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1. Bukti Konfirmasi Submit Artikel dan Artikel yang Disubmit (16 Okt 2020)

Using digital technologies by human resources management during COVID-19: the case of e-office and e-learning

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Abstract

Digital technologies (DTs) have been developed for employees of Directorate General Treasury (DGT) in Indonesia to help them to access data and learning with e-office and e-learning. In Indonesia the COVID-19 pandemic has compelled employees of DGT to make greater using of DT to work from home (WFH) under government lockdown. This qualitative case study of eight employees of DGT explores their experiences of using digital technologies during the COVID-19 lockdown. The informant was purposively selected from a larger sample of 50 employees who employees of DGT in Banten province, Indonesia. Semi-structured interviews and focus group discussion methods were conducted with the informants. The findings showed that the e-office implementation has a significant role in daily office activities and has become a means of WFH as an impact of the COVID-19 Pandemic. The study is useful for supporting factors such as e-office and e-learning implementation. Furthermore, this study also found that e-learning implementation has changed the human resources management (HRM).

Keywords: COVID 19 pandemic, Digital technologies, Human Resource Practices, E-office, E-Learning, Indonesia

Introduction

In the beginning of year 2020, the world was taken by the emersion of Covid-19 Pandemic. Meanwhile, governments over the world, are issuing policies and implementing action plans including restrictions (i.e. lockdowns of countries, temporarily closure of physical operations of businesses) to stop the spread of Covid-19 pandemic. Those restrictions have effects on human resources management (HRM) in public service sector. In fact, HRM in public service sector

are most vulnerable since they incline to have a lower level of productivity than private company (OECD, 2020).

The Directorate General of Treasury (DGT) is one of public service sector in Indonesia which has implemented office automation (e-office) and digital-based education and training (e-learning). The implementation of both programs is very important for the development of digital technology in the core business process and human resource management (HRM). Therefore, the implementation of e-office and e-learning is no longer an obligation, but a necessity. E-office has become the means for employees assigned to work from home (WFH). While e-learning has become the main focus of digital technologies to conduct employees training and development (De Meo, Messina, Rosaci, & Sarné, 2017).

Digital technologies (DTs) has enabled human resource management (HRM) to turn into a virtual activity. This frequently implicates digital transformations that affect services and processes, as well as structures of organizational and human resource management concepts (Mochtar, 2019). In other words, digital transformation has a positive influence on HRM in the workplace (Betchoo, 2016). HRM is an effort to improve human quality (skill, ability, and compliance) in an organization (Werner & Desimor, 2012). Fagan (2014) states that HRM is part of the human resources management system, which consists of education a d training management, career management, and organizational management.

The Indonesia government, in concert with many other governments, has enforced lockdown measures that restrict people to their places of residence and closely limit access to public institutions such as The Directorate General of

Treasury. Therefore, this study is aimed to explore the case of e-office and e-learning as part of digital technologies. And the readiness of DGT in using e-office and e-learning as part of HRM.

Literature Review

Digital technologies (DTs) are the main requirements that must be obtained by an organization to survive and thrive in the era of Industry 4.0 (Schwab, 2016). DTs create a new work environment by playing an increasingly prominent role in performing the job, on the organization's structure and on the lives of employees. The basic Human Resource Management (HRM) functions are also greatly and in multiple ways affected. The digital changes of HRM concern two focal areas: e-office and e-learning (Bondarouk, Harms, & Lepak, 2017)

Human resource management (HRM) is a series of systematic and planned process, designed by an organization to give its member an opportunity to learn new skills needed to fulfil work demands at this time and in the future (Werner & Desimor, 2012). The shifting of technology utilization to digital transformation has affected the quality and performance of human resources (Betchoo, 2016). As the need for information technology in HRM has increased and the cost in organization has to be reduced, Managers should consider the possibility of replacing some, if not all, of their traditional HR activities with a broader use of information technology and automation.

E-Office development, as one of the aspects of HRM, has become a part of organizational development. Therefore, its implementation is highly necessary to provide convenience for the centralized management, an appropriate job

classification, ease of access, an optimal document protection and tracing and organizational cost reduction (Darwish et al., 2014). The Electronic office is also known as e-office. Dewandaru (2013) defines electronic, in the word e-office, as office administration work executed electronically with the utilization of Information and Communication Technology (ICT). Another term used for e-office is office automation, including the electronic system associated with information communication, both inside and outside the organization.

The rapid progress in the digital technologies have caused a significant change in the field of education and training (Chien, 2012). E-learning has become the most important component of continuous training, so the company must implement e-learning in HRM (Pineda-Herrero, Quesada, & Stoian, 2011). E-Learning is a cost-saving solution to lifelong learning and on-the-job employees training (Akyol, 2011) providing a learner-centered environment and giving to e-learners the opportunity of using time and location flexibility, costs-effective, unlimited access to knowledge or information sharing (Moore, Dickson-Deane, & Galyen, 2011).

In this intercourse, learners progress depends on many factors, as their attitudes and basic skills and, last but not least, the cognition of the "human" virtual environment where interactions go on. There is also a relation between "learner-fasilitators", or "learner-learner" interactions and learner learning and performance issues (Sher, 2009). In fact, the attitude of the learner to start interactions with her/his co-works also depends on the mutual faith level (Mason & Lefrere, 2003)

The implementation of e-learning is not only concerning education, but also the world of work, where institutions have begun to direct their HR quality

improvement through online training or e-learning. Currently, there are so many technology-based trainings that lead to e-learning and most of them are utilizing technology and internet and intranet system (Werner & Desimor, 2012).

Methodology

The study used qualitative case study method. This method was selected because it was permissible for the researcher to get an in-depth view on an event, situation and a specific social condition and give an insight on the process depicting how an event or situation happened (Hodgetts & Stolte, 2012). It enabled the explored phenomenon to unfold from the informants' opinions, thoughts and feelings (Creswell & Poth, 2017). In addition, a questionnaire was used to generate data about informants' demographic (such as age and gender) and types of digital technology employed in their individual research using close-ended questions.

Table 1.

Informants' profiles

Informant name pseudonyms	Ages	Gender	Education
Sago	29–32	Male	Bachelor degree
Wari	32–36	Female	Bachelor degree
Erik	31 - 35	Male	Master degree
Aldi	35 - 40	Male	Bachelor degree
Aron	30 - 33	Male	Bachelor degree

The informants

Five employees of DGT were purposively sampled from a group of 50 informants DGT in Banten province, Indonesia. The five employees of DGT were in public services of conducting their tasks when the COVID-19 outbreak occurred.

Yin (2018), describes that purposive sampling implicates the selection of informants based on their identified relevancy and well experience that can assist towards answering a study's research questions. The employees were purposively sampled across four clusters offered at Banten province, Indonesia, since DTs were used in all four clusters found within the Banten province. These informants were selected because they could provide well information about their experience of using digital technologies to conduct e-office and e-learning during the COVID-19 pandemic. Table 1 presents the profiles of the informants. Ethical approval was granted by the Banten province and informed consent was obtained from the informants whose anonymity was ensured through the use of pseudonyms.

Data analysis

Data were generated using face to face semi structured interviews, focus group discussion (FGD) and questionnaires. Interviews can be organized face-to-face or by the phone, depending on the realm of the study and the degree of access to the informants (Creswell & Poth, 2017). Due to the COVID-19 Pandemic, interviews with informants from employees of DGT in Banten province were conducted through phone call interviews and Zoom FGD were conducted because informants were not physically obtainable (O.Nyumba, Wilson, Derrick, & Mukherjee, 2018). Each interview and zoom meeting (FGD) were noted and took place for about fourty five minutes. The data were then transcribed and analysed to extend meaning. Questionnaires were sent to informants via *e-office Kemenkeu* for them to fill in and were analysed upon one week of return.

Result

Data from the semi-structured interviews, questionnaires, and FGD were coded and presented by the themes that emerged from the thematic analysis. With the aid of NVivo analysis software, two themes emerged so that result in meaning: 1) the e-office of convenience, and 2) e-learning of digital technologies theme.

E-office of convenience theme

This theme showed from the informants' perceptions about their experience of using DTs during the COVID 19 pandemic. They found that various DTs sustain them to use e-office conveniently, even though they were in lockdown in their homes. Sago emphasized the continuity that digitally connecting with his group and his leader enabled:

> *E-office has been good because I don't need to go to the office to access e-office but I have them with me at home. I open my laptop and hotspot using my phone and I am able to work.*

Wari expressed similar positive feelings about the ease of working:

> *E-office has had a positive effect on my work because I am still able to do my work even though we are in lockdown. It makes me feel happy to use e-office in these circumstances because it has become easy for me to do my work at home. I have my phone and laptop that I can use to type my work.*

When she was asked about how she communicated with the relevant stakeholders involved in her work, she indicated:

> *I normally use e-office and emails for both the co-workers and leader. It makes communication easy and convenient with my leader and other co-workers.*

The above comments suggest that during the COVID-19 pandemic, Sago and Wari were able to identify e-office that helped them to achieve their performance needs. They used their laptops and phones to keep on their work activities, focusing on public service (Sago) and administrative (Wari). Furthermore, they used e-office to communicate with other co-workers and their leaders. Chang and Lee, (2013)

discusses that using DTs for personalization experiences brings one to withdraw from internalized cultural and organization cultural stored in the mind. Sago's stated statements such as 'I am still able to communicate with my peer and my leader on e-office' and Wari's response 'we regularly use...' shows that e-office has been used by these informaants to communicate and to address work-related issues. In other words, the informants had internalized using e-office for addressing their personal work needs, such as staying linked with relevant stakeholders when they could not meet physically. E-office is a software that creates a space for virtual office and communication (Hidayanto, Karnida, & Moerita, 2012). Thus, informants' personal experience of using it for continuing works and communication during lockdown is driven by the strengths of their virtual office experience.

Erik indicated the usefulness of e-office in helping her to complete with her work:

> *E-office is good and is coming in useful. Maybe in the past, I have taken them for granted and I hadn't really recognized their significance but using them now for my work during coronavirus, they have made things easier. I can cope with my work because I do activities like finishing for the task even when I work from home.*

His response indicated the value of e-office usefulness during COVID-19 times of uncertainty when he was restricted to work from home. As he could still continue with some of his work activities. In addition, conducting his works during the COVID-19 lockdown made his awareness that e-office were evolving. This indicates that when e-office progress, it is nature for users to adapt to new ones accordingly (Grace & Kartini, 2017). When Erik was asked about how this experience made his feelings, he indicated support:

> *It feels good to use e-office during these times because I feel a sense of connectivity with my leader and I know that I am going works from*

home. So, it makes me find calm and at ease that technology could do that for me.

Aron also expressed support that e-office were able to ensure work smoothness during the COVID-19 lockdown:

E-office is a lifesaver. There is a lot of work that would have gone to waste due to the lockdown but with DTs, we were able to save our work. Otherwise, this COVID-19 period would have been a waste of time. We are able to do our work remotely and communicate with our leaders and co-workers. We can basically consult anyone that we wish to consult during this time.

As with Sago and Wari, Erik and Aron remained connected to various stakeholders within their work community, most importantly their leaders, which made them feel positive about their work during the COVID-19 lockdown. A community consists of stakeholders that are responsible for helping employees of DGT to work towards achieving their goals (Kuutti, 1996). Words such as 'feels good' and 'feels calm and at ease' (Erik) and 'lifesaver' (Aron) indicate positive feelings about having digital technologies available to them in order to continue with their research.

E-office as part of e-government will not run properly without the availability of technology infrastructure, the conducive government policies and the availability of ICT professionals (Kazmi, 2010). Based on the 2019 Asset Management Percentage on KPI Achievement data, it can be seen that Assets in the form of computers, laptops and servers as the main facilities and infrastructure in e-office implementation have been provided appropriately and adequately.

E-learning of digital technologies theme

This theme emerged from the informants' responses about their use of e-learning that adjust to the COVID-19 lockdown restrictions. When asked about the

employ of e-learning as an effect of the COVID-19 lockdown, Aldi explained how it was not easy to develop knowlege, skill, and ability in a technology:

> *The implementation of e-learning at the DGT promotes a modern organizational culture as stated in the Decree of the Director-General of Treasury number KEP-637/PB/2017 concerning the Grand Design of the Organizational Culture of the DGT 2018-2020. The Organization culture at the DGT is represented as SMILE-C, an abbreviation of Share and Care, Modern, Innovative, Learn, Effective and efficient, and Commitment. With technologies sometimes you need to talk to people in order to understand how they are used. So, it made things easier for me.*

Aldi's experience indicates that even though there was no formal introduction to the *Kemenkeu Learning Center* (KLC) provided by the DGT for employees of DGT, he was assisted and supported by various stakeholders in order to understand how it worked. Thus, it can be argued that when he covered her study via KLC, he used the skills and knowledge he obtained from his fasilitators and fellow learners. Additionally, in order for Aldi to be able to collaborate with his co-workers and facilitators, he needed to establish good interpersonal relationships with these stakeholders so that he could learn well from/with them. The dry run with his facilitators and fellow learners made it 'easier' for his to understand the software before learning his module via KLC. However, it was not ideal that in-person learning was necessary to establish familiarity with a technology that was being employed to prevent in-person contact by facilitating remote learning. Aron also described an unstructured process of introducing and using e-learning:

> *Even though e-learning has been conducted according to plan and succeded to improve the participant's knowledge, skills, and attitudes, there will always be obstacles faced during the process, such as poor connections and timing problems.*

Sago's feels about KLC indicated that he was aware of his learning needs but did not deem it necessary to use KLC for his learning. He explained: The implementation of e-learning requires facilities and infrastructure, including computers, internet, devices to run e-learning, and e-learning supporting applications. And then he states that e-learning is an application that is run through an online system that can be a media for educators and students to meet in a virtual learning room. He looks to be very closed to technology in general and seems to be resisting e-learning beyond basic Internet usage. Although KCL was introduced 'randomly', Aron highlighted its practical usefulness for developing other technological skills during the COVID-19 lockdown:

> *He reveales that management support, prior experience, computer restlessness, and compatibility have predictive power on employee's behavioral intention to use KLC systems. This means that these four things are very important in the organization's efforts to support the successful implementation of e-learning.*

The real-time, face-to-face discussion that KCL facilitated assisted in the transfer of technical skills between Aron and his leader. Tina Cheng and Chen (2015) found that learners' ability to treat e-learning as a process where progress can take place at any time encourages them to accept or seek technologies in order to fulfill their needs. Thus, it can be argued that since Sisti was aware that KCL advance and develop, she was able to incorporate e-learning into her learning experience in order to meet with her leader virtually. In addition, it is evident that Wari's use of KCL software is guided by a professionalization experience, as she used it to discuss issues concerning her research and to develop further skills in the finance module. While most organizations have advocated the use of e-learning software during the COVID-19 lockdown (Almaiah, Al-Khasawneh, & Althunibat,

2020), it is not clear who suggested the use of KCL to Wari; however, her use of e-learning is obviously highly driven by skilled interaction. Naturaly, all five informants looked to have tolerated these times of uncertainty brought by COVID-19 and used e-learning that 'worked' for them in their individual learns with the development of new identities to help them address their personal learning needs.

Conclusion

This study explored employees of DGT experiences of using digital technologies (e-office and e-learning) during the COVID-19 pandemic. The findings suggest that the employees of DGT relied heavily on e-office and e-learning in order to do with their work and learning activities while in lockdown. E-office and e-learning were introduced systematically, therefore, most of the employees were able to use e-office to hold meetings with their leaders. Some employees were aware of their personal learning needs and understood which digital technologies to use and where to seek help when necessary. Furthermore, their use of e-office and e-learning were influenced by various stakeholders, such as leaders and employees. Fundamentally, employees used their personalisation experience (knowing what works for them) to overcome the challenges posed by conducting e-office and e-learning during the COVID-19 lockdown. This study has signified the essential use of e-office and e-learning during COVID-19 lockdown. Hence, it recommended that further research explores the different digital technologies that can be used by other public sector employees in their works in preparation for the era of Industry 4.0.

REFERENCES

Akyol, Z. (2011). Book review. *The Internet and Higher Education*, *14*(4), 269–270. https://doi.org/10.1016/j.iheduc.2011.05.007

Almaiah, M. A., Al-Khasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Education and Information Technologies*. https://doi.org/10.1007/s10639-020-10219-y

Betchoo, N. K. (2016). Digital transformation and its impact on human resource management: A case analysis of two unrelated businesses in the Mauritian public service. *2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies, EmergiTech 2016*, (August 2016), 147–152. https://doi.org/10.1109/EmergiTech.2016.7737328

Bondarouk, T., Harms, R., & Lepak, D. (2017). Does e-HRM lead to better HRM service? *International Journal of Human Resource Management*, *28*(9), 1332–1362. https://doi.org/10.1080/09585192.2015.1118139

Chang, W. L., & Lee, C. Y. (2013). Trust as a learning facilitator that affects students' learning performance in the Facebook community: An investigation in a business planning writing course. *Computers and Education*, *62*, 320–327. https://doi.org/10.1016/j.compedu.2012.11.007

Chien, T. C. (2012). Computer self efficacy and factors influencing e-learning effectiveness. *European Journal of Training and Development*, *36*(7), 670–686. https://doi.org/10.1108/03090591211255539

Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design Choosing Among Five Approaches* (4th ed.). London: SAGE Publications, Inc. London.

Darwish, H., Saki, N., Sahraei, M., Zakrifar, F., Talebi, S. M., & Branch, C. T. (2014). Effects of Automated Office Systems (Automation) on Improve DecisionMaking of Staff Managers (At the Airports Company of Country), *4*(3), 554–564.

De Meo, P., Messina, F., Rosaci, D., & Sarné, G. M. L. (2017). Combining trust and skills evaluation to form e-Learning classes in online social networks.

Information Sciences, *405*, 107–122. https://doi.org/10.1016/j.ins.2017.04.002

Dewandaru, D. S. (2013). Pemanfaatan Aplikasi E-Office Untuk Mendukung Penerapan E-Government Dalam Kegiatan Perkantoran Studi Kasus: Puslitbang Jalan Dan Jembatan. *Seminar Nasional Teknologi Informasi Dan Komunikasi 2013 (SENTIKA 2013)*, *2013*(Sentika), 232–239.

Fagan, M. H. (2014). Exploring a Sociomaterial Perspective on Technology in Virtual Human Resource Development. *Advances in Developing Human Resources*, *16*(3), 320–334. https://doi.org/10.1177/1523422314532094

Grace, M., & Kartini, T. P. (2017). The influence of technology acceptance, social influence, facilitating condition, and computer self-efficacy on e-office utilization in immigration office class I Makassar. *The Business and Management Review*, *9*(2), 213–218. Retrieved from http://www.abrmr.com/myfile/conference_proceedings/Con_Pro_73986/conference_97448.pdf

Hidayanto, A. N., Karnida, Y. Y., & Moerita, G. (2012). Analysis of software as a service (SaaS) for software service provision alternative: A case study of e-office on demand service of PT. Telkom Indonesia. *International Journal of Innovation and Learning*, *12*(3), 294–318. https://doi.org/10.1504/IJIL.2012.048811

Hodgetts, D. J., & Stolte, O. E. E. (2012). Case-based Research in Community and Social Psychology: Introduction to the Special Issue. *Journal of Community and Applied Social Psychology*, *22*(5), 379–389. https://doi.org/10.1002/casp.2124

Kazmi, S. N. A. (2010). Factors influencing e-Governance implementation: Issues and challenges in Pakistan. *2010 5th International Conference on Digital Information Management, ICDIM 2010*, 326–331. https://doi.org/10.1109/ICDIM.2010.5664643

Mason, J., & Lefrere, P. (2003). Trust, collaboration, e-learning and organisational transformation. *International Journal of Training and Development*, *7*(4), 259–270. https://doi.org/10.1046/j.1360-3736.2003.00185.x

Mochtar, A. R. (2019). Menuju Transformasi Digital Kemenkeu. *Buletin Kinerja: Mengawal Perubahan*, *XXXIX*(Semester I 2019).

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? *Internet and Higher Education*, *14*(2), 129–135. https://doi.org/10.1016/j.iheduc.2010.10.001

O.Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, *9*(1), 20–32. https://doi.org/10.1111/2041-210X.12860

OECD. (2020). The global outlook is highly uncertain. Retrieved July 12, 2020, from http://www.oecd.org/economic-outlook/june-2020/

Pineda-Herrero, P., Quesada, C., & Stoian, A. (2011). Evaluating the efficacy of e-learning in Spain: A diagnosis of learning transfer factors affecting e-learning. *Procedia - Social and Behavioral Sciences*, *30*, 2199–2203. https://doi.org/10.1016/j.sbspro.2011.10.428

Schwab, K. (2016). The Fourth Industrial Revolution.

Sher, A. (2009). Assessing the relationship of student-instructor and student-student interaction to student learning and satisfaction in Web-based Online Learning Environment. *Journal of Interactive Online Learning*, *8*(2), 102–120.

Tina Cheng, W., & Chen, C. (2015). The Impact of e-Learning on Workplace On-the-job Training. *International Journal of E-Education, e-Business, e-Management and e-Learning*, *5*(4), 212–228. https://doi.org/10.17706/ijeeee.2015.5.4.212-228

Werner, J. M., & Desimor, R. L. (2012). *Human Resource Development, 6th - Jon M. Werner*. Mason: Cengage Learning.

Yin, R. K. (2018). *Case study research and applications : design and methods* (6e ed.). Lpndon: SAGE Publications.

2. Bukti konfirmasi review pertama

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3. **Bukti Konfirmasi Submit Revisi dan Artikel yang Diresubmit (29 Desember 2020)**

Using Digital Technologies by Human Resource Management During COVID-19: A Case Study of E-Office and E-Learning

Abstract

Digital Technologies (DTs) have been developed for employees of the Directorate General of Treasury (DGT) in Indonesia to help them access data and learn using e-office and e-learning. In Indonesia, the COVID-19 outbreaks have forced DGT employees to fully utilise DTs to work from home (WFH) during the government lockdown. This research employed a qualitative approach using a case study method. Moreover, five out of the fifty DGT employees in Banten Province were selected as informants via a purposive sampling method. Next, the five DGT employees shared their impressions in employing DTs during the COVID-19 outbreaks. In this study, the data analysis applied a semi-structured interview and organised a focus group discussion (FGD) with the informants. The findings showed that the e-office implementation plays a significant role in daily office activities and has become a means of WFH due to the COVID-19 outbreaks. This study is useful to support the implementation of e-office and e-learning. Furthermore, this study discovered that e-learning implementation had changed human resources management (HRM).

Keywords: *COVID-19 outbreaks; Digital Technologies; Human Resource Practices; E-Office; E-Learning; Indonesia*

1. Introduction

At the beginning of 2020, the world was taken by the emersion of COVID-19 outbreaks. Consequently, governments worldwide are releasing policies and effecting action plans, including controls (i.e., lockdowns of countries, temporary closing of physical operations of businesses) in order to halt the dispersion of the COVID-19 outbreaks. These restrictions have impacted the HRM in public service sectors. In fact, these sectors are the most vulnerable since they tend to have a lower level of productivity than private companies (OECD, 2020).

The DGT is one of the public service sectors in Indonesia that has implemented office automation (e-office) and digital-based education and training (e-learning). It should be noted that the implementation of these programs is vital for the development of DTs in the core business process and HRM. Therefore, the implementation of e-office and e-learning is no longer an obligation but a necessity. E-office has become a means for employees who are assigned to WFH. On top of that, e-learning has become the main focus of DTs to conduct employee training and development (De Meo

et al., 2017).

DTs have converted HRM into a virtual activity. This condition has frequently implicated digital transformations that affect services and processes, as well as structures of organisational and human resource management concepts (Mochtar, 2019). In other words, digital transformation has a positive influence on HRM in the workplace (Betchoo, 2016). Besides, HRM is an effort to improve human quality (skill, ability, and compliance) in an organisation (Werner & Desimor, 2012). Fagan (2014) stated that HRM is a part of the human resources management system, consisting of education and training management, career management, and organisational management.

The Indonesian government, along with other governments, have enforced lockdown measures that limit people to their residence and limit access to public agencies such as the DGT. Hence, this study aimed to explore e-office and e-learning as part of DTs and the readiness of DGT in using e-office and e-learning as part of the HRM.

2.0   Literature Review

DTs are the main requirements that must be obtained by an organisation to survive and thrive in the era of Industry 4.0 (Schwab, 2016). This requirement is due to DTs potential in creating a new job environment by assuming an increasingly prominent role in performing work in organisational structures and employees' lives. The basic functions of HRM are also significant and, in many ways, affected. The change in digital HRM concerns two focus areas: e-office and e-learning (Bondarouk et al., 2017).

2.1   Human Resource Management

HRM is a series of systematic and planned processes designed by an organisation to provide its member an opportunity to learn skills needed to fulfil current and future work demands (Werner & Desimor, 2012). It could be observed that the shift in technology utilisation to digital transformation has affected the quality and performance of human resources (Betchoo, 2016). Since the need for information technology in HRM has increased and the cost in an organisation needs to be reduced, managers should consider the possibility of replacing some, if not all, of their traditional HR activities with broader use of technology and automation.

2.2   E-office

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appropriate job classification, ease of access, optimal document protection and tracing, and organisational cost reduction (Darwish et al., 2014). In general, the electronic office is also known as an e-office. Dewandaru (2013) defined electronics in the context of e-office, as office administration work executed electronically with the utilisation of Information and Communication Technology (ICT). Another term used for e-office is office automation, which includes the electronic system associated with information communication, inside and outside the organisation.

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The rapid progress in DTs has produced a significant change in the field of education and training (Chien, 2012). E-Learning has emerged as the most important component of continuous training, hence companies must implement e-learning in HRM (Pineda-Herrero et al., 2011). E-Learning is a cost-saving solution for lifelong learning and on-the-job employee training (Akyol, 2011), which provides a learner-centred environment and gives e-learners time and location flexibility, cost-effective, and unlimited access to knowledge or information sharing (Moore et al., 2011).

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close-ended questions to collect data on the informants' demographics (e.g., age and gender) and the types of DTs used.

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The five DGT employees were the purposive samples drawn from 50 DGT informants in Banten Province, Indonesia. These employees were involved in the public service in performing their duties during the COVID-19 outbreaks. Yin (2018) explained that purposive sampling usually selects informants based on identified relevance and good experiences, which could help answer the study research questions. In this study, employees were purposely sampled in the four groups proposed in Banten Province, Indonesia, where the DGT was used in these groups. These informants were chosen due to their ability to deliver good information on their experiences using DTs to utilise e-office and e-learning during the COVID-19 outbreaks. Table 1 shows the informants' demographics. Moreover, the Banten Province has granted their approval to conduct interviews with the informants who have also agreed to be interviewed using pseudonyms.

3.2 Data Analysis

The data was collected through personal interviews, FGD, and questionnaires. Interviews were personally conducted via telephone, depending on the field of study and the level of informant's acceptance (Creswell & Poth, 2017). Due to the COVID-19 Outbreaks, interviews with informants from employees of DGT in Banten Province were conducted through phone call interviews and Zoom FGD as the informants were not physically reachable (O.Nyumba et al., 2018). Each interview and Zoom meeting (FGD) were noted and conducted for approximately forty-five minutes. The data were then "transcribed and analysed" to extend the meaning. Finally, the questionnaires were sent to the informants via the e-office of the Ministry of Finance for them to fill in and analysed within one week of return.

4.0 Result

The data from the qualitative semi-structured interview, questionnaires, and FGD were coded

and analysed thematically based on emerging themes. In addition, the NVivo software was used to help analyse data that resulted in two meaningful themes: 1) the e-office of convenience and 2) e-learning of DTs theme.

4.1 E-Office of Convenience Theme

This theme could be observed from the informants' perception based on their experience of using DTs during the COVID-19 outbreaks. They revealed that the various DTs had encouraged them to use the e-office comfortably, even though they were locked at home. In the statement below, Sago emphasised sustainability, stating that digital activation has connected them with their boss:

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communicate during the lockdown.

Meanwhile, Erik stressed the practicality of the e-office in assisting him in getting his job done:

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His response proved the value of the e-office usefulness during COVID-19, a time of uncertainty when he was restricted from working from the office. E-office allows him to continue some of his work activities. In addition, performing his job during the COVID-19 lockdown made him aware that the e-office was developing. This development proved that as the e-office grows, it is natural for users to adapt to the new change (Grace & Kartini, 2017). When being questioned on his experience, Eric stated his support:

> *It feels good to use the e-office during these times because I feel the connectivity with my boss, and I know that I would be working from home. So, I feel relaxed and comfortable because technology can do it for me.*

Aron also expressed his support that the e-office could ensure smooth work during the COVID-19 lockdown:

> *The e-office is a lifesaver. There is a lot of work that would be wasted due to lockdowns, but with DTs, we can save our work. Otherwise, this period of COVID-19 would be a waste of time. We can do our work remotely and communicate with our bosses and colleagues. We were able to consult basically whoever we wanted to consult all this time.*

Similar to Sago and Wari, Erik and Aron remained connected with various stakeholders in their working community, especially their bosses, which made them feel positive about their work along with the COVID-19 lockdown. Generally, a community consists of stakeholders responsible for helping DGT employees work to achieve their goals (Kuutti, 1996). Words like 'feel good,' 'feel good and comfortable' (Erik), and ' lifesaver' (Aron) indicate positive feelings about having DTs available for them to continue their work.

As part of the e-government, e-office will not run properly without the availability of technology infrastructure, the conducive government policies, and the availability of ICT professionals (Kazmi, 2010). Based on the 2019 Asset Management Percentage on Key Performance

Indicator (KPI) Achievement Data, it could be observed that assets in the form of computers, laptops, and servers are the main facilities and infrastructure in e-office implementation, which have been provided appropriately and adequately.

4.2   E-Learning of DTs Theme

This theme appeared from the informant's responses regarding the use of e-learning, which was adjusted according to the restrictions of the COVID-19 lockdown. When asked about the application of e-learning as a result of the COVID-19 lockdown, Aldi explained how it was not easy to develop knowledge, skills, and abilities in the field of technology:

> *The implementation of e-learning at the DGT promotes modern organisational culture as stated in the Decree of the DGT number KEP-637/PB/2017 concerning the Grand Design of Organizational Culture of the DGT 2018-2020. The organisation culture at the DGT is represented as SMILE-C, an abbreviation of Share and Care, Modern, Innovative, Learn, Effective and Efficient, and Commitment. With technologies, sometimes you need to talk to people in order to understand how they are used. So, it made things easier for me.*

Aldi's experience showed that although the DGT did not prepare any formal education at the Ministry of Finance (*Kemenkeu*) Learning Center (KLC) for their employees, he was assisted and supported by various stakeholders to understand how it worked. Thus, it could be summed that when he covered his studies through KLC, he used the skills and knowledge he gained from the facilitator and fellow students. In addition, for Aldi to collaborate with his colleagues and facilitators, he needs to establish good interpersonal relationships with these stakeholders so that he could learn well from/with them. Trials with facilitators and fellow students made it 'easier' to understand the software before learning the module through KLC. However, the need for face-to-face learning is not ideal in order to build familiarity with the technology used to prevent face-to-face contact by facilitating distance learning. Aron also described the unstructured process of introducing and using e-learning:

> *Even though e-learning has been conducted according to plan and succeeded to improve the participant's knowledge, skills, and attitudes, there will always be obstacles faced during the process, such as poor connections and timing problems.*

Sago's feelings on KLC indicated that he was aware of his learning needs but did not deem it necessary to use KLC for his learning. He further explained that the implementation of e-learning requires facilities and infrastructure, including computers, the internet, devices to run e-learning,

and e- learning supporting applications. Furthermore, he mentioned that e-learning is an application run through an online system that could be a medium for educators and students to meet in a virtual learning room. Basically, he seems to be very familiar with technology and resisted e-learning beyond the basic internet usage. Although KLC was introduced 'randomly,' Aron highlighted its practical usefulness for developing other technological skills during the COVID- 19 lockdown:

> *Management support, prior experience, computer restlessness, and compatibility have predictive power on employees' behavioural intention to use KLC systems. This means that these four things are very important in the organisation's efforts to support the successful implementation of e-learning.*

Personal discussions provided by KLC have helped in the transfer of technical skills between Aron and his boss. Cheng and Chen (2015) discovered that the students' ability to treat e-learning as "a process where progress can occur at any time encourages them to accept or seek technology to meet their needs." In sum, since Aron realised that KLC has advanced, he could incorporate e-learning into his learning experience to meet his bosses virtually. Also, it is obvious that Wari's utilisation of the KLC software is guided by professional experience, as he used it to discourse problems related to his task to further develop skills in the finance module.

5.0 Conclusion

The present study revealed the experience of DGT employees in using DTs (e- office and e-learning) during the COVID-19 outbreaks. The findings showed that DGT employees rely heavily on e-office and e-learning to perform their work and conduct learning activities while locked down. E-office and e-learning were introduced systematically as a way for most employees to use e-office to communicate with their leaders. Few employees are aware of their personal learning needs and understand which DTs are suitable for implementing tasks and career advancement. On top of that, the use of e-office and e-learning has impacted various stakeholders, for example, leaders and employees. Essentially, employees were using their personalised impression (seeing what works for them) to overcome the challenges of implementing e-office and e-learning throughout the COVID-19 outbreaks. Hence, this study proposed that future research should explore various DTs that could be used by other public-sector employees in their work in preparation for the Industrial 4.0 era.

References

Betchoo, N. K. (2016). Digital transformation and its impact on human resource management: A case analysis of two unrelated businesses in the Mauritian public service. *2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies, EmergiTech 2016*, *August 2016*, 147–152. https://doi.org/10.1109/EmergiTech.2016.7737328

Bondarouk, T., Harms, R., & Lepak, D. (2017). Does e-HRM lead to better HRM service? *International Journal of Human Resource Management*, *28*(9), 1332–1362. https://doi.org/10.1080/09585192.2015.1118139

Chang, W. L., & Lee, C. Y. (2013). Trust as a learning facilitator that affects students' learning performance in the Facebook community: An investigation in a business planning writing course. *Computers and Education*, *62*, 320–327. https://doi.org/10.1016/j.compedu.2012.11.007

Chien, T. C. (2012). Computer self-efficacy and factors influencing e-learning effectiveness. *European Journal of Training and Development*, *36*(7), 670–686. https://doi.org/10.1108/03090591211255539

Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design Choosing Among Five Approaches (4th ed.)*.

Darwish, H., Saki, N., Sahraei, M., Zakrifar, F., Talebi, S. M., & Branch, C. T. (2014). *Effects of Automated Office Systems (Automation) on Improve DecisionMaking of Staff Managers (At the Airports Company of Country)*. *4*(3), 554–564.

De Meo, P., Messina, F., Rosaci, D., & Sarné, G. M. L. (2017). Combining trust and skills evaluation to form e-Learning classes in online social networks. *Information Sciences*, *405*, 107–122. https://doi.org/10.1016/j.ins.2017.04.002

Dewandaru, D. S. (2013). Pemanfaatan Aplikasi E-Office Untuk Mendukung Penerapan E-Government Dalam Kegiatan Perkantoran Studi Kasus: Puslitbang Jalan Dan Jembatan. *Seminar Nasional Teknologi Informasi Dan Komunikasi 2013 (SENTIKA 2013)*, *2013*(Sentika), 232–239. https://fti.uajy.ac.id/sentika/publikasi/makalah/2013/2013_35.pdf

Fagan, M. H. (2014). Exploring a Sociomaterial Perspective on Technology in Virtual Human Resource Development. *Advances in Developing Human Resources*, *16*(3), 320–334. https://doi.org/10.1177/1523422314532094

Hidayanto, A. N., Karnida, Y. Y., & Moerita, G. (2012). Analysis of software as a service (SaaS) for software service provision alternative: A case study of e-office on demand service of PT. Telkom Indonesia. *International Journal of Innovation and Learning*, *12*(3), 294–318. https://doi.org/10.1504/IJIL.2012.048811

Hodgetts, D. J., & Stolte, O. E. E. (2012). Case-based Research in Community and Social Psychology: Introduction to the Special Issue. *Journal of Community and Applied Social Psychology*, *22*(5), 379–389. https://doi.org/10.1002/casp.2124

Kazmi, S. N. A. (2010). Factors influencing e-Governance implementation: Issues and challenges in Pakistan. *2010 5th International Conference on Digital Information Management, ICDIM 2010*, 326–331. https://doi.org/10.1109/ICDIM.2010.5664643

Kuutti, K. (1996). *Activity theory as a potential framework for human-computer interaction research*. 9–22.

Mason, J., & Lefrere, P. (2003). Trust, collaboration, e-learning and organisational transformation. *International Journal of Training and Development*, *7*(4), 259–270. https://doi.org/10.1046/j.1360-3736.2003.00185.x

Mochtar, A. R. (2019). Menuju Transformasi Digital Kemenkeu. *Buletin Kinerja: Mengawal Perubahan*, *XXXIX*(Semester I 2019).

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? *Internet and Higher Education*, *14*(2), 129–135. https://doi.org/10.1016/j.iheduc.2010.10.001

O.Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, *9*(1), 20–32. https://doi.org/10.1111/2041- 210X.12860

OECD. (2020). *The global outlook is highly uncertain*. http://www.oecd.org/economic-outlook/june-2020

Pineda-Herrero, P., Quesada, C., & Stoian, A. (2011). Evaluating the efficacy of e-learning in Spain: A diagnosis of learning transfer factors affecting e-learning. *Procedia - Social and Behavioral Sciences*, *30*, 2199–2203. https://doi.org/10.1016/j.sbspro.2011.10.428

Schwab, K. (2016). *The Fourth Industrial Revolution*. World Economic Forum.

Sher, A. (2009). Assessing the relationship of student-instructor and student-student interaction to student learning and satisfaction in Web-based Online Learning Environment. *Journal of Interactive Online Learning*, *8*(2), 102–120.

Wan-yunTina Cheng, & Chen, C. (2015). The Impact of e-Learning on Workplace On-the-job Training. *International Journal of E-Education, e-Business, e-Management and e- Learning*, *5*(4), 212–228. https://doi.org/10.17706/ijeeee.2015.5.4.212-228

Werner, J. M., & Desimor, R. L. (2012). *Human Resource Development, 6th - Jon M. Werner*. Cengage Learning.

Yin, R. K. (2018). Case study research and applications : design and methods (6e ed.). In *Journal of Chemical Information and Modeling* (Vol. 53, Issue 9). Sage Publication.

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Using Digital Technologies by Human Resource Management During COVID-19: A Case Study of E-Office and E-Learning

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Abstract - Digital Technologies (DTs) have been developed for employees of the Directorate General of Treasury (DGT) in Indonesia to help them access data and learn using e-office and e-learning. In Indonesia, the COVID-19 outbreaks have forced DGT employees to fully utilise DTs to work from home (WFH) during the government lockdown. This research employed a qualitative approach using a case study method. Moreover, five out of the fifty DGT employees in Banten Province were selected as informants via a purposive sampling method. Next, the five DGT employees shared their impressions in employing DTs during the COVID-19 outbreaks. In this study, the data analysis applied a semi-structured interview and organised a focus group discussion (FGD) with the informants. The findings showed that the e-office implementation plays a significant role in daily office activities and has become a means of WFH due to the COVID-19 outbreaks. This study is useful to support the implementation of e-office and e-learning. Furthermore, this study discovered that e-learning implementation had changed human resources management (HRM).

Keywords: COVID-19 outbreaks; Digital Technologies; Human Resource Practices; E-Office; E-Learning; Indonesia

1.   Introduction

At the beginning of 2020, the world was taken by the emersion of COVID-19 outbreaks. Consequently, governments worldwide are releasing policies and effecting action plans, including controls (i.e., lockdowns of countries, temporary closing of physical operations of businesses) in order to halt the dispersion of the COVID-19 outbreaks. These restrictions have impacted the HRM in public service sectors. In fact, these sectors are the most vulnerable since they tend to have a lower level of productivity than private companies (OECD, 2020).

The DGT is one of the public service sectors in Indonesia that has implemented office automation (e-office) and digital-based education and training (e-learning). It should be noted that the implementation of these programs is vital for the development of DTs in the core business process and HRM. Therefore, the implementation of e-office and e-learning is no longer an obligation but a necessity. E-office has become a means for employees who are assigned to WFH. On top of that, e-learning has become the main focus of DTs to conduct employee training and development (De Meo et al., 2017).

DTs have converted HRM into a virtual activity. This condition has frequently implicated digital transformations that affect services and processes, as well as structures of organisational and human resource management concepts (Mochtar, 2019). In other words, digital transformation has a positive influence on HRM in the workplace (Betchoo, 2016). Besides, HRM is an effort to improve human quality (skill, ability, and compliance) in an organisation (Werner & Desimor, 2012). Fagan (2014) stated that HRM is a part of the human resources management system, consisting of education and training management, career management, and organisational management.The Indonesian government, along with other governments, have enforced lockdown measures that limit people to their residence and limit access to public agencies such as the DGT. Hence, this study aimed to explore e-office and e-learning as part of DTs and the readiness of DGT in using e-office and e-learning as part of the HRM.

2.   Literature Review

DTs are the main requirements that must be obtained by an organisation to survive and thrive in the era of Industry 4.0 (Schwab, 2016). This requirement is due to DTs potential in creating a new job environment by assuming an increasingly prominent role in performing work in organisational structures and employees' lives. The basic functions of HRM are also significant and, in many ways, affected. The change in digital HRM concerns two focus areas: e-office and e-learning (Bondarouk et al., 2017).

2.1   Human Resource Management

HRM is a series of systematic and planned processes designed by an organisation to provide its member with an opportunity to learn skills needed to fulfil current and future work demands (Werner & Desimor, 2012). It could be observed that the shift in technology utilisation to digital transformation has affected the quality and performance of human resources (Betchoo, 2016). Since the need for information technology in HRM has increased and the cost in an organisation needs to be reduced, managers should consider the possibility of replacing some, if not all, of their traditional HR activities with broader use of technology and automation.

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His response proved the value of the e-office usefulness during COVID-19, a time of uncertainty when he was restricted from working from the office. E-office allows him to continue some of his work activities. In addition, performing his job during the COVID-19 lockdown made him aware that the e-office was developing. This development proved that as the e-office grows, it is natural for users to adapt to the new change (Grace & Kartini, 2017). When being questioned on his experience, Eric stated his support:

It feels good to use the e-office during these times because I feel the connectivity with my boss, and I know that I would be working from home. So, I feel relaxed and comfortable because technology can do it for me.

Aron also expressed his support that the e-office could ensure smooth work during the COVID-19 lockdown:

The e-office is a lifesaver. There is a lot of work that would be wasted due to lockdowns, but with DTs, we can save our work. Otherwise, this period of COVID-19 would be a waste of time. We can do our work remotely and communicate with our bosses and colleagues. We were able to consult basically whoever we wanted to consult all this time.

Similar to Sago and Wari, Erik and Aron remained connected with various stakeholders in their working community, especially their bosses, which made them feel positive about their work along with the COVID-19 lockdown. Generally, a community consists of stakeholders responsible for helping DGT employees work to achieve their goals (Kuutti, 1996). Words like 'feel good,' 'feel good and comfortable' (Erik), and ' lifesaver' (Aron) indicate positive feelings about having DTs available for them to continue their work.

As part of the e-government, e-office will not run properly without the availability of technology infrastructure, the conducive government policies, and the availability of ICT professionals (Kazmi, 2010). Based on the 2019 Asset Management Percentage on Key Performance Indicator (KPI) Achievement Data, it could be observed that assets in the form of computers, laptops, and servers are the main facilities and infrastructure in e-office implementation, which have been provided appropriately and adequately.

4.1 E-Learning of DTs Theme

This theme appeared from the informant's responses regarding the use of e-learning, which was adjusted according to the restrictions of the COVID-19 lockdown. When asked about the application of e-learning as a result of the COVID-19 lockdown, Aldi explained how it was not easy to develop knowledge, skills, and abilities in the field of technology:

The implementation of e-learning at the DGT promotes modern organisational culture as stated in the Decree of the DGT number KEP-637/PB/2017 concerning the Grand Design of Organizational Culture of the DGT 2018-2020. The organisation culture at the DGT is represented as SMILE-C, an abbreviation of Share and Care, Modern, Innovative, Learn, Effective and Efficient, and Commitment. With technologies, sometimes you need to talk to people in order to understand how they are used. So, it made things easier for me.

Aldi's experience showed that although the DGT did not prepare any formal education at the Ministry of Finance (*Kemenkeu*) Learning Center (KLC) for their employees, he was assisted and supported by various stakeholders to understand how it worked. Thus, it could be summed that when he covered his studies through KLC, he used the skills and knowledge he gained from the facilitator and fellow students. In addition, for Aldi to collaborate with his colleagues and facilitators, he needs to establish good interpersonal relationships with these stakeholders so that he could learn well from/with them. Trials with facilitators and fellow students made it 'easier' to understand the software before learning the module through KLC. However, the need for face-to-face learning is not ideal in order to build familiarity with the technology used to prevent face-to-face contact by facilitating distance learning. Aron also described the unstructured process of introducing and using e-learning:

Even though e-learning has been conducted according to plan and succeeded to improve the participant's knowledge, skills, and attitudes, there will always be obstacles faced during the process, such as poor connections and timing problems.

Sago's feelings on KLC indicated that he was aware of his learning needs but did not deem it necessary to use KLC for his learning. He further explained that the implementation of e-learning requires facilities and infrastructure, including computers, the internet, devices to run e-learning, and e-learning supporting applications. Furthermore, he mentioned that e-learning is an application run through an online system that could be a medium for educators and students to meet in a virtual learning room. Basically, he seems to be very familiar with technology and resisted e-learning beyond the basic internet usage. Although KLC was introduced 'randomly,' Aron highlighted its practical usefulness for developing other technological skills during the COVID- 19 lockdown:

Management support, prior experience, computer restlessness, and compatibility have predictive power on employees' behavioural intention to use KLC systems. This means that these four things are very important in the organisation's efforts to support the successful implementation of e-learning.

Personal discussions provided by KLC have helped in the transfer of technical skills between Aron and his boss. Cheng and Chen (2015) discovered that the students' ability to treat e-learning as "a process where progress can occur at any time encourages them to accept or seek technology to meet their needs." In sum, since Aron realised that KLC has advanced, he could incorporate e-learning into his learning experience to meet his bosses virtually. Also, it is obvious that Wari's utilisation of the KLC software is guided by professional experience, as he used it to discourse problems related to his task to further develop skills in the finance module.

5.   Conclusion

The present study revealed the experience of DGT employees in using DTs (e- office and e-learning) during the COVID-19 outbreaks. The findings showed that DGT employees rely heavily on e-office and e-learning to perform their work and conduct learning activities while locked down. E-office and e-learning were introduced systematically as a way for most employees to use e-office to communicate with their leaders. Few employees are aware of their personal learning needs and understand which DTs are suitable for implementing tasks and career advancement. On top of that, the use of e-office and e-learning has impacted various stakeholders, for example, leaders and employees. Essentially, employees were using their personalised impression (seeing what works for them) to overcome the challenges of implementing e-office and e-learning throughout the COVID-19 outbreaks. Hence, this study proposed that future research should explore various DTs that could be used by other public-sector employees in their work in preparation for the Industrial 4.0 era.

References

Betchoo, N. K. (2016). Digital transformation and its impact on human resource management: A case analysis of two unrelated businesses in the Mauritian public service. 2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies, EmergiTech 2016, August 2016, 147–152. https://doi.org/10.1109/EmergiTech.2016.7737328

Bondarouk, T., Harms, R., & Lepak, D. (2017). Does e-HRM lead to better HRM service? International Journal of Human Resource Management, 28(9), 1332–1362. https://doi.org/10.1080/09585192.2015.1118139

Chang, W. L., & Lee, C. Y. (2013). Trust as a learning facilitator that affects students' learning performance in the Facebook community: An investigation in a business planning writing course. Computers and Education, 62,320–327. https://doi.org/10.1016/j.compedu.2012.11.007

Chien, T. C. (2012). Computer self-efficacy and factors influencing e-learning effectiveness. European Journal of Training and Development, 36(7), 670–686. https://doi.org/10.1108/03090591211255539

Creswell, J. W., & Poth, C. N. (2017). Qualitative Inquiry and Research Design Choosing Among Five Approaches (4th ed.).

Darwish, H., Saki, N., Sahraei, M., Zakrifar, F., Talebi, S. M., & Branch, C. T. (2014). Effects of Automated Office Systems (Automation) on Improve DecisionMaking of Staff Managers (At the Airports Company of Country). 4(3), 554–564.

De Meo, P., Messina, F., Rosaci, D., & Sarné, G. M. L. (2017). Combining trust and skills evaluation to form e-Learning classes in online social networks. Information Sciences, 405, 107–122. https://doi.org/10.1016/j.ins.2017.04.002

Dewandaru, D. S. (2013). Pemanfaatan Aplikasi E-Office Untuk Mendukung Penerapan E-Government Dalam Kegiatan Perkantoran Studi Kasus: Puslitbang Jalan Dan Jembatan. Seminar Nasional Teknologi Informasi Dan Komunikasi 2013 (SENTIKA 2013), 2013(Sentika), 232–239. https://fti.uajy.ac.id/sentika/publikasi/makalah/2013/2013_35.pdf

Fagan, M. H. (2014). Exploring a Sociomaterial Perspective on Technology in Virtual Human Resource Development. Advances in Developing Human Resources, 16(3), 320–334. https://doi.org/10.1177/1523422314532094

Hidayanto, A. N., Karnida, Y. Y., & Moerita, G. (2012). Analysis of software as a service (SaaS) for software service provision alternative: A case study of e-office on demand service of PT. Telkom Indonesia. International Journal of Innovation and Learning, 12(3), 294–318. https://doi.org/10.1504/IJIL.2012.048811

Hodgetts, D. J., & Stolte, O. E. E. (2012). Case-based Research in Community and Social Psychology: Introduction to the Special Issue. Journal of Community and Applied Social Psychology, 22(5), 379–389. https://doi.org/10.1002/casp.2124

Kazmi, S. N. A. (2010). Factors influencing e-Governance implementation: Issues and challenges in Pakistan. 2010 5th International Conference on Digital Information Management, ICDIM 2010, 326–331. https://doi.org/10.1109/ICDIM.2010.5664643

Kuutti, K. (1996). Activity theory as a potential framework for human-computer interaction research. 9–22.

Mason, J., & Lefrere, P. (2003). Trust, collaboration, e-learning and organisational transformation. International Journal of Training and Development, 7(4), 259–270. https://doi.org/10.1046/j.1360-3736.2003.00185.x

Mochtar, A. R. (2019). Menuju Transformasi Digital Kemenkeu. Buletin Kinerja: Mengawal Perubahan, XXXIX(Semester I 2019).

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? Internet and Higher Education, 14(2), 129–135. https://doi.org/10.1016/j.iheduc.2010.10.001

O.Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. Methods in Ecology and Evolution, 9(1), 20–32. https://doi.org/10.1111/2041- 210X.12860

OECD. (2020). The global outlook is highly uncertain. http://www.oecd.org/economic-outlook/june-2020

Pineda-Herrero, P., Quesada, C., & Stoian, A. (2011). Evaluating the efficacy of e-learning in Spain: A diagnosis of learning transfer factors affecting e-learning. Procedia - Social and Behavioral Sciences, 30, 2199–2203. https://doi.org/10.1016/j.sbspro.2011.10.428

Schwab, K. (2016). The Fourth Industrial Revolution. World Economic Forum.

Sher, A. (2009). Assessing the relationship of student-instructor and student-student interaction to student learning and satisfaction in Web-based Online Learning Environment. Journal of Interactive Online Learning, 8(2), 102–120.

Wan-yunTina Cheng, & Chen, C. (2015). The Impact of e-Learning on Workplace On-the-job Training. International Journal of E-Education, e-Business, e-Management and e- Learning, 5(4), 212–228. https://doi.org/10.17706/ijeeee.2015.5.4.212-228

Werner, J. M., & Desimor, R. L. (2012). Human Resource Development, 6th - Jon M. Werner. Cengage Learning.

Yin, R. K. (2018). Case study research and applications : design and methods (6e ed.). In Journal of Chemical Information and Modeling (Vol. 53, Issue 9). Sage Publication.