption Framework (Ne-TPAF) in order to promote the adoption of new e-technologies and practices during and after the abnormal times.*

**Keywords:** *Adoption, Critical times, e-HRM, e-technologies, Influential factors, Ne-TPAF.*

---

### **Introduction**

The concept of electronic, human resource management (e-HRM) is synonymously used with terms such as e-human resource, human resource intranet, HR portal, web-based HR, virtual HR, computer-based human resource management systems, self-service, business-to-employee (B2E), and HRM e-service [1]. E-HRM is a way of implementing HR strategies, policies and practices in organizations through conscious and directed support of web-based technology channels, computer hardware and software, and electronic networking resources [1-4]. E-HRM is intended to facilitate the function of human resource management in the areas of planning, job analysis, recruitment and selection, training and development, performance management, compensation, and reward management, to mention but a few. E-HRM is, hence, a composite of technologies and practices. The increase in the adoption of e-HRM is aimed at achieving administrative and strategic benefits. For example, 70% of European companies used the Internet to deliver human resource services to their employees [5]. While 40% of the companies in Sri Lanka

allocated more than 5% of their overall budget to e-HRM developments, in India, the extent of use of the Internet and Intranet to carry on human resources activities is above 82% [6].

Literature has pointed to factors that are responsible for the adoption of technologies. The size of the organization, with large organizations having greater ease in adopting technologies compared to the small ones [7], the top management support to interpret technologies favourably [8], top management commitment and positive attitude on ICTs adoption [9-11], financial availability [7, 12-14]. Individual factors are also essential determinants of adoption of technological innovations. Such factors are the individuals' cognitive interpretations of innovation in relation to themselves [15]. These individual factors include perceived usefulness [14, 16, 17], perceived ease of use [17-19], personal innovativeness, ICTs skills [1, 10, 19-21], user familiarity [15, 22-25], enjoyment of innovation [26], and social influence [15, 27, 28]. Quite a number of environmental factors influence the adoption of technologies, among which industry pressure in operational practices [29], growing

competition to reduce cost, serve a more strategic role, and manage the employees better [10], and cultural factors [4].

Although technology is crucial during critical human times, and that is when innovations come up, theorization and research during these hard times of Covid-19 and human resources management technologies are almost inexistent. It is argued that the “Covid-19 has grandly shaken all organizations, creating a complex and challenging environment for managers and human resource management (HRM) practitioners, who need to find ingenious solutions to ensure the continuity of their companies and to help their employees to cope with this extraordinary crisis” [30]. Actually, “the spread of Covid-19 creates disruption, uncertainty, complexity, and ambiguity in all organizations” [31]. Performance management amid the Covid-19 pandemic is one of the greatest challenges due to workplace isolation, lack of communication, family distractions, role overload, and occupational stress factors (role ambiguity, role conflict, career, and job control) mainly among employees working from home [16, 30]. To make matters worse, employees’ performance during remote working has been left to the subjective understanding of managers of how and what is required to manage a remote team [32]. Additionally, some managers are against remote working because they consider it negatively affects the employees’ performance; this is an attitude that leads to micromanagement, perceived by employees as a lack of trust toward them [32], and hence a breeding ground for tension between employees and supervisors. Such are hard moments for organizations, and hence a need to adopt technological innovations to manage human resources. During such circumstances of hard moments caused by the Covid-19 pandemic, e-HRM is crucial for organizations; even with the settling new normal, remote work is becoming a predominant ethos, hence demanding more e-HRM-based technologies and practices.

This study, therefore, contributes to the theory and research on the adoption of new e-technologies and practices during the hard times, such as these times of the COVID-19 pandemic, by proposing a framework for the adoption of new technologies and practices. The study begins by making use of the Innovation Adoption Model [15] in order to develop 18 (eighteen) factors (see Table 1) that are considered to influence for technology adoption. In this model, there are three categories of influential factors: the organizational, individual, and social factors. The factors include training management support and incentives in the organisational category. In the individual category, the factors include perceived usefulness, personal innovativeness, prior experience, image, and enjoyment with innovation. In the social category, the factors include peers and social networks. The factors in this model form a springboard for data collection variables. This model, again, forms a springboard for an e-Technologies and Practices Adoption Framework (e-TPAF). While this paper begins, therefore, by examining the factors that are influential in the adoption of e-HRM technologies and practices in the bank, it goes beyond to propose a general framework for the adoption of new e-technologies and practices during the critical times of disruption, uncertainty, complexity, and ambiguity.

## **Materials and Methods**

Quantitative data was collected from the bank employees, who were targeted as the users of the e-HRM systems. The collected data was about establishing the levels of agreement with the factors of adoption of e-HRM technologies and practices in the bank on a 5-point Likert scale whereby “1” stood for strongly disagree and “5” for strongly agree. The list of the factors was developed from the Innovation Adoption Model [15]. See Table 1 for the factors used to collect data.

**Table 1.** 18 Factors Developed from the Innovation Adoption Model Developed [15]

Category	Factor
<b>Organizational</b>	The bank trains employees whenever there is a new technology
	Management has put regular training programs for the employees to cope with transitions in technology
	Bank management supports the use of new technologies
	Bank Management forces us to use the e-HRM technologies
	The bank management has allocated a considerable budget for implementation of e-HRM technologies
	The bank provides all needed hardware and equipment necessary for using e-HRM technologies
	Management gives incentives to employees who embrace technologies
<b>Individual</b>	e-HRM technologies reduce my costs
	e-HRM technologies save my time
	e-HRM technologies reduce my errors
	I like to use IT-related technologies
	e-HRM technology is compatible with existing IT infrastructure
	The bank has speedy internet facility
	The bank has strong back-up plan for network failure
	e-HRM technologies easy to use
<b>Social</b>	I have enough IT skills to use the e-HRM technologies
	Colleagues at the bank help me when I have a problem with IT

Source: Compilation by researchers

In the three cities of Tanzania, the biggest, the second biggest, and the fastest-growing, the respondents were randomly selected from the branch categories of the mega, big, medium, and small branches. A questionnaire was designed in Google Forms and sent to the respondents by sharing a link via their WhatsApp accounts. Before the link was shared, a text was sent explaining the purpose of the study, assuring them of confidentiality of their responses and

anonymity, and requesting their consent in order to participate in the study. Out of the 198-shared links, 162 were returned fully filled and submitted, yielding a response rate of 82%. The profile of the respondents, as presented in Table 2 shows that most of the respondents had their bachelor's degree (65%), came from big branches (48%), were adults of ages between 38 and 60 (46%), were bankers by position (69%), were experienced (83%), and were male (62%).

**Table 2.** Respondents' profile

Respondents		Frequency	Percent
Education	Secondary school	8	5
	Bachelor's degree	106	65
	Above Bachelor's degree	48	30
Branch size	Small	31	19
	Medium	54	33
	Big	77	48
Age	Young adults (18-37 years)	87	54
	Adults (38-60 years)	75	46

Position	Support staff	8	5
	Bankers	112	69
	Managers	42	29
Experience	Basic experience (0-5 years)	20	12
	Experienced (5-10 years)	134	83
	Very experienced (beyond 10 years)	8	5
Sex	Male	100	62
	Female	62	38

Source: Field data, 2019

The analysis of the data was done in two main steps. The first step was to establish which factors were “simply influential” and the second one to identify among the influential factors those factors that were “majorly influential”. In order to identify the factors that “simply influenced” the adoption of the e-HRM technologies and practices, the categories of “agreement” and “disagreement” were created, and the mean scores were used to classify them. Both the “strongly agree” and “agree” were placed in the category of “agreement” (any mean score from 3.6 and above). The category of “disagreement” was created from the three groups of “completely disagree”, “disagree”, and “not sure” (any mean score below 3.6). A factor that fell in the category of “agreement” was interpreted as an influential factor and a factor that fell in the category of “disagreement” was interpreted as an uninfluential factor. The results are tabulated in Table 2 and 3.

In order to identify the factors that “majorly influenced” the adoption of the e-HRM technologies and practices, the Principal Component Analysis (PCA) is used. Only the factors that were perceived as influential are subjected to the PCA test. The identification of the major factors followed four steps. The first step checked the internal consistency of the factors. With the application of the “alpha varlist” command in Stata, the factors have been found to have an Alpha coefficient of 0.8840, which is far beyond satisfaction taken to be above 0.7 [33, 34]. The second step was to run the PCA test using the “pca varlist” Stata command. This command gives an output

showing the Eigenvalues, the difference in the Eigen values, the proportions the component causes to the variance, and the cumulative proportions. Based on Kaiser’s criterion, the study retains the three components with the Eigenvalues  $> 1$  for further analysis. From the output of the PCA test (see Table 4), the third step is to identify the components with the Eigen values above 1. The fourth step was to link the components to the individual factors, using a Stata command “rotate, varimax blanks (.5)” (See Table 5 for output). Accordingly, with a level of confidence of 95%, a correlation with a coefficient of between 0 - 0.19 is considered very weak; between 0.2 - 0.39 is considered weak; between 0.4 - 0.59 is considered moderate; between 0.6 - 0.79 is considered strong, and 0.8 – 1.00 is considered very strong. The study uses the factor loadings greater than 0.5 as essential attributes for the Components.

## Results

### Uninfluential Factors

Of the identified factors, however, there were factors that did not seem to influence the adoption of e-HRM technologies and practices in the bank. Out of the 18 factors developed from the Innovation Adoption Model [15], seven factors (40%) were perceived as uninfluential by the respondents. These factors belong to the category of “disagreement” created from the three groups of “completely disagree”, “disagree”, and “not sure”, with any mean score below 3.6. Table 3 presents these uninfluential factors.

**Table 3.** Uninfluential Factors for Adoption of e-HRM Technologies in the Bank

	<b>Factor</b>	<b>Mean Score</b>
C	Management gives incentives to employees who embrace technologies	3.1
D	Management has put regular training programs for the employees to cope with transitions in technology	3.5
F	The bank management has allocated a considerable budget for implementation of e-HRM technologies	3.5
H	The bank has speedy internet facility	3.4
I	The bank has strong back-up plan for network failure	3.1
L	e-HRM technologies reduce my costs	3.3
N	e-HRM technologies reduce my errors	2.8

Source: Field data, 2019

### Simply Influential Factors

Table 4 presents the “simply influential” factors. Out of the 18 factors from the literature, 11 (60%) factors were perceived as influential

by the respondents. These factors belong to the category of “agreement”, which is composed of both the “strongly agree” and “agree” groups, with any mean score from 3.6 and above.

**Table 4.** Influential Factors for Adoption of e-HRM Technologies in the Bank

	<b>Factor</b>	<b>Mean Score</b>
A	Bank management supports the use of new technologies	3.8
B	The bank trains employees whenever there is a new technology	3.7
E	Bank Management forces us to use the e-HRM technologies	3.6
G	e-HRM technology is compatible with existing IT infrastructure	4.1
J	The bank provides all needed hardware and equipment necessary for using e-HRM technologies	3.9
K	e-HRM technologies easy to use	4.2
M	e-HRM technologies save my time	4.0
O	Colleagues at the bank use the e-HRM technologies	3.8
P	Colleagues at the bank help me when I have a problem with IT	4.1
Q	I like to use IT-related technologies	4.3
R	I have enough IT skills to use the e-HRM technologies	4.1

Source: Field data, 2019

### Majorly Influential Factors

Table 5 shows the outputs of the PCA test on the “simply influential” factors for the adoption

of the e-HRM technologies and practices in the bank.

**Table 5.** PCA Output of “Simply Influential” Factors

<b>Component</b>	<b>Eigenvalue</b>	<b>Difference</b>	<b>Proportion</b>	<b>Cumulative</b>
<b>Comp 1</b>	5.44086	3.92556	0.4946	0.4946
<b>Comp 2</b>	1.5153	0.36225	0.1378	0.6324
<b>Comp 3</b>	1.15305	0.192815	0.1048	0.7372

<b>Comp 4</b>	0.960235	0.225067	0.0873	0.8245
<b>Comp 5</b>	0.735168	0.331675	0.0668	0.8913
<b>Comp 6</b>	0.403493	0.052357	0.0367	0.928
<b>Comp 7</b>	0.351136	0.068209	0.0319	0.9599
<b>Comp 8</b>	0.282927	0.197708	0.0257	0.9856
<b>Comp 9</b>	0.085219	0.044396	0.0077	0.9933
<b>Comp 10</b>	0.040823	0.0090341	0.0037	0.997
<b>Comp 11</b>	0.0317889	0.0317889	0.0029	1

Source: Stata output, "pca vlist"

As it can be seen in Table 5, the eleven Components represent the existing influential factors responsible for e-HRM technologies' adoption as perceived by the bank employees. Only three Components have Eigenvalues above 1, and 8 components are below 1. Based on Kaiser's criterion, the study retains the three components with the Eigenvalues > 1 for further analysis. Cumulatively, these three components account for a total variance of 74%. Component 1 accounts for 49% of the total variance; Component 2 accounts for 14%, and Component 3 accounts for 10% of the total variance.

After the Varimax rotation (see Table 6 for the Varimax rotated pattern matrix), the first Component is concerned with training: "The bank trains employees whenever there is a new technology". The second Component is about the easiness to use: "e-HRM technologies easy to use". The third Component is about force and adequacy. With regard to force, it is stated that "the Bank Management forces us to use the e-HRM technologies," and with regard to the adequacy, it is stated that "I have enough IT skills to use the e-HRM technologies".

**Table 6:** Varimax Rotated Pattern Matrix for Factors Influential to the Adoption of e-HRM Technologies

<b>Variable</b>	<b>Comp1</b>	<b>Comp2</b>	<b>Comp3</b>	<b>Unexplained</b>
<b>A</b>				0.2185
<b>B</b>	0.5046			0.2049
<b>E</b>			0.5238	0.3052
<b>G</b>				0.3157
<b>J</b>				0.1995
<b>K</b>		0.6227		0.147
<b>M</b>				0.2639
<b>O</b>				0.2196
<b>P</b>				0.3498
<b>Q</b>				0.2762
<b>R</b>			0.6924	0.3903

Source: Stata output 2019

## Discussion

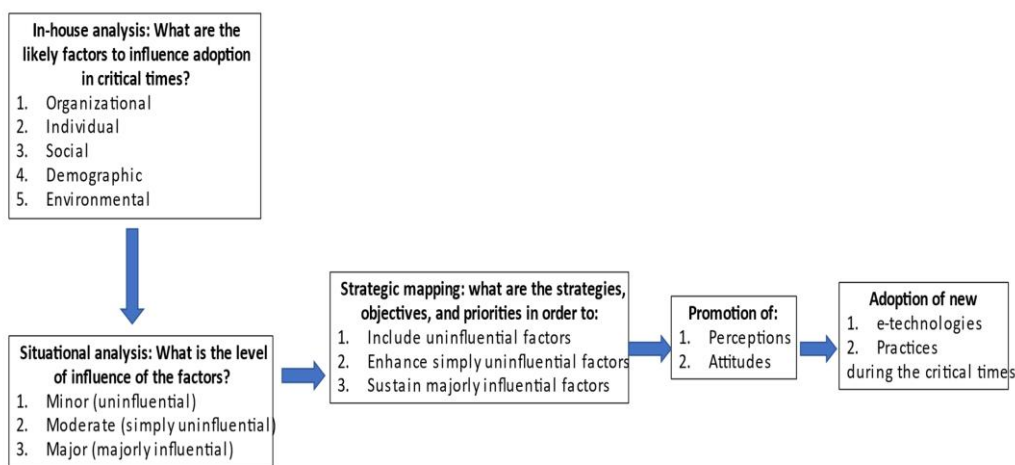
According to Baert et al. (2020), standard models in organizations are derived from the perspective of the "normal times." Such perspectives become challenging for predictions in the "abnormal times," as is with the case of the Covid-19 times that have generated

uncertainty. It is for this matter that organizations need to be assisted in thinking outside the usual boxes that make reference to the normal times in order to adopt technologies and innovations that can promote performance and its management during the abnormal times and the new normals. Of the 18 (eighteen) factors developed from the Innovation Adoption

Model developed by Talukder (2012), 11 (eleven) are influential, and of these, only 4 (33%) seem to have an impact on the adoption of e-HRM technologies, then, more effort is needed to ensure that as many factors become majorly influential.

We, therefore, propose the New e-Technology and Practices Adoption Framework (Ne-TPAF), making use of the 4 categories of the organizational, individual, environmental, and social factors, together with the demographic category of factors, which according to Quazi and Talukder (2021, p.54) affect the individual’s adoption of technological innovation. The model hypothesizes the interaction between the organizational, individual, environmental, social, and demographic factors to promote a conducive pre-condition (technology and practice adoptive perceptions and attitudes) for the adoption of e-technologies and practices. The e-Technologies

and Practices Adoption Framework is presented in Figure 1. The Framework begins with the “in-house analysis” that deals with the stocktaking of what organizational, individual, environmental, social, and demographic factors are likely to influence the adoption of new e-technologies and practices during critical times. There follows a “situational analysis” that assesses the “level of influence” (whether minor or moderate or major). After the situational analysis, there follows a “Strategic mapping,” whereby there is meticulous planning and implementation of strategies in order to “include uninfluential” factors, “enhance simply influential” factors, and “sustain majorly influential” factors for the adoption of new e-technologies and practices. The inclusion, enhancement, and sustenance of factors will lead to the promotion of perceptions and attitudes that should lead to the adoption of new e-technologies and practices during critical times.



**Figure 1.** The New e-Technology and Practices Adoption Framework (Ne-TPAF)

## Conclusion

The study investigated the factors influencing the adoption of e-HRM technologies in order to

promote the adoption of new e-technologies and practices during the critical times of disruption, uncertainty, complexity, and ambiguity, as is with the case of the Covid-19 pandemic. In the

adoption of e-technologies, there are factors that are uninfluential, simply influential, and majorly influential. However, as all factors are essential, all need to be promoted and integrated in order to adopt the e-technologies during critical times. And this is the essence of the New e-Technologies and Practices Adoption Framework (Ne-TPAF).

### Declaration of Conflict of Interest

We, the authors, Judith Namabira, Berine Rhobi Magaria, and Tafuteni Nicholas Chusi, hereby declare that the disclosed information is correct and that no other situation of real, potential or apparent conflict of interest is known to us. We undertake to inform you of any change in these circumstances if any issue arises.

### References

- [1] Ruël, H., Bondarouk, T., & Looise, J. K. (2004). E-HRM: Innovation or Irritation. An Explorative Empirical Study in Five Large Companies on Web-based HRM. *Management Review*, 15(3), 364–380.
- [2] Gopal, R., & Shilpa, V. (2011). The implications of implementing electronic-human resource management (e-HRM) systems in companies. *Journal of Information Systems and Communication*, 2(1), 10–29.
- [3] Marler, J. H., & Parry, E. (2016). Human resource management, strategic involvement and e-HRM technology. *International Journal of Human Resource Management*, 27(19), 2233–2253. <https://doi.org/10.1080/09585192.2015.1091980>.
- [4] Bondarouk, T., Ruël, H., & van der Heijden, B. (2009). e-HRM effectiveness in a public sector organization: A multi-stakeholder perspective. *International Journal of Human Resource Management*, 20(3), 578–590. <https://doi.org/10.1080/09585190802707359>.
- [5] Wyatt, W. (2002). B24/e-HR Survey Results. Accessed at: <https://www.employment-studies.co.uk/system/files/resources/files/398.pdf> 19.01.2022.
- [6] Mago, R. (2016). E-HRM (Electronic – Human Resource Management). E-HRM. *International*

### Acknowledgements

We would like to acknowledge the support of our employee, the Institute of Rural Development Planning, for its moral support and time in order to write this paper. We thank our colleagues from the Institute of Rural Development Planning (IRDP), Dodoma, who provided insights and expertise that greatly assisted the writing of this paper. Much as all of them may not agree with all of the interpretations and conclusions of this paper, we still appreciate their different opinions. We thank Prof. Adalbertus Kamanzi for his assistance with methodological comments that greatly improved this work.

*Journal of Business Management and Scientific Research*, 23, 41–47.

- [7] Ngai, E. W. & Wat, F. K., (2006). Human resource information systems: A review and empirical analysis. *Personnel Review*, 35(3), 297–314.
- [8] Kossek, E. E. (1987). Human Resources Management Innovation. *Human Resource Management*, 26(1), 71–92.
- [9] Altarawneh, I. (2010). Human Resource Information Systems in Jordanian Universities. *Journal of Business and Management*, 5(10), 113–127.
- [10] Teo, S. H., Lim, G. S., & Fedric, S. A. (2007). The adoption and diffusion of human resources information systems in Singapore Thompson. *Asia Pacific Journal of Human Resources*, 45(1), 44–62.
- [11] Troshani, I., Jerram, C., & Rao, H. S. (2011). Exploring the public sector adoption of HRIS. *Industrial Management & Data Systems*, 111(3), 470–488.
- [12] Khaldoun, N., & Parsa, H., (2007). Critical Factors in Implementing HRIS in Restaurant Chains. *Advances in Hospitality and Leisure*, 3, 69–86.
- [13] Reddick, C. G. (2009). Human Resources Information Systems in Texas City Governments:



- Scope and Perception of its Effectiveness. *Public Personnel Management*, 38(4), 19–34.
- [14] Masum, A. K. M. (2015). Adoption Factors of Electronic Human Resource Management (e-HRM) in Banking Industry of Bangladesh. *Journal of Social Sciences*, 11(1), 1–6. <https://doi.org/10.3844/jssp.2015.1.6>.
- [15] Talukder, M. (2012). Factors affecting the adoption of technological innovation by individual employees: An Australian study. *Procedia - Social and Behavioral Sciences*, 40, 52–57. <https://doi.org/10.1016/j.sbspro.2012.03.160>.
- [16] Prasad, K., & Vaidya, R. W. (2020). Association among Covid-19 parameters, occupational stress and employee performance: An empirical study with reference to agricultural research sector in Hyderabad Metro. *Sustainable Humanosphere*, 16(2), 235–253.
- [17] Huang, J., & Martin-Taylor, M. (2012). Turnaround user acceptance in the context of HR self-service technology adoption: an action research approach. *The International Journal of Human Resource Management*, 24(3), 621–642.
- [18] Rogers, E. M. (1995). Diffusions of Innovations. *Diffusions of Innovations*.
- [19] Sargent, K., Hyland, P., & Sawang, S. (2012). Factors influencing the adoption of information technology in a construction business. *Australasian Journal of Construction Economics and Building*, 12(2), 72–86. <https://doi.org/10.5130/ajceb.v12i2.2448>.
- [20] Panayotopoulou, L., Vakola, M., & Galanaki, E. (2007). E-HR adoption and the role of HRM: Evidence from Greece. *Personnel Review*, 36(2), 277–294. <https://doi.org/10.1108/00483480710726145>.
- [21] van Veldhoven, M., & Voermans, M. (2007). Attitude towards E-HRM: an empirical study at Philips. *Personnel Review*, 36(6), 887–902.
- [22] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>.
- [23] Abraham, C., Nishihara, E., & Akiyama, M. (2011). Transforming healthcare with information technology in Japan: A review of policy, people, and progress. *International Journal of Medical Informatics*, 80(3), 157–170. <https://doi.org/10.1016/j.ijmedinf.2011.01.002>.
- [24] Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research*, 11(4), 342–365.
- [25] Fuller, R. M., Vician, C., & Brown, S. A. (2006). E-learning and individual characteristics: The role of computer anxiety and communication apprehension. *Journal of Computer Information Systems*, 46(4), 103–115.
- [26] Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value. *Journal of Consumer Research*, 20(4), 644–656.
- [27] Borhani, A. S. (2016). Individual and organizational factors influencing technology adoption for construction safety.
- [28] Igbaria, M., Parasuraman, S., & Baroudi, J. J. (1996). A Motivational Model of Microcomputer Usage. *Journal of Management Information Systems*, 13(1), 127–144.
- [29] Sophonthummapharn, K. (2009). The adoption of techno-relationship innovations: A framework for electronic customer relationship management. *Marketing Intelligence & Planning*, 27(3), 380–412.
- [30] Hamouche, Salima (2021). Human resource management and the Covid-19 crisis: implications, challenges, opportunities, and future organizational directions. *Journal of Management & Organization. First View*, pp. 1-16. DOI: <https://doi.org/10.1017/jmo.2021.15>, p. 1.
- [31] Azizi, MR., Rasha, A., Arash, Z., Jaffar, A., Roya, N. (2021). Innovative human resource management strategies during the Covid-19 pandemic: A systematic narrative review approach. *Heliyon*. Volume 7, Issue 6, June 2021, e07233. <https://doi.org/10.1016/j.heliyon.2021.e07233>, p.1.
- [32] Aitken-Fox, E., Coffey, J., Dayaram, K., Fitzgerald, S., Gupta, C., McKenna, S., & Wei Tian, A. (2020b). The impact of Covid-19 on human resource management: avoiding generalisations. *LSE Business Review*. Retrieved from <https://blogs.lse.ac.uk/businessreview/2020/05/22/th>

e-impact-of-covid-19-on-human-resource-management-avoiding-generalisations/GoogleScholar.

[33]Field, A. (2009). *Discovering Statistics Using SPSS* (3rd ed.). London: *Sage Publications Ltd.*

[34]Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Pearson New International Edition: Multivariate Data Analysis. Exploratory Data Analysis in Business and Economics.* [https://doi.org/10.1007/978-3-319-01517-0\\_3](https://doi.org/10.1007/978-3-319-01517-0_3).

[35]Baert, S., Lippens, L., Moens, E., Sterkens, P., & Weytjens, J. (2020). How do we think the Covid-19 crisis will affect our careers (if any remain)?, *GLO Discussion Paper, No. 520*, Global Labor Organization (GLO).

[36]Quazi, A. and Talukder, M. (2011). Demographic determinants of employees' perception and adoption of technological innovation. *Journal of Computer Information Systems*, 51(3), 38-46, p.64.