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, Messina, Rosaci, & Sarné, 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, Harms, & Lepak, 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.

2.2 E-office

As one of the aspects of HRM, e-Office development is a part of organisational development. Thus, its implementation is essential to provide convenience for the centralised management, an 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.

2.3 E-learning

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, Quesada, & Stoian, 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, Dickson-Deane, & Galyen, 2011).

In this intercourse, the learners' progress depends on many factors, such as their attitudes and basic skills, as well as the cognition of the "human" virtual environment where the interactions transpire. Notably, there is also a relation between "learner-facilitators" or "learner-learner" interactions and learner-learning and performance issues (Sher, 2009). In reality, the learner's attitude in starting interactions with his/her co-workers also depends on the mutual faith level (Mason & Lefrere, 2003).

Thus, it could be seen that the implementation of e-learning does not only concern education but includes the working world where the institutions have started to direct their HR quality improvement through online training or e-learning. Currently, there is a multitude of technology-based training that leads to e-learning, and a majority of them utilise the technology and internet and intranet system (Werner & Desimor, 2012)

3. Methodology of Study

This study applied the qualitative case study method. This method was selected as the researcher could get an in-depth view of an event, situation, and a specific social condition as well as provide an insight into the process depicting how an event or situation happened (Hodgetts & Stolte, 2012). Hence, this situation allows the explored phenomena to be revealed "from the opinions, thoughts and feelings" of the informants.(Creswell & Poth, 2017). Additionally, this study used close-ended questions to collect data on the informants' demographics (e.g., age and gender) and the types of DTs used.

Informants' pseudonyms	Ages	Gender	Education
Sago	29-32	Male	Bachelor's Level
Wari	32-36	Female	Bachelor's Level
Erik	31-35	Male	Master's Level
Aldi	35-40	Male	Bachelor's Level
Aron	30-33	Male	Bachelor's Level

Table 1: Informants' demographics

3.1 The Informants

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, Wilson, Derrick, & Mukherjee, 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. 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*:*

> *E-office has been well because I do not necessary to go to the office to access the e-office, but I have them with me at home. I overt my notebook and hotspot using my hand phone, and I could work.*

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. Tina 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.

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