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The mobile technological era: insights into the consequences of constant connectivity of personal devices by knowledge workers

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Abstract

Purpose - As employees' adoption of Bring Your Own Device (BYOD) has increased, so has research interest into the impact of BYOD on human resources outcomes. The present study aims at understanding the relationship between BYOD and human resources outcomes.

Design/methodology/approach - The study employs the inductive data-driven content analysis approach to analyze the data collected through qualitative semi-structured interviews with a sample of 28 knowledge workers from different occupational sectors in Mauritius.

Findings - The results show the double-edged sword brought about by BYOD implementation. This trend is associated with perceived job performance, job satisfaction, organizational commitment and work motivation while also having an effect on work life conflict and stress.

Practical implications - This study has implications for organizations that are concerned about formulating guidelines and policies in relation to workers' adoption of BYOD in the workplace. This trend permits employees to continue to communicate and work irrespective of new working conditions and social distancing since Covid-19 pandemic has changed the way organizations operate around the globe.

Originality/value - Driven by the JD-R theory, themes and sub-themes were linked by the emerging relationships to present a conceptual framework to understanding employees' well-being since this is a pertinent research area for scholars and practitioners, as well as a topic of growing prominence for modern organizations.

Keywords: BYOD, Human Resources Outcomes, Job Resources, Job Demands, Work Motivation, Work-life Conflict

Paper type – Research paper

1. Introduction

In the last decade, the tremendous growth of mobile technology artifacts, the availability of consumer devices offering both voice and data features, and the significant drop in their prices have fundamentally transformed the world (Shiau et al., 2019). Mobile technology has seeped into individuals' lives so deeply that this is how most of them start their day. Historically, Information Technology tools were unaffordable and were adopted only by well-endowed enterprises focalizing on a top-down IT innovation. This led to work being accomplished only during office hours since these resources were only accessible on site (Barlette et al., 2021). However, today, with a drop in the price of mobile devices, technology is being decentralized and is no more considered as an organization's privilege, but rather a commodity which can be owned by many (Carr, 2003; Leclercq-Vandelannoitte, 2015; Weeger et al., 2015). People's growing reliance on these multiple functionalities devices for non-work activities has led to the increasing influx of private technologies at work (Harris et al., 2012; Jarrahi et al., 2017; Niehaves et al., 2013). Since individuals often use sophisticated devices, and applications, and are increasingly accustomed to the benefits and convenience obtained from utilizing their personal technology to such an extent that they are now willing to productively embrace that same technology into their professional spheres to fulfil work tasks more efficiently and rapidly (Steelman et al., 2016). This has instituted the BYOD – Bring Your Own Device phenomenon, which refers to the use of employees' privately owned mobile devices such as laptops, tablets, smartphones, and other devices, and general software applications such as web browsers, instant messaging software, word processor, presentation software, spreadsheets, and video conferencing to fulfil professional tasks. These technology advancements have radically changed how, where and when employees work (Ferguson et al., 2016).

BYOD may not be a new topic of research, but it has heightened importance within the current work from home environment resulting from the global pandemic, within many sectors. In turn, many companies have responded positively to work from home which is likely to continue to upsurge and BYOD is a typical organizational answer to it. An investigation confirmed an increase from 63% to 78.48% by US organizations implementing BYOD practices from 2011 to 2018. Other countries including China experienced a growth in BYOD penetration where approximately 70% of the Chinese workforce were using their own devices in the work domain in 2015 (Chen and Chen, 2020). Furthermore, a whopping number of workers check their office email prior to

the official starting time of their normal work day (Kaneshige, 2014), while evidence from a study reported the exchange of 269 billion emails daily in 2017 and this is expected to rise to almost 320 billion per day in 2021 (Tams *et al.*, 2020). A study by Ferguson *et al.* (2016) conveyed that 45% of "networked workers" are constantly tethered to work during weekends and evenings regardless of their immediate location when using a mobile device. This is even more common during the coronavirus pandemic where business communications and IT workarounds are likely to occur where workers are exposed to endless stream of task reminders, email notifications, messages reminders and other work-related tasks.

Together with the blended work-life lifestyle, BYOD is not showing any signs of slowing down. Even organizations which were against BYOD due to the daunting challenges in information security (Chen and Chen, 2020), have now conceded with it since the global pandemic has instigated more remote work and this seems to be the new normal. This popular trend is likely to continue to rise in the future as the BYOD market which was worth approximately 94 billion dollar in 2014, is expected to grow to approximately 367 billion dollar by 2022 (Lazar, 2017). As affirmed by Jarrahi *et al.* (2017), employees are increasingly fulfilling their work using their personal technologies over which their companies have little control.

Although BYOD use for work practices has been growing and enables users to attend to work issues transcending the location and time constraints, there is little consensus on understanding whether its use has beneficial or harmful on both employees' work outcomes and human resource outcomes such as performance management, employee benefits (flexibility), satisfaction, employee health and well-being (Köffer *et al.*, 2014; Niehaves *et al.*, 2012; Weeger *et al.*, 2015; Gewald *et al.*, 2017). For instance, research on mobile technology's association with organizational commitment has yielded mixed results: positive (Golden, 2006), negative (Lim and Teo, 2000), and no relationship (Boswell and Olson-Buchanan, 2007). Additionally, being constantly connected arguably brings both benefits and unexpected consequences to workers. For instance, researchers have linked technology use to increased productivity, flexibility as well as social connection for workers. It can be reported that ubiquitous access to employees has opened the door for several forms of unique types of work arrangements such as remote work, flextime, telecommuting (McDaniel *et al.*, 2020). However, technology use also results in blurring the lines between work and non-work domains, seldom leaving workers to struggle between balancing their

work and personal lives. Since work can occur "anytime, anywhere", this may give rise to work "all the time, everywhere," hence less time is allocated for non-work activities (Cousins and Robey, 2014).

In the same vein, several scholars posited that both employers and employees have conflicting opinions about the effect that constant connectivity has on them. While a group of employees purported that the adoption of their own technologies to fulfil organizational duties rendered it easier for them to strike a balance between work and family, others indicated that those same technologies made the balance more difficult. Some reported that their workloads and stress levels have increased while others claimed that the technologies made them more productive and they found their jobs more interesting (McDaniel *et al.*, 2020). Hence, one of the objectives of this research is to shed light on these seemingly inconsistent findings.

Moreover, research has indicated the lack of in-depth understanding of workers' constant connectivity of personal devices, including their relevant outcomes, and several recent scholars recommend investigating issues relating to this growing trend. For example, Doargajudhur and Dell (2020) suggest further research into the effect of BYOD on workload, performance and work-life balance. Besides, Doargajudhur and Dell (2018) recommend a more comprehensive understanding of the BYOD phenomenon and the implications of its adoption on workers' well-being and health conditions. Carlson *et al.* (2017) reported that the focus of research has shifted on analyzing the effect of technology's addiction on and beyond the workload, recommending future work by simultaneously considering the positive and negative consequences of mobile technology for work purposes.

In addition, we argue that BYOD technology is likely to create a chain of responses in workers, thereby generating job-related and behavioral outcomes. In this context, our search process resulted in some under-researched areas in the Information Systems (IS) and management sciences literature regarding the integration of multidisciplinary theoretical lenses to investigate BYOD. Our literature search process also confirmed a lack of qualitative studies on the topic, in particular, a comprehensive understanding of workers perceptions on human resources outcomes. Taking a holistic approach, this study addresses the existing gaps in IS and management sciences fields by applying the Job Demands-Resources Theory (Schaufeli and Bakker, 2004) as a theoretical lense to understand how the varied job demands influence the workers' decision to use their personal

devices and, also to understand the consequences of constant connectivity. In this context, the central research question posed and addressed in this paper is:

RQ: What are the consequences of constant connectivity of personal devices on human resources outcomes?

Motivated by these calls for further work, we take this line of research deeper by providing a more comprehensive understanding of the BYOD practice and the effects of its utilization. Addressing this research gap is significant for practice since the Covid-19 pandemic has changed the way organizations around the globe operate. Such emergency situations promote the adoption of BYOD especially when professional devices are no more handy. BYOD therefore becomes an important practice since it permits workers to continue to communicate and work irrespective of new working conditions and social distancing.

Moreover, productivity is frequently 'laundry-listed' in practitioner studies, that is, it is presumed that performance will consequentially be enhanced, and relatively few business leaders believe that BYOD embodies as well as shapes how people accomplish their work. In addition, research advocates that the pervasiveness of new technologies has transformed workers' attitudes toward work by providing them with flexible timings and locations for work, hence leading to an 'always available work culture' (Mazmanian *et al.*, 2013, Barlette *et al.*, 2021). For instance, workers can use personal applications embedded in their devices to initiate new ways to serve the organization's goals particularly in terms of work performance. Therefore, understanding the outcomes of BYOD is likely to warrant widespread relevance, especially in the IS and management sciences literature.

The structure of the study is as follows: Section 2 presents an overview of the common theoretical frameworks in relation to BYOD and human resources outcomes literature, and justifies the job demands-resources theory as the guiding model. Next, we outline the methodology, and data collection and analysis procedure, after which we present and discuss the findings of this research, including the conceptual model which emerged. Finally, we document how our study enhances the theoretical and practical understanding of BYOD-related effects and we describe the limitations of the current study while also proposing some avenues for future research.

2. Literature Review

2.1 HRM Practices and BYOD

BYOD is not just an IT issue but a phenomenon which is closely related to HR, in particular, some of the HR practices. Otoo (2018) asserted that HRM practices can be defined as a set of practices which attract, develop, motivate and retain workers by ensuring the growth and survival of the organization including its members. A special issue research was recently conducted by Cooke et al. (2020) who identified the following HRM practices and themes:

- Employee innovation and creativity
- Performance management
- Corporate social responsibility, employee well-being and resilience
- The role of leadership styles, culture and employee behaviors
- Workplace inequality, employee voice, and diversity management
- Employment modes and worklife balance
- Psychological contracts
- Talent management and mobility

Additionally, many prior studies have postulated that HRM practices operate by positively influencing employees' motivation, abilities and skills, commitment, as well as their discretionary efforts (Mansour *et al.*, 2013). In the context of digital technologies, IT and HR are increasingly partnering and becoming allies on matters such as how company provided IT resources or personally owned and used devices improve outcomes such as performance, satisfaction, commitment, autonomy, workload, well-being, among others. When associated with digital technologies, many HRM systems are posited to affect employees work outcomes, such as by boosting workers' performance, employee engagement and organizational commitment, whilst also affecting their well-being (Turner *et al.*, 2021). For the purpose of this study, the work outcomes and human resource outcomes of performance management, employee benefits (flexibility), satisfaction, employee health and well-being associated with the adoption of personal technologies are relevant and discussed further in more details in the findings section.

2.2 Theoretical lenses of work and HR outcomes

A review of the literature on human resources outcomes identified commonly used theoretical underpinnings such as the job characteristics model, job control model, social cognitive theory, cognitive model of stress, job demands-resources model, among others. These are explained in further details below.

The job characteristics model is used to describe a job, and shows the relationship between the main job dimensions and individual human resources outcomes of job satisfaction, job performance, motivation, absenteeism and turnover. Nonetheless, most research focused on positive human resources outcomes only and neglected the critical psychological conditions from the model, concentrating rather on the direct effect of the essential job characteristics on the human resources outcomes (Bakker and Demerouti, 2014). In addition, the heart of the demand–control model (DCM), states that strain is higher in positions containing low job control and high job demands (Karasek, 1979; Karasek and Theorell, 1990). DCM emphasises on the consequences of the job demands and job control on workers' well-being and motivation. However, most studies failed to consider the interaction effects as proposed by the DCM (Bakker and Demerouti, 2014).

Besides, the social cognitive theory (SCT) consists of several cognitive factors which affect human behavior, but the two core categories include self-efficacy and outcome expectations (Bandura, 1997; Bandura, 1977; Chiu *et al.*, 2006; Cheng and Chu, 2013). However, literature in the information systems field is limited to only two distinct outcome categories, including personal and performance related outcomes. Furthermore, the cognitive model of stress purports that "stress as the result of an interaction between an individual and the environment, including stressful situations or conditions, which they refer to as stressors" (Lazarus and Folkman, 1984). This model primarily emphasizes on work-related stressors.

These models underpinning human resources outcomes research have been widely utilized in prior studies, however, they also come along with significant limitations. For instance, some of the models centre on job stress and work motivation. Each of these frameworks has one sided attention for either job performance, work motivation, job stress, or other outcomes. Another criticism is that each of these models is rather simple and does not include the perspectives of other existing models. Very often, these frameworks are rather static, advancing that only few dimensions are acknowledged to describe different work settings in a homogenous manner. Besides, the volatile nature of jobs in today's rapidly changing work environment is highly ignored. The

aforementioned models in the performance, satisfaction, stress, and motivation literature have neglected one of these relevant factors (Bakker and Demerouti 2014). We argue that these work-related outcomes should be considered simultaneously, hence, the relevance of the Job-Demand Resources theory in this research.

2.3 Job Demands-Resources Theory

The Job Demands-Resources Theory (JD-R) is a comprehensive, parsimonious and popular model which has been borrowed from organizational psychology for examining and conceptualizing occupational well-being, engagement, and burnout (Schaufeli and Bakker, 2004). The JD-R model can be applied to any work environment or can be tailored to specific jobs. Whilst every job has its own attributes, the core premise of the JD-R model is that these features are grouped into two classes: job demands and job resources.

Job demands represent the social, physical, organizational, or psychological features of the occupation that necessitate continuous physical or mental effort, and these are associated with physiological or psychological costs (Demerouti *et al.*, 2001). Some examples include interpersonal conflict, high work pressure, workload, heavy lifting, job insecurity and emotionally demanding interactions with clients. In contrast, job resources represent the psychological, physical, organizational, or social features of the work that aid in decreasing job demands, including its associated psychological and physiological costs, in fulfilling work objectives, and in encouraging individual development, learning and growth. Some job resources include job control, job autonomy, social support, and feedback (Bakker and Demerouti, 2007; Bakker *et al.*, 2010; Boyd *et al.*, 2011).

Besides, as argued by Bakker and Demerouti (2014), it is possible to understand, explain and predict employees' well-being, engagement and burnout through JD-R. Over the years, due to its use in various research, propositions and meta-analyses, this model has matured into a theory. Another important premise of the JD-R theory is that the job features of job demands and job resources trigger two independent processes including health and motivation.

Job demands are greatest key predictors of repetitive strain injury, exhaustion, psychosomatic health complaints and several other health problems. Emotionally demanding jobs or poorly designed jobs where employees feel overloaded lead to such issues (Bakker *et al.*, 2003). Job

resources, however, give rise to work enjoyment, high work engagement, low cynicism and high performance. As argued by Bakker and Demerouti (2007), much emphasis is put on the intrinsic and extrinsic motivational nature of job resources and purport that an intrinsic motivational role triggers employees' learning, development and growth while an extrinsic motivational role assists in realizing work objectives. These job resources satisfy basic human needs including competence, autonomy and relatedness (Bakker *et al.*, 2004).

The use of the JD-R as a theoretical foundation is advantageous for this study for various reasons. First, this parsimonious model centers on conceptualizing occupational well-being and health impairment, stemming from working conditions which have been ignored in the previous mentioned models. Second, as our study's focus is on human resources outcomes, the JD-R model gives us a better understanding of workers' perceptions on their job behaviours when adopting mobile technologies. Third, this framework shows the interaction effects between the demands placed on workers and the resources provided to them which were disregarded by the previous models. This can help shed light into how the resources used can mitigate the demands on the employees. Finally, the dynamic nature of the JD-R model is relevant to the changing nature of jobs in today's work settings.

3. Methodology

In order to address our research question, this study employed a qualitative research approach, which is deemed relevant in this exploratory research aiming at understanding a relatively new phenomenon (Creswell, 2015). Qualitative research methodologies are commonly used in organization and management research (Symon and Cassell, 2006) and the applied psychology field (King *et al.*, 2018) but is less prevalent in the IS field. There is a growing need to new research designs and methods enabling deeper, unreservedly engaged and reflexive insights to the field in this digital era (Cecez-Kecmanovic *et al.*, 2020). Nonetheless, the 21st Century, has witnessed signs of maturation of qualitative research in the IS field. Still, qualitative philosophies and methods remain limited to specific research sub-communities (Sarker *et al.*, 2018). This research which aimed at uncovering the influence of BYOD on human resources outcomes investigates the influences of BYOD as experienced by the workers. Hence, a qualitative research methodology is best suited at grasping how the participants experience BYOD. The researchers employed the phenomenology research design to study the BYOD phenomenon through the lived experiences

of the workers employed in firms with a BYOD program (Moustakas, 1994). Of the multitude qualitative research designs, the phenomenological design was deemed most appropriate as aligned with the research question, data was sought based on the perceptions and lived experiences of the respondents (Moustakas, 1994; Flueras *et al.*, 2012).

Data was collected through in-depth semi-structured interviews, with a set of open-ended questions. The data collection period lasted for one year, from 2019 and was still ongoing during the first half of 2020, the Global Pandemic period. Participants were identified through a convenience and purposive sampling of the possible contacts of both researchers. The researchers searched for knowledge workers from diverse industries in Mauritius. Further, the samples were carefully selected to represent organizations which had a BYOD program in their operations. Our sample comprised of 28 full-time knowledge workers from various occupational sectors in Mauritian organizations. Out of the 28 participants, 19 are male and 9 are female, and they range in age from mid-twenties to mid-forties. To capture a broader picture of the phenomenon, the informants were from varied organizational typologies: big firms, business groups, and small and medium enterprises. These respondents have attained a certain level of technical competence and hold positions such as Analyst Programmer, Application Specialist, Senior Associate, Business Analyst and Marketing Executive. The specific details about the respondents are found in Appendix 2.

Saturation is the point where no new discoveries or evolution of the categories are yielded through the coding of data (Creswell, 2013). Yin (2010) substantiated that it is quite challenging to determine an adequate sample size for any qualitative study as compared to any quantitative research where a sufficient sample can be calculated statistically (Hair *et al.*, 2010). To justify adequate sample sizes, a qualitative study relies on theoretical saturation; this is achieved when every relevant relationship and dimension has been picked out and when there is hardly any chance of obtaining new insights from continued sampling (Neuman, 2003). Herein, the researchers reached theoretical saturation after conducting only the 28 interviews, as no new concepts or themes seemed to emerge. Therefore, the researchers decided that it would be appropriate to stop at the twenty-eighth interview as data became redundant.

The study followed the ethical requirements during the whole research process. Prior to the interview, each respondent received an informal introductory email or message describing the

research, the purpose of the study, the procedures and consequently, inviting them to participate. Appointments were made with the knowledge workers who agreed to participate. A convenient place and time were subsequently chosen to conduct the interview. The time suggested by each interviewee was then mapped with the availability of one of the researchers, who subsequently conducted the interview. Few of the respondents were busy during the data collection period but were still willing to give their insight on the research phenomenon. The interview questionnaire was sent via email and once gathered, areas that required more investigation were dealt with via phone discussion.

The interview protocol comprised of questions relating to the respondents' professional background; the personal technologies they used to accomplish organizational duties; the reasons for selecting their private tools and the effect of these devices on their human resources outcomes. A draft of the interview protocol is attached in Appendix 1. The interviews which lasted 45-75 minutes, were audio recorded and transcribed for analysis.

This study employed the inductive content analysis approach to analyse the data, with the aim of uncovering novel themes. Content analysis is '...a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns' (Hsieh and Shannon, 2005, p. 1277). This process is deemed suitable for this research as it is a flexible approach to analysis which is content-sensitive. In addition, content analysis is an analysis method in which units of meaning or words are categorised into fewer content-related categories from which meaning can be derived. The units of meanings are referred to as 'concepts' or 'categories'. The concepts are usually drawn in reference to the development of theory. The main aim of content analysis is mostly to develop a conceptual map or model to better understand a researched phenomenon (Elo and Kyngäs, 2008; Creswell, 2015). Due to its versatility, content analysis can be applicable to a wide range of texts (Carley, 1993), and has gained prominence in social and behavioural sciences (Stemler, 2015).

Given the exploratory nature of this study, an inductive, data-driven content analysis was used. The researchers followed Miles and Huberman's (1994) two-steps approach for the analysis of the interview data. The first step involves analyzing individual scripts as detailed by Tesch (2013), while step two includes analysis of all the scripts. The details of the two stages are presented in Figure 1. Since the classification of meaning into categories must be consistent to ensure reliability

of the research, the data analysis demands a constant revision of the selected categories to monitor the consistency between the units of meanings and the codes assigned (Miles *et al.*, 2014).

[Figure 1]

Drawing from the literature, the researchers brainstormed on the operational definitions of the JD-R (Schaufeli and Bakker, 2004) model, such as job resources factors, job demand factors, and human resources outcomes to develop a code book (Goodhue and Thompson, 1995). Subsequently, the researchers carefully reviewed all the transcripts one by one, to undertake first level of coding independently to ensure rigor. They highlighted all the texts that appeared to best describe job demands, job resources and job outcomes. All the highlighted transcripts were coded using the predetermined categories as closely as possible. Verbatim not fitting into the predetermined categories were coded with new label capturing the essence of job resources, job factors, human resources outcomes and the interaction effect between job demands and job resources, particularly to show that the resources provided to employees help in mitigating the effect of the demands placed on them. After the first stage of coding, the researchers examined the data for each of the category to determine the need for subcategories for a category (for example, perceived job autonomy, perceived workload, perceived work pressure, work motivation, exhaustion, work-life conflict, etc.). The data that could not be coded into the categories derived from the above-mentioned theories were re-examined to explain various human resources outcomes. Following our initial coding process, we embarked in a secondary coding process to increase the viability of the final codes and the holistic suitability with the data. Finally, all researchers compared the extent to which the data and categories were supportive of the JD-R, and the human resources outcomes theories. The report of the research findings outlines the incidence of codes representing the human resources outcomes and the relationships between the various categories, and new perspectives were added. A sample of our data structure is illustrated in Figure 2, which displays the relationships between the first order categories, the second order categories and the aggregated dimensions. The organisation of data facilitated their later assembly into a more structured fashion, reflecting all the themes and theoretical dimensions (Gioia *et al.*, 2013).

External validity refers to the reliability and generalizability of the research findings. Validity and reliability are two crucial concerns of any qualitative researcher as the credibility and objectivity of the study can be at stake (Patton, 2015). Qualitative research is rather centered on the co-development of meaning between the inquirer and the respondents (Creswell, 2013). To ensure validity, the researchers in this study used reflexivity and data triangulation. Reflexivity was upheld throughout the data collection and analysis process, by using field notes/memos to mitigate any biases arising from prior knowledge, personal assumptions, or previous experiences – refer to figure 1 (Erlingsson and Brysiewicz, 2017). The field notes were recorded during and after the interview and they assisted the researchers to keep track of ideas for analysis process. They further used data and theory triangulation methods, by collecting data from various informants from diverse industries and demographics (Denzin, 2017). Furthermore, employing the theory triangulation method during the distinctive coding phases of the data analysis, the emerging themes and relationships were compared to the extant literature on the emergent topics (Creswell 2013; Denzin 2017). Every single theme/code was paralleled with the extant body of literature, and this from various perspectives.

Research rigor was also established through the iterative process, whereby a reliable and consistent method of coding and categorization was implemented, with the ultimate aim of attaining dependable and confirmable results. For example, the category of "job demands" started with a cluster of verbatim from diverse respondents that included the responses: "increase in work load"; "pressure from superior"; "devices increase the perception of work overload". The categories and emerging sub-themes developed for each questionnaire were subsequently reviewed and synthesized to develop overarching major themes. The two researchers were involved in the coding process to sharpen the coding and definitions of the same data. Team coding serves to add clarity of definitions and acts as a perfect reality check (Miles *et al.*, 2014). Inter-rater reliability, the process whereby researchers independently code data and compare the coding for agreement is a well-established process for quantitative research. Nevertheless, its applicability to qualitative investigations is unclear (Armstrong *et al.*, 1997). However, the team of researchers in this study undertook measures to ensure research rigor by establishing inter-rater reliability. A data driven codebook with a clear definition of terms and examples of quote from the data was developed through the researchers' brainstorming. Creswell (2014) argues that this process ensures that codes

generated are not shallow and vague. The two researchers then used the codebook for the data analysis process. An extract of the codebook is included in the Appendix 3. For this research, the inter-rater reliability formula of Miles and Huberman (1994) was employed to mitigate interpretative predispositions, ensure consistency of the coding and reconcile differences:

Number of agreements

Reliability =

Number of agreements + disagreements

The first three transcripts were coded and the initial inter-rater reliability was checked. For example, the code that was not in agreement in the current study is the code of work load, and work overload. One researcher believed that both terminologies meant the same thing, while the other understood that they can be two independent themes. Similarly, there was disagreement on the extent to which negative human resources outcomes were coded and overlooked by one researcher. Most of the disagreements were due to the wrong interpretation of the code book and the corresponding definitions which were too broad. Since the inter-rater reliability was above 80%, the researchers proceeded with the coding after refining the code book.

4. Findings

Drawing on the above related theory, the interviewees provided a variety of insights to understand the research phenomenon. Inductive content analysis approach enables new themes to emerge from the interview data by repeatedly examining and comparing the raw data, and subsequently help in developing a theory or model about the underlying processes which manifest in the interview data (Duriau *et al.*, 2007; Creswell and Guetterman, 2019). Herein, after multiple readings and interpretations of the transcript, the researchers identified three main themes, namely "job resources", "job demands" and "human resources outcomes", that span across multiple emerging relationships. The findings section illustrates the respondents' comments and provides a rich explanation of the themes, the emerging relationships and, is reviewed in light of the broader academic literature.

4.1 Job Resource Factors

In this section, the emerging themes of BYOD and the job resources factors of job autonomy and task-technology fit (TTF) will be expanded on (Goodhue and Thompson, 1995). The workers interviewed have succeeded in making a compelling case that embracing BYOD gives them the autonomy to work where and when they desire to. Harris et al. (2012) report that employees value the independence they acquire when they have the choice to utilize their personal technologies for corporate tasks. Moreover, the ubiquitous feature of BYOD inevitably allows greater flexibility. With the use of their private technologies, the workers afford greater freedom, flexibility, and ownership, as compared to using the technology provided by their employer, as illustrated by the remarks from the following participants:

"And yes this comes with a certain flexibility and having my own devices with me everytime....."

"By using my own phone, I have better ownership of my tasks since I schedule my own calls to respective clients and colleagues. Since I use my device, I feel more autonomous and more motivated to work."

Freedom to fulfil business tasks outside office hours when making use of their preferred technology often manifests itself with job autonomy, as in the following verbatim:

"I have freedom because I can choose the time, space where, which is more convenient for me. I can work anytime, anywhere, at home, during my free time sometimes and I feel that I have more freedom and I can do the task whenever I feel like. I have the freedom to complete the work that has been left incomplete at the office."

The adoption of BYOD yields an increased perception of task-technology fit and consequently enables the exploitation of privately gained familiarity and competences. The higher suitability of their devices was a common reason highlighted by many respondents, who indicated:

"I believe that the technology is appropriate and fit for what I have to do for the objective that I have to meet."

"It fits the purpose of the work that I have to do....I know my device well.

As contended by Lu and Yang (2013), technology characteristics contribute to TTF in different occupations. Similarly, many participants in this study believed that the features of their privately used technologies do contribute to TTF, as in the following remark:

"I am more acquainted to all the available functions I use the updated version of all the applications I have, therefore my devices are more appropriate."

Preference for their private devices and dissatisfaction of the corporate provided technology are the other reasons that emerged from the interview data, which explains how the use of private technologies lead to greater levels of TTF as compared to company provided devices as illustrated in the following excerpt:

"I feel that the IT devices provided by my firm is somewhat not technology advanced. I use my personal smartphone which has the latest specifications such as 3 GB of RAM, Snapdragon 825 and many more. Hence, the device is powerful enough for the daily tasks that I perform."

In a similar vein, as argued by Dernbecher *et al.* (2013), employees switch to their own devices to work with the known. Employees' preference for their personal devices over corporate tools leads to them believing in the appropriateness of their technology to conduct work tasks.

4.2 BYOD and Job Demand Factors

The analysis led to the categories and relationships between BYOD and the job demand factors of workload and work pressure. Although employees acknowledged gaining more flexibility through BYOD adoption, and find their devices appropriate to handle organizational duties, they also substantiated that their workload had increased due to the use of these devices. It was evident that BYOD adoption is associated with an increased workload. For instance, numerous interviewees conceded that there is a tendency to extend working time with the use of private IT, and hence this leads to increased perceptions of workload. This invigorates workers to be engrossed in multiple life demands in a flexible manner or exhaust them when they have to accomplish multiple demands regardless of the time of the day. The following comments are typical of respondents' sentiments:

"You never really get the chance to leave the work in the office. You are always connected to work"

"The fact that you bring your email home, work never stops. And email is also on the smartphone, so each time a new email pops in, you have the tendency to check and then reply."

BYOD adoption also raises the expectation to be constantly available and never being able to unplug, thereby increasing perceptions of workload, as indicated in the comment below:

"Knowing that I use my personal device to complete my work, my superior tends to give me more work – my workload is increased, I am expected to be always available."

4.3 BYOD and Human resources outcomes

The sub-themes linked to the positive human resources outcomes, "job performance"; "job satisfaction"; "organizational commitment": and "motivation", as well as the negative human resources outcomes of " workload"; "work-life conflict" and "stress" are discussed in this section. The findings section centres around the themes and the emergent association amongst the themes such as: "job resources and job performance"; Job Demands, and the Positive Human resources outcomes of Job Performance and Job Satisfaction"; "Job Resources of Perceived Job Autonomy Mitigates Job Demands of Employees' Perceived Workload"; "Job Resources of Perceived Job Autonomy, and the Positive Human resources outcomes of Job Performance, Job Satisfaction and Organizational Commitment"; "Positive Human resources outcomes of Job Performance, Job Satisfaction and Organizational Commitment"; "Job Resources of Job Autonomy Increases Human resources outcomes of Work Motivation"; "Job Demands of Perceived Workload leads to Negative Work Outcome of Work-Life Conflict"; Job Demands of Perceived Workload leads to Negative Human resources outcomes of exhaustion, stress and burnout".

4.3.1 Job Resources and Job Performance

A rise in performance often manifests itself when workers have the right technology to perform tasks. This is not surprising; as argued by Goodhue and Thompson (1995), individuals are more productive when there is a better fit between the work that needs to be accomplished and the technology features. Moreover, the applications and functions available in personal devices as

compared to company provided tools also give rise to increased levels of performance as testified by the participant:

"Having the latest specifications on my mobile phone, I deliver the deliverables at a faster rate ... I feel that the IT devices provided by my firm is somewhat not technology advanced."

Device mobility helps employees to complete their corporate tasks even at home because the device is appropriate, and enables immediate responses to queries, thereby enhancing work performance, as explained below:

"Let's say I'm having to move during the day to meet clients or to have meetings which means I am not at my desk at the office, so if there is a quick email to send to explain something to fellow colleagues or to coordinate work with my colleagues, I can do it right from my device without being at the office because my device is suitable to conduct the work. The task can be carried out, therefore it impacts on my performance, whether I am right out of the office."

4.3.2 Job Demands, and the Positive Human resources outcomes of Job Performance and Job Satisfaction

Many participants were mindful about the amount of work that they had to do and highlighted that irrespective of the amount of work that they have, they would still perform well in their job. Many participants even reported that working under pressure and a heavier workload help in enhancing performance. This is illustrated in the following example:

"I have several projects to handle at one time and moreover I also handle operational tasks. In case of any issue in the tasks or lag, for sure performance level decreases because time is limited and workload is doubled..... However, if there is any lag, I either do overtime at office or bring my work at home to complete and deliver the project on time and still perform well."

Notwithstanding the busy work schedule and heavy workload, job performance is also driven by remuneration and rewards provided by companies. as explained in the ensuing verbatim:

"Since I joined X Company, having high workload is part of our daily routine. So with time, we were able to deliver deliverables that was up to the company's

standard while even having a high workload. This is due to because, we know that performance is directly linked to pay raise and other benefits. In a way, we had no other choice than to perform at a high level, be it at work or completing the work beyond office hours, while being swamped with several audit assignments. For my two years at X company, I've always been promoted as a High Performer.."

Despite gains in productivity have been associated with workload by some participants, there is also concern that heavier workload can influence workers' well-being and health. The positive aspects such as performance have been counter-balanced by a few participants, whereby they argued that the increased workload could threaten their well-being and health. For instance, they have associated workload with burnout, stress and a feeling of exhaustion. They argued that being stressed due to work constraints and working under pressure, would result in poor performance and they are more susceptible to mistakes while conducting their work tasks. The following comments are indicative of their thoughts:

"I have several projects to handle at one time workload is double; there is more pressure at work and I am stressed. At the end of the day, I feel exhausted."

However, the following example illustrates a feeling of dissatisfaction at work when being stressed and when experiencing exhaustion. However, the participants also highlighted that they would still be productive when there is less pressure from their superior and this is irrespective of having a lot of work to handle. The following example illustrates this point:

"However, if there is not too much pressure from my boss, despite having a high workload, I usually perform well."

In addition, one participant reported that he experienced poor performance and low level of job satisfaction due to having too much to accomplish. This eventually led to the employee having a feeling of burnout professionally. After discussion with his superior, his workload was reviewed and the employee was more optimistic in his performance. Workload is known to be an antecedent of job dissatisfaction as proven by Kunte *et al.* (2017). This is not surprising because workers might not be happy with their job when having too much work.

4.3.3 Job Resources of Perceived Job Autonomy Mitigates Job Demands of Employees' Perceived Workload

The interview data also showed that the freedom to fulfil work-related tasks, sometimes beyond office hours, often manifests itself with increased workload, as in the following example:

"Well actually it is like a double-edged sword situation because on the one hand you have the ability to work at your own pace, at your own convenience but it also means that when you have the option to bring your device, you also bring your work home."

This is hardly surprising as previous research has shown a direct positive effect between job autonomy and workload (Moore, 2000). The flexibility is often accompanied with having a lot to complete or sometimes, being pressurized to complete work tasks, as illustrated in the participant's comment "*my workload is increased, I am expected to be always available.*"

The increased flexibility and heavier workload have undesirable impacts on workers' work-life balance. BYOD use leads to constant intrusion in their private lives and can thus threaten their work-life balance, as reported in the following excerpt:

"I do perform professional tasks during my free time. Sometimes it affects my work-life balance where I focus too much on my work at odd hours."

4.3.4 Job Resources of Perceived Job Autonomy, and the Positive Human resources outcomes of Job Performance, Job Satisfaction and Organizational Commitment

Productivity is a common comment cited by many respondents when queried about the outcomes from being autonomous at work, as summarized in the statements:

"Having the freedom to work at my own pace with my device has affected my productivity ultimately increase my performance...I can decide how to complete my tasks."

"My devices allow me to act independently which positively affects my performance with regards to the IT auditing of our clients. Having total

freedom to conduct my daily tasks, I feel less pressure and stress. Those two variables helps me to deliver high quality of work."

Participants also feel they are more productive when they are not strictly dependent on their superiors.

The participants have not only associated job autonomy with work performance, but they also argued being more satisfied and motivated to complete their work tasks. As argued by Carlston *et al.* (2017), workers are typically more satisfied with their jobs when they are given the freedom to conduct their work. This is a very common sentiment among respondents, as in the following examples:

"I believe that the freedom or the benefits of doing flexi hours from bringing your own device or working from home ultimately makes you a happy and motivated employee."

"Having that freedom makes me perform better as well as more satisfied and motivated in my job."

Notable was the number of participants who attested that they feel dedicated to their organizations because they are given the freedom to decide over how to conduct their work. Being committed also manifests itself with a sense of attachment to the organization. These are summed up in the following comments:

"I am able to work at my own convenience, in my comfort zone...I am definitely committed to my organization."

"You have the feeling of belonging to a family that lets you develop and lets you flourish in your own ideas."

Moreover, less pressure from the superior, coupled with trust also increase commitment and engagement towards the organization as in the example below:

"Having the freedom definitely makes me feel more willing to work for this organization. I do not have my boss constantly on my back checking what I am doing. The element of trust is there."

4.3.5 Positive Human resources outcomes of Job Performance, Job Satisfaction and Organizational Commitment

The intrinsic and extrinsic rewards that emanate from good performance are the main reasons behind the emergent link drawn between job performance and job satisfaction. It has also been proven that good performance is considered to be intrinsically satisfying (Lawler and Porter, 1967).

As recently reported by Kwak *et al.* (2019), work performance is a driver of job satisfaction. This is not surprising as employees might be happier with their jobs when they perceive that they are excelling in their work. The following comment is typical of respondents' sentiments:

"I feel connected to my clients and if I am able to attend to all of the queries of my clients, they are also happy. If my clients are happy, I will be performing better, and this increases my job satisfaction."

A rise in productivity is often accompanied by greater job satisfaction. Besides, being appreciated and noticed for achieving certain levels of performance also give rise to satisfaction in the job, as summarized in the comments below:

"For me, the best motivation is recognition from my hierarchy. To have it, I must perform well and give results and as such, I have definitely more satisfaction from performing well."

"Excelling in my performance at work boost my satisfaction. Whenever my immediate supervisor praise me for my work, I feel greater satisfaction and willing to work even harder the next time."

Employees usually feel more dedicated towards their organization when they are satisfied with their jobs and when performing well. Besides dedication, performance, and recognition of one's work are also associated with increased commitment towards an organization, as indicated by these responses:

"My goal is to perform well and to help the company thrive in the future. I am happy with the company I work for. I feel dedicated to my work and to my organization. I want to increase the clients' satisfaction and the retention. I also intend to continue using my devices for the success of the company."

"Since I joined my firm, on the two consecutive years, I was promoted as a high performer. This made me feel more committed and loyal to my job. This pushed me to work harder and hence, becoming more dedicated to my company."

Not surprisingly, a rise in performance will lead to more satisfied employees which in turn will lead to a more committed employee as argued by Fabi *et al.* (2015) and illustrated by the response given by participant:

"A sense of satisfaction always brings in more to go the further mile to accomplish any x factor. Good performances get you noticed by your employer, get you appreciated by your employer and anyone who is appreciated is then satisfied. Those three things, performance, satisfaction and commitment, are themselves a cycle because performance bring to you satisfaction and obviously when you are satisfied with what you do, you want to keep doing it and that brings more commitment into the job."

4.3.6 Job Resources of Job Autonomy Increases Human resources outcomes of Work Motivation

Motivation was frequently cited as a work outcome following BYOD adoption. While participants widely acknowledged that the ubiquitous nature of BYOD devices allows considerable flexibility, they also revealed that this autonomy induces greater motivation. It is not surprising that this factor was so prevalent; Niehaves *et al.* (2013) note that employees who use their personal devices to serve their business purpose are more intrinsically motivated since they feel more autonomous to complete their tasks. The following comments are typical of the respondents' feelings:

"I believe that the freedom or the benefits of doing flexi hours from bringing your own device or working from home ultimately makes you a happy and motivated employee."

"It is to be noted that motivation plays a key role when I am autonomous."

"I like to do my work independently, I feel more motivated when there is less pressure from seniors."

Motivation has also been frequently associated with work performance and satisfaction. Many respondents purported that motivation is a consequence of being more productive and satisfied at work, as per the verbatims:

"When I am satisfied with the work and perform well, I feel even more motivated with my work."

"Personally, I feel more motivated towards work when my dedication is recognized."

Prior literature posited employees' flexibility as one of the key merits of BYOD adoption. This flexibility consequently leads to a more motivated workforce, as testified by the interview participants. There is a substantial body of empirical evidence supporting this relationship, where job autonomy positively influences workers' motivation (Chen 2008; Dickinson, 1995; Hackman and Lawler, 1971). Besides, it is logical to expect that motivated workers feel naturally pulled or drawn towards their job when they experience greater job performance and are satisfied and content with their job.

4.3.7 Job Demands of Perceived Workload leads to Negative Work Outcome of Work-Life Conflict

While BYOD undoubtedly has positive effects on workers, it also contributes to their work-life conflict, whereby they have also expressed a sense of helplessness arising from increased flexibility, thereby affecting their workload as well as their work-life balance. Hence, work-life balance or work-life conflict is another theme that often manifested itself in participants' comments. This theme also transcended several relationships in the emergent theoretical model. For instance, the increased workload associated with the use of personal devices can threaten knowledge workers' work-life balance. The following comment is typical:

"Using my device to complete my professional tasks increases my workload and therefore affects my work-life balance and responsibilities accumulate

according to commitments. To sustain a quality life is very difficult in that kind of situation I am barely available for my friends."

The respondents expressed a sense of helplessness arising from increased flexibility and workload and were aware of the negative impact that comes along BYOD. While acknowledging being busy completing work tasks at home, they were neglecting their private life, and hence, experiencing work-life conflict as reported in the following comments:

"Having access to my business email via my personal devices has a negative impact on my life...I have less time to spend with my family and for personal things."

"When you use your personal device at home using time which should have been devoted to other house tasks like looking after the kids....I'm taking part of my time that should have been earmarked for other work."

The adoption of BYOD constantly raises the expectation to be always available. In such situations, employees sometimes face tight deadlines and experience greater perceptions of workload. This increased workload or work overload creates work-life conflict for workers and, there is also concern that BYOD influences workers' work-life balance.

4.3.8 Job Demands of Perceived Workload leads to Negative Human resources outcomes of exhaustion, stress and burnout

In a similar vein, another theme which emerged from the interview data resulting from BYOD adoption is exhaustion. This theme has also cut across multiple relationships in the structural model. While many participants acknowledged the positive consequence associated with workload as explained above, these positive aspects have been counter-balanced by a few. "Exhaustion, stress or burnout" is a common theme raised by the respondents, and the following comments are representative of their responses:

"I am barely available to rest another consequence of workload is to constantly remain in a thinking mode to better resolve issues or about uncompleted tasks during the day. As a result, you have sleep deficiencies." "Knowing that I use my personal device to complete my work, my superior tends to give me more work – my workload is increased, I am expected to be always available ... and I live a more stressful life."

Therefore, BYOD negatively influences knowledge workers' social and family lives and can increase their stress levels, thus costing them their well-being and health. Work pressure also manifested itself through the adoption of BYOD, and can thus have a negative impact on employees, as in the following examples:

"When using my device, I am more flexible but when there is pressure from my boss to meet a deadline, this can eventually lead to more stress and make me feel exhausted."

"I have several projects to handle at one time, workload is doubled; there is more pressure at work and I am stressed. At the end of the day, I feel exhausted."

Analogously, increased autonomy and a drop in performance is also associated with work exhaustion and stress, as in the following comment:

"When using my device, I am more flexible but when there is pressure from my boss to meet a deadline, this can lead to a decrease in my performance. This can eventually lead to more stress and make me feel exhausted."

Prior literature supports that the BYOD and technology features are also considered as a driver of workload as argued by Ayyagari *et al.* (2011), which leads to technostress.

5. Discussion

Using a content analysis approach, the results of this study is organized around the emerging themes introduced in the findings section. The integration of the themes through the relationships that surfaced in the data analysis led to the development of a conceptual framework (Figure 3) that explains the positive and negative outcomes following BYOD adoption, further supporting the dual pathways to motivation and health impairment of the JD-R model.

[Figure 3]

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The views expressed by the respondents confirming that BYOD inevitably allows greater flexibility, autonomy, and mobility due to its ubiquitous feature align with the wider research community. As argued by Harris *et al.* (2012), workers value the independence they obtain when they have the choice to use their private tools in professional contexts. Further Morris and Venkatesh (2010); Niehaves *et al.* (2012); Niehaves *et al.* (2013), also stated that employees benefit from greater flexibility when they utilize their preferred technology to fulfil business tasks. Hence, it seems plausible that employees would value the freedom and autonomy from the use of their private technologies to serve their business commitments, beyond the office premises.

In reflecting on the relationship between BYOD and task-technology fit, the interviewees reported that their chosen technology is more advanced and thus they find their tools to be more convenient to conduct all required tasks more rapidly and efficiently. This reasoning conforms to Dernbecher *et al.* (2013) who advocated that workers who initiate the IT bottom-up approach are those who switch to their own to work with the known. These employees appreciate the functionalities in their sophisticated devices, and hence wish to progressively incorporate them for professional reasons. This is relevant for the most techno-savvy employees, as is the case in this study, where most participants are quite young. This millennial workforce also finds pleasure in fulfilling their work tasks using their own devices due to the dissatisfaction with their organization's equipment and perhaps because they did not get the same technological standards in their professional environment.

The explanations provided by the respondents corroborate Goodhue and Thompson (1995) who suggested that a technology should be fit for the tasks to be accomplished. In other studies, the technology characteristics are an antecedent of task-technology fit (Dishaw and Strong, 1999); the same can be said for the current study where BYOD is an antecedent of TTF. The explanations provided by the participants are consistent with a large body of empirical evidence. Junglas *et al.* (2008) reported that employees are encouraged to use their technologies if they perceive them as being more suitable over and above any other alternative methods, while Lu and Yang (2013) testified that the characteristics of a technology contribute to TTF in social networking sites.

The participants affirmed that work does not stop within office hours, and working time, but is extended due to the incorporation of personal devices into official work practices, which therefore leads to taking work home, thereby increasing perceived workload. This is congruent with

Niehaves *et al.* (2012); Niehaves *et al.* (2013) who also affirmed in their qualitative study that employees perceive an increase in their work when utilizing their personal technology to fulfil work activities. By using their private technologies to serve their business purposes, workers end up doing corporate tasks anytime and anywhere, in times and locations beyond their traditional working hours and workplace. Some employees, especially younger ones as is the case in the present study, might be more willing and happier to conduct their work, which they feel are important for them to complete, even beyond office hours and away from their workplace.

Related empirical studies give reason to suggest this logical deduction. As argued by Ferguson *et al.* (2016); Leclercq-Vandelannoitte (2017), since employees remain tied up with work and are constantly plugged-in to their technologies, they therefore have an increased perception of workload. Additionally, as indicated by Ayyagari *et al.* (2011), technology characteristics are known to be a driver of workload; the same is relevant for this study as the features of their personal devices would give rise to more work being conducted by employees. Arguably, the self-imposed or the expectation of responsiveness around the clock, availability, and the always-connected approach created by BYOD implementation, now brings work home and increases employees' perceptions of workload. This implies that by working beyond normal office hours through their personal devices, the workplace is extended into the private sphere, thereby leading to increased perceptions of workload.

Likewise, the participants reported an increase in their productivity when their technologies are appropriate to conduct their work tasks. This is consistent with Goodhue and Thompson (1995); Lee *et al.* (2007), who suggested that a fit between the user, the task and the technology would prompt an individual to use that technology for better work performance. Some participants indicated that their personal devices are so diverse in their functionalities which have led them being more efficient when using their private tools. Device mobility also led to employees, mostly techno-savvy employees, to be more efficient, and hence more productive. The mechanism by which this can occur is that employees can fulfil business activities even at home as they believe their device is appropriate for the work, and because they can respond to immediate queries, thus enhancing work performance. A substantial body of empirical evidence also gives reason to support this logical deduction (Chung *et al.*, 2015; Huang and Chuang, 2016; Parkes, 2013). Similarly, through the adoption of BYOD, workers undoubtedly enjoy superior task-technology fit, thereby improving their work performance.

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It was noticeable from the data that most participants experience a rise in their productivity despite high workload. For them, it is crucial to deliver their work and working under pressure do help a few of them in being more productive. Performance is also linked to extrinsic motivation factors such as pay raise or promotion prospects and these are some of the reasons why participants feel the need to perform well despite having much work to do. This explanation corroborates the JD-R theory where Bakker et al. (2004) reported that job demands such as work overload is positively linked to job performance. Literature has, however, demonstrated mixed reviews about the relationship between workload and job performance. For instance, Bruggen (2015) asserted a negative relationship between workload and job performance and argued that employees feel distracted when their workload is high, thus resulting in a drop in their performance. Literature has frequently associated workload with job insecurity (Richter et al., 2010), work-family conflict (Molino et al., 2015), job exhaustion (Derks, van Mierlo and Schmitz, 2014; Xanthopoulou et al., 2007). Although BYOD undoubtedly free workers from physical locations and restricted hours, thus promoting flexibility, it also contributes to greater perceptions of workload. The interviewees explained that the flexibility in conducting their work tasks through their personal devices increases their workload. Work tasks are not conducted from 09.00 - 5.00 only but are also brought at home, beyond office hours due to the flexibility associated with private technologies. While the findings posit employees' flexibility as one of the key merits of BYOD adoption, this flexibility also gives rise to increased workload, where workers are expected to be always available.

Prior research has also reported a correlation between job autonomy and workload (Sarker *et al.*, 2012). Thus, workers perceive they have more work to fulfil because of the freedom provided to them from adopting BYOD. This freedom permits them to make adjustments in order to accommodate the completion of their tasks. There is a growing body of empirical evidence supporting this relationship (Bakker *et al.*, 2003; De Jonge *et al.*, 2014). Arguably, job resources including job autonomy help in buffering the effect of job demands such as workload. The mechanism through which this can occur is that autonomous workers have more flexibility to choose when, where, and how to fulfil their professional tasks, therefore implying that employees can complete their corporate activities in places or at times which otherwise would not have been possible for them.

The data also confirmed that most of the participants feel they are more productive, satisfied, motivated and dedicated to their organizations because of the freedom they have when utilizing

their personal technologies to serve their business purposes. By being less pressurized from their superiors, they feel more autonomous and consequently, this allows them to benefit from positive human resources outcomes. It is logically intuitive to say that autonomous employees experience more independence and freedom over organizing how to conduct their tasks, thereby resulting in less stress and they are likely to benefit from greater work performance. The participants' views are aligned with those of the wider community (Viete and Erdsiek, 2020, Dodd and Ganster, 1996; Johari *et al.*, 2018; Kanat-Maymon and Reizer, 2017). Hence, the diffusion of private technologies would enable constant availability and more flexible working times, which is likely to be appreciated by many professionals and such flexibility is frequently associated with productivity gains for the organization.

Additionally, the participants suggested that they are more satisfied and motivated with their jobs when they can serve their business purposes at their own time, in their own convenience through the diverse functionalities included in their privately owned devices. As reported by Carlston *et al.* (2017), those workers who have the freedom to complete their tasks without being strictly dependent on their superiors are those who are more satisfied with their jobs in most cases. Arguably, by adopting BYOD, employees experience greater levels of job autonomy, and in turn, this gives rise to them being more content and motivated about their jobs. This logical deduction is aligned with prior studies (Chen, 2008; Devo *et al.*, 2007; Spector, 1986), hence explaining that employees operating under the BYOD umbrella are happier as compared to those relying on enterprise technologies. Therefore, it seems that employees work faster, longer and are happier with their personal devices.

Organizational commitment is another outcome of job autonomy as stressed by many participants. Less pressure from the boss and more freedom to complete work tasks lead to employees being more dedicated towards their organizations. This relationship has previously been borne out in prior studies (Chang *et al.*, 2015; Klein *et al.*, 2012). Arguably, employees are more emotionally attached to their organizations when given the discretion to decide over how to go about fulfilling their work tasks.

When discussing job performance and job satisfaction, and organizational commitment, the participants stated that they are concerned with the success of their organizations, as well as ensuring their clients' happiness and retention. They also highlighted the importance of recognition

of their hard work which would then incite them to being more dedicated towards their organization. Arguably, when professionals perceive an increase in their performance, they develop and enjoy a stronger feeling of affective commitment towards their enterprises. This is not surprising; Caillier (2010) suggested that performance impacts on certain decisions such as bonuses, merit increases, promotions, as well as worker commitment. Relatedly, the more employees are satisfied with their jobs, the more they feel emotionally attached to their organizations. It is therefore worthwhile for organizations to make sure that they have a content and satisfied workforce for them to be more dedicated towards their work. Additionally, happy employees may put in more effort for their enterprises and work towards achieving its goals, and hence become more attached to the organizations. This correlation between job satisfaction and organizational commitment has also been borne out in prior studies (e.g Fu and Deshpande, 2014; Gaertner, 2000; Naderi, 2012; Petrides and Faunham, 2006).

As this research has shown the effects for perceived workload, perceived job performance, job satisfaction and organizational commitment, there is also scope to show the effect that BYOD has on the learning approach of employees in the workplace. While perceived workload is related to surface learning (Kyndt et al., 2013), it can also trigger a more disorganized way of working and can give rise to some negative consequences such as employees' mood and health, as there is potential that BYOD implementation can result in these outcomes as well (Kéfer Kyndt et al., 2013; Repetti, 1993). The positive impacts associated with increased workload have been counterbalanced by knowledge workers, who argued that BYOD implementation can be a double-edge sword, with undesirable impacts. Whilst workload leads to greater performance, it can also affect and threaten workers' well-being, health and work-life balance as there is constant intrusion in their private lives. Due to the expectation to be always available, and with heavier workload, employees experience work-related stress, fatigue, feel exhausted, which ultimately result in worklife conflict and more work pressure. The home invasion of technologies has been empirically linked to drawbacks such as workers' constant state of connection. The effects of hyper connection have been linked to psychosocial issues such as mental and stress overload, high-tech anxiety, also referred to as techno-stress or burnout ((Fujimoto et al., 2016; Derks and Bakker, 2012; Kéfer, 2021).

6. Theoretical Implications

This research offers some theoretical interests. Firstly, not much work has been published in the fields of management sciences and Information Systems about the benefits and risks associated with BYOD-related practices among employees particularly during the pandemic. This study shows that even employers who were not in favour of BYOD have now come to terms with it since the global pandemic has instigated more remote work and this seems to be the new normal. In this vein, our results are congruent with the notion that, as BYOD further proliferates and advances, it will favour organizations based on employee flexibility over the location and time of work and consequently lead to a greater adoption of such organizational strategies. Unlike prior research on organizational the consequences of BYOD adoption, which have focused on positive outcomes of commitment (Doargajudhur and Dell, 2018), performance and motivation (Doargajudhur and Dell, 2020), this study explored the role of the double-edged sword brought about by the BYOD implementation.

This study shows that people, as well as procedures, are much affected by the BYOD trend. This is however not surprising because employees are not only recipients of IT-driven change in organizations, but they also initiate IT-based change, by adopting BYOD. Individuals and their needs have triggered this trend, thereby indicating that Information Systems research in the context of BYOD should have an interdisciplinary focus, such as human resources and applied psychology. While BYOD entails more individual freedom in organizing work duties in time and space, but additionally intensifies demands on the workers to manage the fine boundaries between work and personal life. Hence, it is important to consider other psychological aspects such as work motivation, self-efficacy, work pressure, work exhaustion, and work-life balance when developing a theoretical perspective on BYOD and its consequences.

Furthermore, BYOD is considered as an instance of a technological resource provided to employees. The key principle of the Job Demands-Resources model is associated with the balance between the demands placed on workers and the resources (technological or otherwise) that the organizations provide to them. This study provides a proof-of-concept of the effectiveness of utilizing the JD-R theory to a greater extent in the Information Systems and management sciences fields by explaining the human resources outcomes for a given technology. Hence, our research shows the usefulness of the JD-R theory in other fields which extend beyond the applied psychology literature by initiating the dual processes of well-being and health impairment. Other IS scholars and management science researchers are therefore encouraged to use the JD-R theory combined with other IT frameworks as theoretical lenses, to investigate the implications of BYOD both from the worker's and organizational perspectives.

The results of our study can also be considered as a kickoff in the development of the JD-R theory in the context of BYOD and HR related outcomes. While our study focused on both positive and negative aspects, the constructs derived from the data could be considered valuable for other researchers considering investigating the consequences of constant connectivity. The relationship of BYOD to HR outcomes such as work-life balance, work overload, performance, motivation, among others, could be further investigated by drawing on the JD-R and stress theory. Drawing on the aforementioned theories, future studies could define rigorous quantitative models to deeper investigate the relationships of BYOD to the HR outcomes.

7. Practical Implications

This research has significant implications for managers and their organizations. First, the results suggest that employees are well poised to enjoy these benefits when they use their personal technologies to accomplish job related tasks. Thus, altogether our research contributes to the growing body of evidence that organizations should contemplate permitting their employees to handle organizational duties with the use of their private tools.

Nevertheless, a large proportion of organizations remain quite hostile to allowing BYOD within their organizations: A recent report revealed that less than 50% of the companies surveyed adopted BYOD within their work practices (*BYOD* and *mobile security spotlight report*, 2016). Whilst some organizations resist BYOD, the present study indicates that its effect on human resources outcomes could be significant. Simultaneously, the outcomes will inevitably vary from one worker to another, depending on various factors. Hence, organizations should take steps to ensure workers are not affected by the ripple effects that may end up in them being more stressed or suffer from burn out as a result of BYOD implementation. Raising employees' and organizations awareness of the dangers and benefits associated with BYOD is therefore of paramount important. Instead, it is recommended that organizations consider the effect on job satisfaction, job performance and organizational commitment concomitantly with other variables when contemplating whether to embrace BYOD.

In the same vein, the analysis of this study gives rise to a potentially valuable differentiated overview over significant human resources outcomes brought about by BYOD. The positive-enhancing arguments identified may assist practitioners in making more informed decisions. Thus, it is important for managers and executives to be cognizant on how to closely evaluate the pros and cons associated with BYOD implementation in view of determining whether to change IT and HR procedures and policies to accommodate this trend within their work practices.

In addition to these, organizations can also consider incorporating BYOD programs in the induction of new recruits. Despite being associated with security issues, and some undesirable impacts such as work-life conflict, exhaustion, and stress, implementing BYOD within their work domain is essentially commendable since this phenomenon is likely to lead to employees being more satisfied, more productive and more committed to their organizations. Many employees bring their devices to the workplace, but they actually underestimate their usefulness in accomplishment of job tasks, and boosting their efficacy and job performance. Firms can hence review their training programs to ensure that all employees are trained on the uses of their devices. Besides, the workers should also be sensitized by trained occupational therapists on the downside of over connectedness, to ensure that both the employees and the organizations do not suffer the costs of employees' burnout.

People of the new generation joining the workforce typically hold a different perspective on technology as well as how work should be accomplished. These so called Generation Y, Millennials or digital natives have grown up engrossed in a digital world in which the latest technologies are integral to their lifestyle and workstyle (Jarrahi *et al.*, 2017a). It is the desire of many young workers, particularly, technologically savvy employees to introduce their own IT at work. These workers view BYOD as a necessity instead of an option (Gewald *et al.*, 2017), therefore understanding its effects is likely to have increasingly widespread relevance. The generational differences can also lead to digital divide within the organizations. Firms can use a buddy or mentoring program to train elder workers on the usefulness of the smartphones or other devices.

8. Limitations and Future Research

Despite the theoretical and practical contributions of this study, it would be naïve to assume that the study has no limitations. Indeed, every study inevitably has limitations which need to be looked

upon by readers when evaluating and using its findings. We know that Information Technologies shape the way people accomplish their work. This study delineated how the prevalence of BYOD has changed workers' attitudes toward work during the Covid-19 pandemic while also blurring the division between professional and private lives. Since the study started prior to the pandemic and was on-going during the pandemic, it has gained high importance in how people conduct their work, hence the relevance of our study.

The interview data shows that BYOD might have undesirable effects on the work-life balance of employees just like other mobile technologies and company-provided devices can. Many BYODers are glutton for punishment. Workers' self-imposed blended work-life lifestyle basically puts them on call continuously, on vacations, over weekends, thereby leading to copious amounts of stress and they feel they are never able to unplug. Hence, further investigation about BYOD's impact on work-life balance and employee wellbeing is warranted due to its increasing popularity in the workplace. Subsequently, the conceptual model provides the groundwork for future studies, and scholars are thus encouraged to investigate and empirically test BYOD's impact on outcomes such as work engagement, work pressure, work-life balance, exhaustion and on physical, social and emotional wellbeing.

Since the study has been carried out with employees in Mauritian organizations, its results may be applied to other countries. Davison and Martinsons, (2016) purported that it is unrealistic for scholars to ignore the studies' context in social science, as institutional and cultural differences are significant, and it is also naïve to assume that theoretical convergence and universalism can be achieved. Hence, another interesting route for further research would be to compare and dig deeper into a comparative analysis. A comparison is likely to shed more light into the perceptions of our future employees from different cultural, economic and structural backgrounds. This will help corroborate the results of this study. Testing the model in other economies may result in different conclusions of the proposed relations in the model.

Even though there are risks and negative outcomes associated with BYOD, companies should dig deeper into security issues which have been of growing concerns in recent years. Employees' devices are simultaneously connected to several networks such as cellular networks, Wi-Fi, Bluetooth and to cloud systems, which altogether render data protection and security quite

complex due to the poorly secured nature of the devices. Future studies can investigate the security implications of BYOD both for the workers and the organizations.

9. Conclusion

This research used a qualitative, inductive content analysis to explore the influences of BYOD practice with human resources outcomes. Driven by the JD-R theory, themes and sub-themes were linked by the emerging relationships to present a conceptual framework. Understanding pertinen. e for modern f ortance during the C uture, organizations need to . out by the BYOD practice agains. employees' well-being is known to be a pertinent research area for scholars and practitioners, as well as a topic of growing prominence for modern organizations. Since BYOD is increasingly prevalent and has heightened its importance during the Covid-19 pandemic and this practice is expected to continue to rise in the future, organizations need to identify a manageable compromise to balance the benefits brought about by the BYOD practice against its desirable impacts.

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Figure 1. Data Collection and Analysis Process

	• Transcription of all the recorded individual interviews by utilizing the
	participants' exact words to express their thoughts.
Step 1	Compilation of field notes/memos during the data collection/interview for
	analysis. Notes were both handwritten and typed in Ms Word
	Look for similarities in each theme.
	• Individual themes were used as unit of analysis.
Stop 2	• Analysis of all the interview data using the inductive approach to identify emerging themes.
Step Z	Memos recorded throughout the analysis process



Figure 3. Conceptual Framework



Appendix 1 – Interview Protocol

- 1. Do you use your personal devices for work purposes?
- 2. Which personal devices do you use for work-purposes?
- 3. Can you give a few examples of the tasks that you do with your personal devices?
- 4. Why do you choose your personal devices?
- 5. Can you share your experience about being constantly connected to work?
 - a. What led to this constant connectivity?
 - b. Do you have some examples of instances which you can share?
- 6. You claim that you are constantly connected how do you perceive this constant connectivity? Can you elaborate on your feelings?
 - a. Probing question: When utilizing your personal devices for work purposes, what impact does that have on your life?
- 7. Can you tell me more about your work performance over the past years?
- a. What are the factors contributing to your work performance?
- 8. How is your motivation level concerning work?
 - a. What factors contribute to your motivational state?
 - b. Can you reflect your motivation level when you have work autonomy and independence?
- 9. What are the drawbacks of using your personal devices?
- 10. What are the factors contributing to your workload?
- 11. Do you think the applications on your personal device are appropriate? Can you elaborate further?
- 12. Thank you for the interview, do you have anything else to add?

Appendix 2 - Demography of Participants

Name	Industry	Description
Participant 1	Information Media and Telecommunications	Participant 1 is a 25 years old male who is an Application Specialist in an IT company.
Participant 2	Accommodation and Food Services Participant 2 is a 28 years old male who is a mark executive in a Food and Beverages company.	
Participant 3	Financial and Insurance Services	Participant 3 is a 27 years old male who is a senior associate in an auditing firm.
Participant 4	Accommodation and Food Services	Participant 4 is a 27 years old male who is a marketing executive in an accommodation and food services company.
Participant 5	Health Care and Social Assistance	Participant 5 is a 27 years old key informant female who is a junior business intelligence and data warehouse analyst.
Participant 6	Information Media and Telecommunications	Participant 6 is a 29 years old male who is a software developer in an IT company.
Participant 7	Financial and Insurance Services	Participant 7 is a 30 years old male who is a business analyst in the financial sector.
Participant 8	Health Care and Social Assistance	Participant 8 is a 37 years old male who is a pharmacist in the health care sector.
Participant 9	Arts and Recreation Services	Participant 9 is a 24 years old male who is a designer in a private company.
Participant 10	Information Media and Telecommunications	Participant 10 is a 27 years old male and is an analyst programmer in an IT company.
Participant 11	Retail Trade	Participant 11 is a 29 years old female who is a marketing officer in a retail company.
Participant 12	Administrative and Support Services	Participant 12 is a 32 years old key informant female who works as the administrative officer of a private company.
Participant 13	Education and Training	Participant 13 is a 42 years old male who works as an educator in a private tertiary institution.
Participant 14	Education and Training	Participant 14 is a 40 years old key informant female who works as an educator in a private tertiary institution.
Participant 15	Arts and Recreation Services	Participant 15 is a 26 years old key informant male who is a radio presenter in a private company.
Participant 16	Information Media and Telecommunications	Participant 16 is a 39 years old female who works as a senior data analyst in an IT firm
Participant 17	Financial and Insurance Services	Participant 17 is a 36 years old female working as an auditor in an accounting company
Participant 18	Administrative and Support Services	Participant 18 is a 31 years old male who works as an administrative officer in a private firm

Participant 19	Information Media and Telecommunications	Participant 19 is a 29 years old male who works software developer in an IT company
Participant 20	Information Media and Telecommunications	Participant 20 is a 32 years old key informant m who is a senior software developer in an IT firm
Participant 21	Information Media and Telecommunications	Participant 21 is a 40 years old male who works project manager in an IT company
Participant 22	Accommodation and Food Services	Participant 22 is a 34 years old who works as a g relations officer in the tourism industry
Participant 23	Financial and Insurance Services	Participant 23 is a 27 years old female working a junior auditor in an accounting firm
Participant 24	Accommodation and Food Services	Participant 24 is a 30 years male who works as a marketing officer in a travel agency
Participant 25	Information Media and Telecommunications	Participant 25 is a 32 years old female working a senior data analyst in an IT firm
Participant 26	Administrative and Support Services	Participant 26 is a 29 years old male working as officer in a sales and marketing company
Participant 27	Information Media and Telecommunications	Participant 27 is a 37 years old male working as manager in an IT firm
Participant 28	Information Media and Telecommunications	Participant 28 is a 39 years old female working a senior team lead in an IT company

Appendix 3 – Sample of Codebook Employed by Researchers

Codes	Description	Example
BYOD offers Freedom / Autonomy	Workers are here referring to how they feel the freedom when they use their private devices and at their own pace and time (for instance, the respondents make use of terms such as free, freedom, flexible, flexibility). They also express their feeling of job autonomy since they are free to work and meet their deadline irrespective of physical work/office premises (for example, autonomy, job autonomy, freedom, in control of tasks)	"I utilize my laptop and mobile phone at home also, and this makes me more independent" "I have freedom because I can choose the time, space where, which is more convenient for me. I can work anytime, anywhere, at home, during my free time sometimes and I feel that I have more freedom and I can do the task whenever I feel like. I have the freedom to complete the work that has been left incomplete at the office. I can complete it at my own leisure at home" "Let's say I'm having to do work but outside my office hours, it happens. May be I am at a friend's or family's place and I have to communicate for work purposes, my device allows me to do it"
Workers feel overloaded	Herein, employees refer to how they feel their workload had increased due to the use of their own devices. For them, they have to be constantly available, thereby increasing perceptions of workload (for example, expectation to be always available, increase in workload)	"The fact that you bring your email home, work never stops. And email is also on the smartphone, so each time a new email pops in, you have the tendency to check and then reply" "You never really get the chance to leave the work in the office. You are always connected to work this

3		definitely leads to an increase in my workload because what if I finish a call and another client requires a call and I have the ability to make the call, so I will have to make the call"
Familiarity with private device	Employees refer to their device in terms of how they are used to them since they use their private devices for their private, day to day activities (for example, ease of use, familiar, used to my mobile and its applications)	"It fits the purpose of the work that I have to doI know my device well. I don't have to lean anything new. It's something that I already use everyday"
		"On my device, for example, I use the updated version of all the applications I have I would say my device is more appropriate and I would say the technology is fit for the tasks I do for my business"
		"My personal mobile phone has all the features which allows me to follow up my mails, keep in touch with foreign suppliers via WhatsApp and keep in touch with the local suppliers via incoming and outgoing calls"

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Appendix 4 – Sample dimensions and findings

Aggregated Dimensions	Second order categories	First Order Categories	Sample direct quote from participants
Job Resource Factors	Job Autonomy	 BYOD affords greater freedom and flexibility More independence and ownership More freedom outside office hours Ubiquitous nature of my device leads to considerable flexibility 	 "By using my own phone, I have better ownership of my tasks since I schedule my own calls to respective clients and colleagues. Since I use my device, I feel more autonomous and more motivated to work." "I have freedom because I can choose the time, space where, which is more convenient for me. I can work anytime, anywhere, at home, during my free time sometimes and I feel that I have more freedom and I can do the task whenever I feel like. I have the freedom to complete the work that has been left incomplete at the office."
	Task- Technology Fit	 Familiarity with the device Much at ease with my device Higher suitability of my device Competence and appropriateness of my device Features of my private technologies Preference of my private and dissatisfaction of corporate technology 	 "I believe that the technology is appropriate and fit for what I have to do for the objective that I have to meet." "I am more acquainted to all the available functions I use the

updated version of all the applications I have, therefore my devices are more appropriate." *"The fact that you bring"* • • Work overload your email home, work • Constant connectivity never stops. And email Work intruding in personal life • also • Extended workload on the is smartphone, so each time a new email pops Job Perceived have in. vou the Demand Workload tendency to check and Factors then reply." "You never really get the chance to leave the work in the office. You temology & people are always connected to

Human Resources Outcomes	Job Resources and Performance	 Extended working time with the use of private IT Expectation to be constantly available BYOD leads to taking work home Work is not limited to office hours Facing of tight deadlines 	 "Having the latest specifications on my mobile phone, I deliver the deliverables at a faster rate I feel that the IT devices provided by my firm is somewhat not technology advanced." "Let's say I'm having to move during the day to meet clients or to have meetings which means I am not at my desk at the office, so if there is a quick email to send to explain something to fellow colleagues or to coordinate work with my colleagues, I can do it right from my device without being at the office because my device is suitable to conduct the work. The task can be carried out, therefore it impacts on my performance, whether I am right out of the office."
			E Sook

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 11 12 22 20 14 15 16 17 18 19 20 21 22 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41	 Capacity to meet deadline Avoid delays Meet targets Key Performance Indicators met Deliver as per target Higher performance "I have several projects to handle at one time and moreover I also handle operational tasks. In case of any issue in the tasks or lag, for sure performance level decreases because time is limited and workload is doubled However, if there is any lag, I either do overtime at office or bring my work at home to complete and deliver the project on time and still perform well." "Since I joined X Company, having high workload is part of our daily routine. So with time, we were able to deliver deliverables that was up to the company's standard while even having a high workload. This is due to because, we know that performance is directly linked to pay raise and other benefits. In a way, we had no other choice than to perform at a high level, be it at work or completing the work beyond office hours, while being swamped with several audit assignments. For my two years at X company, I've always been promoted as a High Performer"
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