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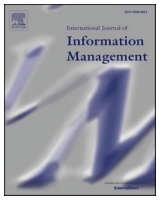

Adoption of enterprise mobile systems – An alternative theoretical perspective

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ABSTRACT

Enterprises nudge the usage of mobile devices to ensure business continuity, although this tends to amplify corporate security risks. Consequently, corporations adopt Enterprise Mobile Systems (EMS) to facilitate employees working from home, ensuring security and privacy. Notwithstanding the business benefits of EMS, the adoption rate of these solutions by employees is significantly low. Traditional theories on technology adoption do not explain why some employees choose to use EMS through their mobile devices to access official applications, while others refrain. This study uses construal level theory and rational choice theory to examine the role of use contexts and intention to comply with EMS policy on employees' decision to adopt EMS. A combination of qualitative and quantitative methods was applied. A mixed approach was followed for this study and analysis was done based on country-wide cross-sectional survey of 330 professionals engaged with reputed information technology companies. The results highlight that employees' use contexts and intentions to comply with the EMS policy are strong antecedents of adapting to new systems. The results also reinforce that policy awareness positively affects the intention to comply with EMS policies, impacting employee engagement and task performance.

1. Introduction

New norms for conducting business operations while working from home have raised cybersecurity challenges and increased phishing and ransomware (Pranggono & Arabo, 2021). To ensure business continuity, enterprises constantly strive to provide their employees with security infrastructure such as enterprise mobile systems (EMS). The EMS prevents and thwarts an organisation's security threats by providing a secure gateway to access organisational information systems. Therefore, EMS has assumed critical significance (Chung, Lee, & Choi, 2015) in facilitating business continuity while complying with statutory norms. (Harris & Patten, 2014; Lebek, Degirmenci, & Breitner, 2013; Ortbach, Köffer, Bode et al., 2013).

Consumerization and diversity of mobile devices have increased mobile-based services and applications in people's daily lives (Vallejo-Correa, Monsalve-Pulido, & Tabares-Betancur, 2021). The usage of personal devices and networks for official purposes, i.e., Consumerization of IT (CoIT) (Jarrahi et al., 2017; Moschella, Neal, Opperman, & Taylor, 2004), has raised serious technical security concerns. This entails actual risks for the information security of end users' data and devices (Baillette & Barlette, 2021). Chakraborty, Kumar, Upadhyay, and Dwivedi (2021) reported a significant impact on employee well-being, including their mental health, feelings of isolation, and loneliness caused by working from home (WFH). Earlier, Ortbach, Brockmann, and Stieglitz (2014) had reported a research gap regarding the role of EMS adoption in employee performance and engagement.

Existing research on EMS adoption uses highly reported traditional technology adoption theories, such as the Unified Theory of Acceptance and Use of Technology (UTAUT) and Task Technology Fit (TTF). An in-depth meta-analysis by Tamilmani, Rana, and Dwivedi (2021) revealed that the cumulative findings on the convergence and divergence of various path relationships in the UTAUT2 model, even the best predictors such as performance expectancy, could yield non-significant results in a particular context. In contrast, although continuously used to understand individual technology adoption, the predictor of effort expectancy continues to yield inconsistent results. In addition, other

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predictors, such as habit and facilitating conditions, have varying impacts due to the context of samples from early adopters and developed countries.

In recent times, alternative perspectives to technology adoption are gaining ground. E.g., Ho, Ke, Liu, and Chau (2020) used Construal Level Theory (CLT) (Trope & Liberman, 2010) to understand how users make evaluations (Joint or Separate) while facing technology adoption choices. Charki, Josserand, and Boukef (2017) attempted to understand unethical information technology usage by theorising on cost-benefit analysis on the same using Rational Choice Theory (RCT). Similarly, Chen, Feng, Liu, and Tian (2019) used Rational Choice Theory (RCT) to adjudge consumer reactance to online personalized advertising.

Therefore, in this study, we adopted a new lens of using a combination of Construal Level Theory (CLT) (Trope & Liberman, 2010) and Rational Choice Theory (RCT) to understand why some employees use their mobile EMS systems to access official applications in a non-official context. This raises questions about whether their decisions are driven by typical technological adoptions or other factors related to their context (spatial and temporal), policy awareness, and intention to comply with policies.

The study contends that employees choose to use their mobile devices for official purposes or otherwise as and when they desire. The context of usage, both spatial and temporal dimensions, can provide credible explanations for the choice dilemma as to why some employees choose to use EMS through their mobile devices to access official applications while others refrain. Consequently, EMS adoption could lead to possible outcomes of constructs, such as engagement and perceived task performance.

A mixed-method approach was used to better understand EMS adoption, following Nunamaker, Chen, and Purdin (1991), including qualitative and quantitative studies. This study focuses on the following research questions:

RQ1: What are the possible effects of Use context on the Intention to adopt EMS?

RQ2: How does the EMS Policy Awareness of the employees affect the Intention to comply with EMS policies, affecting EMS adoption?

RQ3: How does the EMS implementation in the organisation affect the engagement of employees and Perceived Task performance?

The remainder of this paper is organised as follows. The next section addresses the theoretical background of this study, leading to the development of the hypotheses. The following section discusses the research design and operationalisation of the constructs. The following section discusses the results and analysis. This section is followed by a discussion, theoretical contribution and implications, practical implications, limitations, future research directions, and finally, the conclusion.

2. Theoretical background and literature survey

2.1. Enterprise mobile system

Gartner (2018) stated that mobile device usage has become ingrained with consumers, blurring the physical and digital worlds. Kristoffersen and Ljungberg (1999) defined mobile IT as a contrast position based on portability as a key criterion. Consumer mobile device usage is becoming very common in organisations, and most of them do not address security concerns (Weeger et al., 2020), and employees using personal mobiles consider privacy issues a significant security threat. Importantly, corporations cannot gauge the real opportunities and threats of adopting Bring Your Own Device (BYOD) (Baillette & Barlette, 2021). Furthermore, organisational concerns related to security and privacy resulted in the adoption of solutions such as the EMS, which started in the mid-2000 s. People have engaged with these innovative channels (provided by the internet and mobile revolution) to perform various activities related to official and non-official usage (Dwivedi, Shareef, Simintiras, Lal, & Weerakkody, 2016).

Basole and Rouse (2006) defined EMS as 'the organizational application of complex combinations of the six mobile device/solution capabilities of intimacy, pervasiveness, connectivity, priority, portability, and memory embedded in mobile and ubiquitous information technology'. Under the rubric of EMS, four sub-dimensions are inferred: (1) Mobile Device Management (MDM), which ensures that enterprise-defined rules and policies manage enterprise-wide mobile devices; (2) Mobile Application Management (MAM), which manages the life cycle of all mobile applications used in the enterprise; (3) Mobile Identity (MI), which refers to security and access controls for authenticating mobile devices; and (4) Mobile Content Management (MCM), which provides secure access through technologies to access enterprise data and applications Madden (2014). In summary, EMSs contain a system that performs critical functions to ensure mobile device security while not compromising individual mobility features and user privacy (Lebek et al., 2013; Ortbach, Köffer, Bode, & Niehaves, B., 2013).

2.2. Construal level theory

According to construal level theory (CLT) (Trope & Liberman, 2010), higher construal renders strategic goals more salient. People operate more efficiently and act more expeditiously when construal is lower than when mental representations are concrete. CLT has generally been applied to mental models of tangible targets, such as specific objects, activities, or people. CLT is based on the view that human perceptive resources are constrained. When people have broader mental horizons, they do not have the resources to process details and complexity (Trope & Liberman, 2010).

Previously, Kaatz (2020) used CLT for mobile shopping, stating that mobile device users cannot form concrete mental construal while moving, thus decreasing their purchase intention compared to desktop device users. According to CLT (Trope & Liberman, 2010), mobile and desktop device users seem to form a similar mental construal regarding temporal distance. Conversely, Luo, Andrews, Feng, and Phang (2014) applied CLT in mobile retailing and found that shorter locational and temporal distances could encourage mobile users to identify shopping tasks more concretely, thus positively affecting their purchase intentions.

Higher construal increases the possibility that employees concentrate on dominant goal-related features (Trope & Liberman, 2010) and distinguish signals from noise (Nussbaum, Liberman, & Trope, 2006). Higher construals also enable people to distinguish between non-differentiated structures (Wakslak & Trope, 2009). These capabilities enable people to identify critical activities and synergies, and trade-offs.

In this study, by applying CLT, it is assumed that employees would have more abstract construal when using mobile devices for official use outside official settings. Abstract construal reflects an individual's implicit choices regarding which features of an object or activity are central and which are peripheral. Employees use the abstraction process, enabling goal-relevant features (why) to take centre stage (e.g., the urgency of travel request approval), while more practical features (how) may fade from salience (Trope & Liberman, 2010). Therefore, employees might not use mobile devices when accessing an official application if the task is too complex and time-consuming (with focused requirements and attention).

This theory is applied to EMS usage in the context of use from both spatial and temporal dimensions. Cappelli and Sherer (1991, p. 56) defined context as 'the surroundings associated with phenomena which help to illuminate those phenomena, typically factors associated with units of analysis above those expressly under investigation'. Bamberger (2008) stated that situational and temporal conditions must be directly theorised, and the instruments that link these situational and temporal conditions to embedded phenomena must be identified.

Employees engage in high-level construal when using mobile devices to represent their official context. As stated by Trope and Liberman (2010), high-level construal means for distal objects because (with distance), one needs to conserve the essential invariant properties of the referent object (in this case, the official context). According to Rubineau, Gounden Rock, Reyt, and Wiesenfeld (2021), employees who segregate their work roles may visualise their work at a low level of abstraction because each task requires specific circumstantial information (i.e., positions and timeframes) to be performed. Such employees utilise low-level construal that preserves the object's minute details for immediate use. This may be a specific task with detailed actions (e.g., reviewing a document on their mobile device) that users may not embrace, resulting in employees not engaging with the mobile device (or EMS usage).

Several studies concerning mobility and use contexts (Harrison & Dourish, 1996; Mallat, Rossi, Tuunainen, & Öörni, 2009), social and physical contexts imposed on mobile computing, and mobile service acceptance have concluded that mobile computing technologies should be more flexible and adaptable to enable task completion in changing environments. The use context becomes a critical dimension concerning how systems interact with humans and how an information system is used without human involvement (Dourish, 2004; Moran & Dourish, 2001). Lamfus, Wang, Sorzabal, and Zheng (2015) suggested a structure and fundamental properties of context through theoretical lenses, providing key inferences for tourism research and mobile system design. Iqbal et al. (2021) identified a four-level ontology for mobile devices using the web ontology language to adapt the context for mobile users: device, user, environment, and activity context. Based on our literature review, we believe that the use context is a critical hitherto unutilised antecedent for EMS adoption.

2.3. Information system security and EMS policy

IT functions across organisations aim to drive and ensure information security (Ransbotham & Mitra, 2009) while ensuring availability, integrity, and confidentiality. Lee (2003) studied information system security abuse based on insider threats, as employee activities may also pose a security threat to an organisation due to their ignorance, mistakes, or even deliberate acts (Lee, Lee, & Kim, 2016). Cavusoglu, Cavusoglu, and Raghunathan (2004) identified significant threats to enterprises, including corporate liability, loss of credibility, and monetary damage to organisations due to information security risks. Consequently, providing information security and policy formulation and enforcement Kwon, Ulmer, and Wang (2013) has become critical for organisations (Ransbotham & Mitra, 2009).

Organisations are setting up stronger EMSs and enunciating and deploying various EMS policies for each category of mobile devices, including organisation-issued, third-party-controlled, and personal mobile devices. Although EMS can facilitate mobility for users and its availability provides locational independence (Kim, Chung, Lee, & Preis, 2015), it also enables corporate IT to monitor the security of personal devices. Therefore, EMS policy is a critical dimension that warrants further research on EMS adoption.

2.4. Rational choice theory

In rational choice theory (RCT), Green (2002) posits that individuals act in their interests and according to their preferences, values, and utilities Friedman and Michael (1988). RCT attempts to explain socially conformant and deviant behaviours under the following fundamental premises: (1) people are rational and self-interested, (2) people act rationally when making decisions, and (3) people try to increase positive outcomes rationally through cost-benefit analyses.

Modern RCT is inextricably intertwined with a neoclassical economic assumption of outcomes resulting from rational, utility-maximizing individuals Hindmoor and Taylor (2015). For example, Bulgurcu, Cavusoglu, and Benbasat (2010) leveraged RCT in an information system security compliance-related context to illustrate the core portion of their model, which deals with individual assessments of information system policy compliance consequences. Also, Li, Zhang, and Sarathy (2010) utilised RCT to understand employees' intention to comply with Internet use policy and how it is driven by cost-benefit assessments, personal norms, and organizational context factors.

As per RCT, employees' beliefs about the potential benefits of compliance with the usage of enterprise applications intersect through EMS. The costs of compliance are employees' beliefs about the potential costs of complying with specific policy requirements and recommendations of use when accessing applications through EMS. Conversely, the costs of non-compliance are employees' beliefs about the potential costs of not complying with the requirements of a specific application, resulting in them not using the application on their mobile devices. These costs could be perceptions of the impact of EMS security solutions on privacy. For example, an employee may calculate a higher benefit than cost by not using the IT function recommendations of the EMS. Consequently, employees may decide not to use their mobile devices for official purposes, ignoring EMS usage. Thus, policy awareness is a significant factor.

According to Li et al. (2019), ISP awareness among employees ensures greater competency in managing cybersecurity tasks than employees who are not aware of their companies' security policies. Compliance with organisational information security policies is considered a practical approach to managing information security (Ifinedo, 2014). Safa et al. (2015) found that ease of IS usage and user experiences affect employees' perspectives towards ISP compliance, ensuring greater policy compliance (Siponen, Mahmood, & Pahnila, 2014).

In their comprehensive study, Dwivedi et al. (2020) offered critical perspectives on multiple pressing challenges and complexities affecting organisations and society due to pandemics, considering IS and technology perspectives. Due to the recent pandemic, new policy gaps have emerged for global companies, such as renewed permission from clients to allow access to specific data classes and new sets of employees in WFH, which has caused problems in existing security policy architectures. Policies related to downloaded copies of corporate documents on a personal device and subsequent access permission also pose threats to an organisation's information security and have legal implications (Albrecht, 2016). Therefore, specific interventions due to EMS policies and their effects on employees' adoption of mobility solutions need further investigation. Few organisations have proactively and effectively elaborated strategies to address these challenges and consequences (Harris, Ives, & Junglas, 2012), presenting a critical aspect for research. Hence, this appears to be a crucial construct in EMS adoption.

3. Employee engagement and task performance

High task performance often requires effective social interactions and cohesive behaviour (due to task interdependence). These tasks include enthusiasm among employees and receptivity in interactions (Watson, Clark, & Carey, 1988). According to Sarangi and Sarangi (2016), employee engagement is visible through' passion,' 'commitment' and 'employee productivity,' which should drive organisations' success in the market. Similarly, in the context of customer engagement, Alalwan (2020) highlighted issues such as social trust, the role of interactivity, and hedonic motivation that drive customer attention to online brand communities.

Kim et al. (2015) highlighted that EMSs positively affects individual insights regarding performance. Extant research has not sufficiently reported on job engagement and performance for EMS adoption. ter Hoeven, van Zoonen, and Fonner (2016) utilised the Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) to examine how communication and technology affect employee job engagement and subsequent burnout. Moreover, Osborne

and Hammoud (2017) suggested that rewards and recognition, empowering employees, and building a bond between leaders and employees ensure that employees continue to perform effectively. Turner (2020) stated that a conducive work environment aligned with organisational goals could facilitate higher employee engagement with jobs or role specifications. Deng, Sophia, and Santoso (2022) illustrated that in the case of digital technologies, knowledge sharing due to better communication and coordination leads to better job performance. There is a gap in the literature on EMS adoption and its effects on employee job engagement and perceived task performance. Hence, this is a critical consideration for our study.

Hypothesis. Development and Research Model.

3.1. Use context and EMS adoption

EMS prevents organisational security threats and thwarts by providing a secure gateway to access the organisational IT system (Harris & Patten, 2014; Lebek et al., 2013; Ortbach, Köffer, Bode, & Niehaves, 2013). The adopted EMSs undertake the following services: security enforcement (including authentication, remote locking, and wiping of data), encryption of data, and virus and malware protection. Employees' current mobility status, network quality, and threat perceptions of their devices through the internet are critical for EMS adoption.

Van der Heijden, Ogertschnig, and van der Gaast (2005) defined context relevance as 'the users' perception of how a mobile information service applies to a particular social setting.' They also found a significant impact of context relevance on the utilitarian value of mobile services. Deriving from contingency and task–technology fit theories, Kim et al. (2015) defined use context as personal and environmental conditions that influence mobile devices to purchase or reserve tourism products or services. Mobile context-aware applications are increasingly intelligent but are prone to bugs that are not easily reproduced and repaired (Mehmood, Khan, & Afzal, 2018). This outcome may result in users' degradation or denial of services based on an organisation's threat perception toward the mobile device (Lebek et al., 2013). Threat perception of mobile devices significantly influences the intention to implement corporate policies (Barlette, Jaouen, & Baillette, 2021; Liu & Varshney, 2020).

The use context can also significantly influence users' perceptions of mobile device usage and its utilitarian value. Previous literature has stated that mobile payment technology's hedonic and utilitarian features are essential components of the consumer platform experience (Jamshidi, Keshavarz, Kazemi, & Mohammadian, 2018). In addition, mobile devices can act as substitutes for desktop devices for products with high time criticality and low information intensity (Bang et al., 2013). In their latest study on emojis on mobile payment platforms, Murthy et al. (2020) stated that Venmo, a digital payment sharing platform, showed how emojis are used for self-representation in a digital context. Hence, considering the above, this study contends that the use context might significantly influence an employee's EMS adoption. Accordingly, we propose the following hypothesis:

H1. : The Use context of the employee positively influences EMS adoption within an organisation.

3.2. EMS Policy and EMS adoption

The critical aspect of EMS implementation is the divergent perspective of employees and companies concerning consumerization. Employees have distinct personal discretion regarding their choice of mobile device they procure and use. There are clear impacts of CoIT on employee workload, performance, and stress (Ortbach, K., Köffer, S., Müller, C. P. F., & Niehaves, B., 2013). In contrast, companies are more concerned about security threats, related issues, and challenges posed by CoIT (Stieglitz & Brockmann, 2012). In this scenario, corporate policies towards EMS and consumerization are critical.

Obtaining insights into the corporate perspective on consumer mobile devices to maximise benefits and mitigate threats leads to better administration and implementation of policy and regulatory measures (Baillette & Barlette, 2021). Puhakainen and Siponen (2010) stated that information security policies were perceived to slow down work by adding procedures, and time saved is a critical aspect of why security policy compliance was ignored. Bulgurcu et al. (2010) stressed that it is not just the organisation's necessary policy setup because employees' intention to comply with IS policies is equally important. From the organisational perspective of EMS policy implementation, any perceived threat to security can cause a denial of services to employees (Lebek et al., 2013). Employees who comply with organisational policies may be more motivated to adopt EMS. Hence, based on the RCT and the above literature, we suggest that employees' intentions to adhere to an organisation's EMS policy have a distinct impact on EMS adoption in the organisation. Accordingly, the following hypothesis is formulated:

H2: Employees' Intention to comply with the organisational EMS policy positively impacts EMS adoption in the organisation.

3.3. EMS policy awareness and intention to comply

Multiple institutional and individual factors drive employees' willingness to comply with organisational policies (primarily IS policies). According to institutional theory, institutional, behavioural factors are fundamental reasons some practices are adopted (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). For IS policy adoption, different perspectives related to training, knowledge sharing, experience, and self-efficacy belief systems, which affect policy compliance, have been highlighted (Bulgurcu et al., 2010; Safa et al., 2015). Also, as per Li et al. (2010) compliance with policies could also be improved by regular drives to increase cognizance of information security policies.

According to Safa et al. (2015), user participation and collaboration in information security help increase awareness and promote knowledge sharing. Education and information can be achieved through better design (Ortbach et al., 2014; Schaub, 2015). Personal device use and policy compliance are difficult to track (Hovav & Putri, 2016). Digital natives and millennials often ignore risks to themselves and their corporations while relying only on the potential benefits of consumerisation (Baillette & Barlette, 2021).

Additionally, according to Ortbach et al. (2014), enterprises shape their IT landscape concerning the country's existing regulation of their operations, which often leads them to adopt new technologies, internal rules, and compliance policies. Many functions are offered by EMSs, supporting IT departments in implementing and controlling existing regulations (e.g., government policies and compliance). Hence, organisations are expected to formulate specific policies, and guidelines related to EMS adoption beyond typical IS policies. Therefore, we propose the following hypothesis:

H3: EMS policy awareness is positively related to the Intention to comply with them.

3.4. EMS adoption and employee job engagement

Reyt and Wiesenfeld (2015) investigated the effects of mobile technology on role integration. Organisations exploit employees' affinity with mobile devices to suit their objectives, and this adoption also improves responsiveness and competitiveness while cultivating innovation (Del Giudice, 2016). Stieglitz and Brockmann (2012) opined that a positive and encouraging institutional climate positively affected mobile usage in the workplace.

Mobile adoption among employees is driven across levels, roles, and perceptions of fairness to drive successful implementation (Kim et al., 2015; Ortbach et al., 2014). Employees' individual preferences and motivations have also been reported to drive usage (Gebauer, Shaw, &

Gribbins, 2010). Therefore, in addition to organisational support, EMS adoption could significantly affect job classification (Lebek et al., 2013). Some studies consider Kahn's psychological conditions of employee engagement relevant, even in new internal digital communication (Men, O'Neil, & Ewing, 2020). Sarangi (2016) suggested that companies can earn employee trust to achieve organisational goals. Gode, Johansen, and Thomsen (2019) also point out that managers foster employee engagement (especially on internal social media), enabling employees to participate actively. Therefore, we propose the following hypothesis:

H4: EMS adoption should positively affect employee job engagement.

3.5. EMS adoption and employee task performance

According to Biondi, Cacanindin, Douglas, and Cort (2020), a high cognitive load (caused by excessive work demands or distractions) is likely to increase the completion times for assembly tasks in the manufacturing industry. Viete and Erdsiek (2020) state that mobile technology usage in organisations is favourable based on high employee autonomy over work time and location, leading to greater use of such organisational strategies. Vrontis, Thrassou, Santoro, and Papa (2017) state that mobility solutions help employees access their IT systems, improving organisational efficiency and market competitiveness.

Jeonga, Minwoo, and Balendra (2016) discussed hotel employees' perceptions of mobile device usage and job performance. They concluded that employees felt confident about using mobile devices and found relevant tools to improve work performance and drive employee creativity (Kim et al., 2015). Krotov, Junglas, and Steel (2015) suggest that ease of information access without time and space constraints can facilitate employees' real-time responses to workplace events and improve their performance and operational agility. Earlier, the implementation of the EMS has been primarily driven by security and consumerization concerns (Ortbach, K., Köffer, S., Bode, M., & Niehaves, B., 2013). As EMS can directly affect the employee's access to the corporate systems, the impact of EMS implementation on employee performance is worth examining. Thus, we propose the following hypothesis:

H5: EMS adoption has a positive impact on the perceived task performance of employees.

Fig. 1 below presents the proposed research model.

4. Research methodology

This study attempts to identify the research context and boundaries using the appropriate research design suggested by Nunamaker et al. (1991) and Venkatesh et al. (2013). This study was conceptualised to explore the possible relationship between use context and EMS uptake and identify potential drivers (such as policy awareness and mobile use context) to understand the possible implications for adopting corporate EMSs. According to Venkatesh et al. (2013), IS implementation in organisations is critical in IS research. Venkatesh et al. (2013) stated that the mixed-method approach was helpful when it fulfilled one or more of the seven possible purposes of the research design: complementarity, completeness, development, expansion, corroboration/confirmation compensation, and diversity.

Prior IS implementation research using qualitative (e.g., Boudreau & Robey, 2005) and quantitative (e.g., Venkatesh et al., 2013) approaches have offered insights into employee reaction to a new information system. Leading researchers such as Tashakkori et al. (2010) suggested that a mixed-method approach is suitable when there is a lack of clarity and equivocal extant research in this area. Giddings (2006) argued that the mixed-method approach is a more moderate, post-positivist form than the pure positivist quantitative analysis approach. Accordingly, for our research, we believe that a mixed-method research design would enable the completeness and corroboration of our propositions, as highlighted by Venkatesh et al. (2013). Accordingly, we adopted a sequential mixed-method approach of qualitative followed by quantitative studies.

4.1. The qualitative study

The qualitative study was conducted through seven focus group discussions with over 35 mobile technology development team members as part of the research design. Some participants were users of mobility solutions adopted by their internal IT functions. The participants spent substantial time on their mobile devices, given their current employment as working professionals and mobility solution development teams. The candidates for the final focus group interviews and discussions were carefully selected after screening the profiles of more than 200 potential candidates.

The discussion panel included the CIO for a leading IT firm in India, the Operations Head implementing the EMS solution in the organisation, and the third expert was the Practice Head, SAP HANA, for another

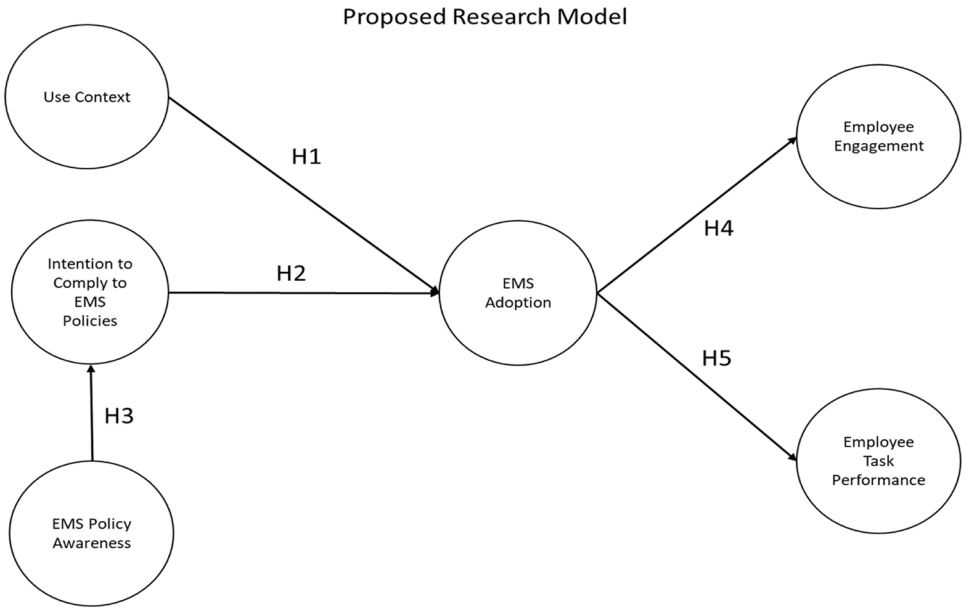

Fig. 1. Proposed research model.

leading SAP consulting organisation in India. These interviews were standardised using a set of qualitative questionnaires focused on the key points of potential challenges in adopting EMS, particularly for an organization, drivers for suggested EMS solution, EMS implementation effectiveness in terms of higher usage in the organization with a focus on employee use context and impact /benefits of EMS adoption on the employees. The key items considered for the interview protocols were as follows:

1) What are the potential challenges in adopting EMS, particularly for an organization, and potential drivers for suggested solutions?
2) Is EMS implemented as part of accessorizing strategy for the organization, effective in getting higher usage in the organization with a focus on employee use context?
3) What is the impact /benefits of EMS adoption in the organization on the employees?
4) How do employees perceive EMS usage in terms of organizational EMS policies and their awareness, with organizational support for adoption and use in the organization?

We analyzed data collected through interviews and focus group interviews based on Strauss and Corbin and Strauss (1990) open and axial coding procedures. Care was taken to ensure that the transcripts' analysis was done in detail, and texts were classified first into the identified open codes and later categorised into themes based on axial coding technique as per Hoehle and Venkatesh (2015). These axial codes were then corroborated later with individual result synchronization, and the intercoder reliability was achieved at greater than 0.9 as per Boudreau, Gefen, and Straub (2001).

Several critical ethical considerations were applied in this research, such as guaranteeing participant anonymity, acquiring explicit consent, and reconfirming the outcomes with the participants. Also, the interview protocol was divided into two sections of initial 20 mins of context-setting explaining the overview of the research objectives and explanation of ethical considerations mentioned above. After that formal interview questionnaire, the participants were introduced for a planned period of 45 min in an open-ended discussion mode to enable easy communication around select topics.

4.2. Qualitative data analysis

Given the emergent nature of EMS research in the current stage, our Qualitative results were analysed from both perspectives of the industry experts and theoretical grounding for the research community. Based on the interviews whose exceprts are shown in Annexure 2, and detailed transcript analysis, the identifiegd themes were corroborated with extant literature and mapped together in common codes as per the Table 1 below.

On the above-mentioned interviews and focus group discussions, our qualitative study identified salient dimensions of use context, EMS policies, EMS policy training, and employee engagement and employee task performance that were considered for quantitative analysis. Based on the qualitative study and literature survey, the study proposes the working definitions of these constructs, as shown in Table 2 in Section 4.3.

4.3. Quantitative study

The qualitative study provided the core themes for which constructs from extant literature were selected—these scales with good reliability and validity — and pretested with experts interviewed in the qualitative research for external validation before it was rolled out for the quantitative research. Our study also carried out the necessary internal measurements of construct validity and reliability as part of quantitative study.

Table 1
Key Themes, Outcomes, and Potential Research Opportunities.

Axial Codes	Key Themes on Axial Codes Observed.	Open Code Examples	Corresponding literature references.
Use Context	EMS adoptions could potentially vary depending on employees' use context, both spatial and/or temporal EMS Expectations in terms of end to end EMS solution	Contextualization of employee requirements for "the mobile moments" driven by "context-sensitive situations." Employees expected organisation to enable end to end solution to perform their task faster in their individual transactions covering all aspects	Kim et al. (2015) Mallat et al. (2009) Jamshidi et al. (2018)
EMS Policies Compliances	Challenges in the adoption of EMS in the organization	Strong focus on EMS policy compliance due to individual and corporate security challenges Org. security and EMS policy set up and effectiveness measured through powerful data analytics	Bulgurcu et al. (2010) Safa et al. (2015) Li et al. (2010)
EMS Policy Awareness	IS and EMS policy awareness Policy compliances based on factors like EMS security policies, support by corporate IT	EMS Policy Awareness amongst employees. Corporate IT Handholding and support and training to users	Bulgurcu et al. (2010); Li et al. (2010); Safa et al. (2015)
Employee engagement and Employee task performance	Effects of EMS adoptions on employee task engagement and task performance	Trending towards the end to end EMS solution expectation with focus on security and user privacy Engagement of employees while using mobile, with respect to task Complexities, roles, and transactions at hand	Chung et al. (2015) Borman & Motowidlo, 1993, p – 73

4.4. Operationalization of constructs

The theoretical background, definitions, and origins of all the constructs and variables used are listed in Table 2 below. The instrument's reliability and validity were tested internally, based on the two-step approach suggested by Gerbing and Anderson (1988). A 5-point Likert scale (strongly disagree to strongly agree) was used throughout the questionnaire. Appropriate scales for the constructs were operationalised for the quantitative testing of the proposed model. A cross-sectional survey was conducted to avoid a common method bias. The survey was performed following the procedures suggested in the seminal literature by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). We propose the following working definitions for the antecedents of EMS adoption and its effects, as shown in Table 2 below.

4.5. Quantitative data description

For the quantitative study, 330 possible mobile phone and corporate laptop users were selected across six business enterprises in the adjoining IT hubs of Delhi, Bangalore, and Chennai, utilising a professional data survey agency with 205 valid responses. The agency has access to more than 7500 IT professionals and Exec. MBA students across B schools in primary Indian IT hubs Data from Norm sound respondents

Table 2
Construct, items, and literature sources for the items.

Construct	Construct Definitions	Number of items
EMS Adoption	Kim et al. (2015) define EMS as embracing individual users' mobility and the ubiquity of a system.	3
Mobile Use context	Kim et al. (2015) defined use context as personal and environmental conditions that influence mobile devices to purchase or reserve tourism products or services	5
Intention to Comply with EMS Policy	Intention to Comply to EMS policy construct is defined as an employee's intention to protect the organization's information and technology resources from potential security breaches (Bulgurcu et al. (2010),Ajzen (1991)	4
EMS Policy Awareness	Bulgurcu et al. (2010) andSiponen (2005) state that EMS policy awareness entails EMS awareness as a part of an employee's overall knowledge and understanding of potential issues related to information security and their ramifications.	4
Employee Job Engagement	Kahn (1990) definition of job engagement was adopted for the present study as earlier utilized by (Rothbard 2001;Saks, 2006). Job engagement reflects how an individual is psychologically present in an organizational role.	3
Perceived Task Performance	Task performance was identified following Kim et al. (2015) defined as the activities directly involved in accomplishing core job tasks or the activities that now support the accomplishment of tasks related to an organization's "technical core" (Borman & Motowidlo, 1993, p - 73)	2

aged between 23 and 54 years were used (43% female and 57% male). Professional interviewers conducted the interviews with a response rate of 62%. The following control parameters were used: firm size, area of operational geographical locations, EMS adopted, employee mobility experience, industry type (whether the firm was part of the IT industry), and company origin (India). The following Table 3 shows the sampling statistics of the survey profile.

5. Results and data analysis

To validate the relationship hypothesised in the model, we used PLS-SEM structural equation modeling for the quantitative part of the study. It is appropriate to use PLS-SEM for structural model testing because this study has a multi-path research model and the data for this study contain non-normal data. PLS analysis also allows us to test hypotheses without the assumption of data normality, and it is appropriate to test for mediation effects (Chin, Marcolin, & Newsted, 2003).

Table 3
Sampling Statistics.

Profile	Profile Description
Gender Profile	Male (57 %), Female (43 %)
Age Group Profile	25 – 35 years (49 %) 35 – 50 years (43 %) Above 50 years (8 %)
Education Profile	% Post Graduate (24 %) %Graduate(76 %)
Levels in the Organization	Sr. Leadership (8 %), Mid-Tier Management (41 %), Associates (51 %)
Regional Distribution	People from NCR(37 %), People from Chennai (39 %), People from Bangalore (34 %)

5.1. Path model as per PLS-SEM

First, we used exploratory factor analysis (EFA) as part of a quantitative study to ensure the suitability of the factors instead of using confirmatory factor analysis. The instrument's reliability and validity were tested using the suggested two-step approach by Gerbing and Anderson (1988). Confirmatory factor analysis was conducted to check convergent and discriminant validity. Convergent validity indicates whether each factor is reflected in its item (Campbell & Fiske, 1959; Gefen, Straub, & Boudreau, 2000). The average variance extracted (AVE) values were > 0.5, CR values were > 0.7, and alpha values were > 0.65 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Gefen et al., 2000; Nunnally & Bernstein, 1978).

As per Henseler, Ringle, and Sarstedt (2015), the Heterotrait–Monotrait (HTMT) criterion was < 0.85 for the constructs used in this study, indicating good discriminant validity. The results exhibited good convergent validity and reliability based on the reported Cronbach's alpha and AVE. values. Discriminant validity indicates whether the two factors are statistically different (Campbell & Fiske, 1959; Gefen et al., 2000; Henseler et al., 2015). There was the absence of any single factor that emerged that accounted for the covariance. Five items with eigenvalues > 1 was extracted, with the first factor accounting for only 27% of the variance and no significant common method bias (Podsakoff et al., 2003).

5.2. Measurement model as per PLS-SEM

Partial least squares (PLS) regression was performed using SmartPLS-3 (Ringle, Wende, Sven, & Becker, 2015; Boenningstedt: SmartPLS; http://www.smartpls.com), considering a multichannel research model. Tests for data normality (Kolmogorov–Smirnov and Shapiro–Wilk tests) were used. The PLS-SEM model was run over 5000 bootstrapped samples, as per Hair, Ringle, and Sarstedt (2011). A sample size of 330 respondents was considered appropriate for the PLS-SEM (Gefen et al., 2000). The Tucker-Lewis index was 0.91, and the comparative fit index was above 0.9. The obtained values of the fit indices exceeded the suggested values, indicating an excellent fit between the model and data (Gefen et al., 2000; Zhonglin, Kit-Tai, & Marsh, 2004). The Bartlett's test showed that the variance was homogeneous for each treatment. The Kaiser-Maeyer-Olkin test revealed adequate samples for factor analysis (>0.9). Cronbach's alpha was 0.79, and the average variance extracted was 0.771, indicating that the data were reliable. PLS-SEM model fit indices, such as SRMR (–0.084) and goodness of fit (GOF) of $0.297 = \text{SQRT}\ [(\text{Average AVE}) * (\text{Average } R^2)]$, were close to the GOF high at 0.036, as per Tenenhaus et al. (2004).

We assessed the measurement model for convergent validity, discriminant validity, and reliability. The convergent validity was examined using two criteria: (1) composite reliability (CR) should be above 0.7 (Chin, 1998), and (2) average variance extracted (AVE) should be greater than 0.5 (Fornell & Larcker, 1981). As shown in Tables 4 and 5, the results revealed that all factor loadings are above 0.7, the CRs range from 0.71 to 0.77, and the AVEs range from 0.74 to 0.85,

Table 4
Cronbach's Alpha values, Composite Reliability, and Average Variance Extracted.

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
EMS Adoption	0.81	0.72	0.76
Mobile Use context	0.69	0.71	0.74
Intention to Comply with EMS Policy	0.86	0.77	0.74
EMS Policy Awareness	0.85	0.75	0.85
Job Engagement	0.78	0.73	0.82
Perceived Task Performance	0.76	0.74	0.72

Table 5
Cross-loadings matrix and VIF for the measurement model.

Items	EMS Awareness	Use Context	Intention to Comply to Policy	EMS Policy Awareness	Job Engagement	Task Performance
EMSA1	**0.78**	0.57	0.43	0.43	0.56	0.23
EMSA2	**0.76**	0.45	0.56	0.19	0.19	0.49
EMSA3	**0.69**	0.23	0.31	0.56	0.23	0.56
UCT1	0.39	**0.71**	0.16	0.57	0.36	0.55
UCT2	0.47	**0.69**	0.49	0.46	0.53	0.46
UCT3	0.14	**0.67**	0.38	0.38	0.43	0.39
UCT4	0.27	**0.63**	0.57	0.57	0.48	0.56
UCT5	0.65	**0.71**	0.23	0.23	0.60	0.21
ICP1	0.54	0.54	**0.79**	0.47	0.54	0.35
ICP2	0.64	0.35	**0.77**	0.43	0.55	0.54
ICP3	0.24	0.54	**0.73**	0.48	0.57	0.55
ICP4	0.37	0.55	**0.71**	0.51	0.49	0.57
ICP5	0.53	0.57	**0.78**	0.34	0.39	0.49
EMSPA1	0.65	0.49	0.34	**0.79**	0.65	0.39
EMSPA2	0.48	0.39	0.33	**0.75**	0.39	0.55
EMSPA3	0.57	0.56	0.56	**0.73**	0.26	0.64
JE1	0.53	0.21	0.47	0.57	**0.88**	0.65
JE2	0.62	0.15	0.43	0.49	**0.73**	0.54
JE3	0.23	0.56	0.48	0.39	**0.82**	0.56
TF2	0.36	0.55	0.51	0.15	0.21	**0.83**
TF3	0.53	0.53	0.34	0.56	0.15	**0.71**
VIF	**1.29**	**1.39**	**1.08**	**1.12**	**1.10**	**1.14**

indicating sufficient convergent validity. We assessed the discriminant validity by assessing the discriminant validity as per Chin (1998), as shown in Table 4 below.

The cross-loading matrix for the measurement model was evaluated and was > 0.60 in each case, showing the loading of an acceptable range of above 0.60 in each case and VIF < 2.0.

5.3. Results of PLS-SEM structural analysis

The *t*-statistic for each path model was more significant than 1.96, with > 0.2 path coefficient at p values < 0.05 (Gefen et al., 2000; Zhonglin et al., 2004). The following Table 6 shows the results of the PLS-SEM path analysis.

Table 6
Results of PLS-SEM.

Hypotheses	Path Coefficient	T Statistics (|O/STDEV|)	P Values	Hypothesis Test Results
The Use context of the employee positively influences EMS adoption within an organisation	0.254	4.598	0.000	Accepted
Employees' Intention to comply with the organisational EMS policy positively impacts EMS adoption in the organisation.	0.299	5.361	0.000	Accepted
EMS policy awareness is positively related to the Employees' Intention to comply with them	0.314	5.616	0.000	Accepted
EMS adoption positively impacts the job engagement of employees.	0.398	8.605	0.000	Accepted
EMS adoption has a positive impact on the perceived task performance of employees	0.285	3.378	0.001	Accepted

* at 97.5% confidence interval

Fig. 2 below shows the outcome of the proposed research model based on the T-statistics and corresponding R2 values for the outcome constructs.

We performed tests of mediation as per Zhao, Lynch, and Chen (2010). First, we completed the tests using the causal steps approach suggested by Baron and Kenny (1986). Then path coefficients across the constructs were evaluated across direct relationships and via mediation path. Then path coefficients across the constructs were assessed across direct relationships and via mediation path. The mediation tests were performed on the relationship of employee job engagement acting as a mediator between EMS adoption and employee task performance.

The Sobel test statistics were found to be 3.65, with one-tailed probabilities of 0.001574 and two-tailed probabilities of 0.00242. The relationship between EMS adoption and task performance was found to be significant when job engagement was introduced into the model as a mediator. Therefore, it is suggested that job engagement partially mediates the relationship between EMS adoption and task performance. In terms of the proposed path model, all the paths were statistically significant in the hypothesized direction. Therefore, we concluded that positive partial interaction effects were observed between EMS adoption, job engagement, and task performance.

6. Discussion

The results indicate that employees often use their mobile devices for emergent work requirements. This study posits that employee use context is a strong driver for adopting EMSs, which assumes special significance in the current WFH scenario. The study results also suggest that the intention to comply with EMS policies plays a significant role in adopting EMSs. Thus far, the intent to adopt EMS has been weighted by the dominant desire for the resulting benefit, such as increased personal productivity or hedonic pleasure.

EMS adoption prevails over the perceived risk of not using EMS due to security threats concerning the assumption of institutional trust when using EMSs (Kim et al., 2015; Ortbach et al., 2014; Sharma, Sharma, Dwivedi et al., 2019). This study's results suggest that employees' intentions to comply with EMS policies significantly affect EMS adoption. This study highlights a critical aspect of EMS adoption regarding employee engagement in job and task performance, and the results reinforce the positive effects of EMS adoption on employee engagement and performance. The possible phenomenon is highlighted that, in terms of employee perception, EMS adoption seems to have a salutary effect on

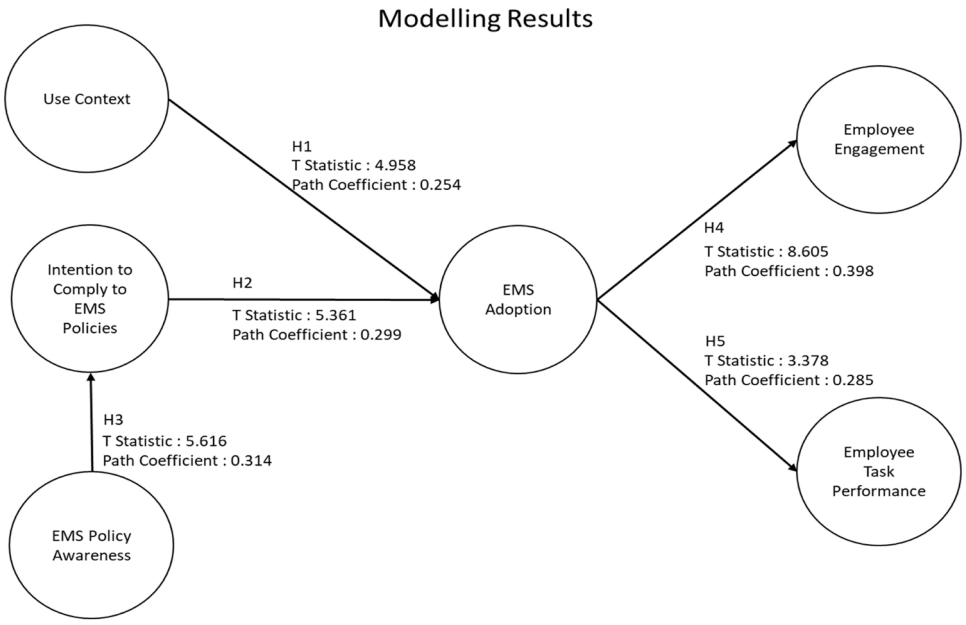

Fig. 2. Outcome research model.

job engagement and subsequent performance, in line with Sarangi and Sarangi (2016) and Turner (2020). The mediation analysis revealed partial mediation between EMS adoption and employee task performance through employee engagement. In summary, the results of the study addressed all the research questions that were initiated.

When corroborated with a qualitative study, it is apparent from our results that some users often tend to avoid using personal mobile devices for official purposes due to multiple reasons, including privacy and personal data security concerns. On the contrary, the employees who are positively disposed toward EMS adoption tend to utilise their mobile devices for corporate use due to factors like their oft occurring use context, their appreciation of the corporate EMS policies and training, and other supports that they get from the environment. EMS adoption seems to also impact the employees' engagement positively with the organisation and, eventually, their task performance.

6.1. *Theoretical contributions*

Our study has emphasised some interesting theoretical insights with a positive contribution to adoption literature with an alternate perspective of the integrative view of Construal Level Theory (CLT) and Rational Choice Theory (RCT). The results of our study have pointed out that employees tend to adopt EMS in their mobile devices based on some new critical factors like their use context, EMS policy awareness, and intention to comply with policies. Also, to the best of our knowledge, this could be one of the first few studies that might use the combination of these two theories to bear in case of technology adoption, which could be a unique contribution to this stream of research.

Further, analysing EMS adoption from the perspective of CLT has not been adequately reported in the published literature, especially when investigating the use context of mobile devices. This study provides a few critical outcomes that could open-up new avenues for investigation. As per CLT, due to increased social distancing due to WFH, the strategic consumption intentions of the employees were enhanced. The reason may be that increased social distance brings more risks and uncertainties, improving employee purposes of making decisions by delaying the usage of EMS on mobile devices. Enterprises can affect employees' intertemporal decisions by controlling the social distance between enterprises and employees. Therefore, we believe that EMS adoption is affected by the psychological distance felt by employees in terms of use context.

Construal level theory has been utilised to explain the usage in a mobile gaming context (Katz & Byrne, 2013) and a few others, such as Kang, Lu, Guo, and Zhao (2020), for differences in the user behaviour of personal computers and mobile devices. Our results suggest a possible new insight into the critical impact of CLT in identifying the context of EMS adoption from a security perspective. Consequently, in the qualitative study, many employees mentioned that their companies were running campaigns that encourage employees to familiarise themselves with specific 'mobile moments' with the convenience and benefits of EMS in multiple contexts outside the work scenarios.

This result might also enable researchers and industry professionals to investigate employee use context (in line with CLT) and dig deeper into other aspects of employee security perception regarding organisational psychological distal and temporal factors. Utilising Salo and Frank (2017) earlier explanations, we argue that there are potential relationships between contextual characteristics and user behaviour (interaction state, place, sociality, and application type). The results confirm that Dabholkar and Bagozzi (2002) suggested that two contextual factors ('perceived waiting time' and 'crowding') had significant mediating effects on consumer attitudes towards self-service technologies. Therefore, for employees, EMS adoption appears to potentially affect these two contextual factors owing to EMS-enabled mobile device security.

Further, as per the RCT, this study contributes to the dominant notion that EMS adoption is critically affected by employees' intentions to follow EMS policies. Bulgurcu et al. (2010) mentioned that, as per the RCT, it is not just the organisation's critical policy setup; employee intention to comply with IS policies is also of greater importance. Employees expect the same level of service when using mobile devices compared to their official use context. For EMS, the perception of a threat to an employee (which might affect their data and privacy) positively influences the intention to implement corporate policies (Barlette et al., 2021; Liu & Varshney, 2020). Employees who comply with organisational policies may be more motivated to adopt EMSs. The results also corroborate Siponen et al. (2014), who state that employee attitudes drive higher actual IS policy compliance.

We also found from the qualitative study that employees perform the critical functions of ensuring mobile device security while not compromising individual mobility features and user privacy (Ortbach, K., Köffer, S., Bode, M., & Niehaves, B., 2013; Lebek et al., 2013). Therefore,

creating employee awareness is critical for EMS adoption. Safa et al. (2015) contended that information security knowledge sharing, collaboration, intervention, and experience significantly affect employee attitudes towards compliance with organisational information security policies. Previous researchers (e.g., Arachchilage & Love, 2014) have argued that user knowledge thwarts phishing threats. Rocha Flores, Holm, Svensson, and Ericsson (2014) revealed that less involvement with security information in employees led to a lack of information security awareness. Sharing an information security understanding with employees (Samonas, Dhillon, & Almusharraf, 2020), higher employee engagement, and top management support (Chen et al., 2019; Dwivedi et al., 2020; Feng, Zhu, Wang, & Liang, 2019) also drive additional adoptions. Our results corroborate this proposition for EMS policy compliance.

Our results related to job engagement and task performance also appear congruent with those of Nah, Siau, and Sheng (2005) for a utility company, which demonstrated the positive effects of mobile business applications on business user productivity, process efficiency, and effectiveness. Our study confirms that employees tend to be engaged more when using mobile devices to adopt EMS since that enables the necessary flexibility to operate. This seems to be improving their task performance, as indicated by the partial mediation between EMS adoption and task performance through employee engagement.

6.2. Implications for practice

The study demonstrates that the use context and EMS policy awareness significantly impact EMS adoption in an organisation. Employees' adoption of EMS poses the likelihood of success and threats associated with consumerisation. For example, standard security issues and the actual impacts on their firms might increase managers' perceptions of potential hazards (Schuetz, Lowry, Pienta, & Thatcher, 2020). In addition, employees could consider employing EMS in their devices; given the key aspects of the use context in which they use their mobile devices for official use and their willingness to stay on top of and address potential work items, they can postpone. As per Bang et al. (2013), mobile devices can substitute desktop devices with high time criticality and low information intensity, which is often the specific use context for some mission-critical corporate applications like timesheets and leave travel approval systems. As per our results, it is more probable that employees who tend to use the EMS solutions have the specific context of multiple interactions with corporate IT systems in a shorter time frame with a focus on the greater utilitarian experience.

From a corporate perspective, this study has implications for the organization devising EMS solutions for the employees, especially concerning policy setup. The EMS policy being a facilitator or an inhibitor of employees' transactions through mobile has been discussed earlier in the literature (Garba, Armarego, Murray, & Kenworthy, 2015; Steelman, Lacity, & Sabherwal, 2016; Harris et al., 2014). Our study corroborates the earlier findings in the case of EMS adoption. The effects of EMS policies provide positive reasons for the employees' adoption of EMS in the organization. These policy interventions should be designed for effective controls from an organizational perspective while equally balancing the drive towards greater individual autonomy, especially from the use context for employees.

The IT leaders and managers may make decisions to improve information security in their companies by observing and mimicking other organisations that make the same investment decisions (Dwivedi et al., 2020). Thus far, EMS implementations have been reported mainly for the security concerns related to consumerization by Ortbach, Köffer, and Müller (2013). Altered business practices and new EMS policies have created new issues and policy awareness challenges. Despite digital campaigns and mailers and a constant new set of meeting protocols and stand-up calls, EMS policy awareness remains a challenge. Therefore, organisations could consider innovative ways of even spot rewards and recognitions for employees to promote the effective adoption of EMS solutions. Therefore, the results of this study assume significance.

Our study also suggests that the comfort level of employees with IT policies if they use EMS and the active support they receive from Corporate IT, training, and break-fix support could drive their decisions. This phenomenon necessitates EMS adoption in the organisation as a conscious leadership decision, and this research provides the necessary reasons and supports to enable that decision. Therefore, most organizations tend to create more employee-friendly mobile and EMS policies that encourage and nudge employees to adopt corporate applications and EMS solutions that lead to greater security in their systems.

According to Bhattacherjee, Davis, Connolly, and Hikmet (2018), EMS adoption can be considered an IT event that exercises greater control over situations. Additional funding from top management and championing information security measures, charters, training sessions, or awareness-raising campaigns (Herath, Herath, & D'Arcy, 2022) drive higher compliance. Potential benefits could lead to complacency in IS leaders regarding what Barlette et al. (2021) refer to as benefits, often overshadowing the risks with higher performance new business processes. Awareness campaigns focused on security coupled with the positive upside of EMS solution adoption to achieve greater work performance and corporate security could be a potential win-win solution for employees and corporate IT.

EMS adoption is related to employee engagement and, consequently, employee job performance, which is critical in senior leadership support (Barlette & Jaouen, 2019). Our study confirms that employees tend to be engaged more when using mobile devices to adopt EMS solutions since that enables the necessary flexibility to operate. The study also contributes to the notion related to work engagement and communication technologies usage as per the assertion of ter Hoeven et al. (2016) related to work engagement and communication technologies usage.

We believe that the EMS solution specifically makes a positive contribution to employee job engagement and task performance. Our results also provide further understanding into Vrontis et al.'s (2017) findings, who contended that the business process changes driven by evolving requirements offer the needed flexibility for employees to use mobile applications to complete the work at hand. For these reasons, many organisations often tend to nudge their employees to adopt EMS solutions through constant appeal, potentially positively affecting their work engagement and task performance.

6.3. Limitations and future research direction

This study attempted to examine EMS adoption through the lens of CLT and RCT. Future researchers can explore the impact of sub-dimension (such as OTA - Over The Air) features on EMS adoption, and the OTA dimension has not been explored adequately in the published literature. In addition, the sample response used in this study was restricted to the Indian context with IT professionals and executives only, so future researchers can replicate this study in more developed economies and validate the findings obtained from an emerging economy.

Future research could also focus on more mature EMSs, such as Unified Endpoint Management (UEM) (Gartner, 2018), an emergent technological advancement in EMSs. Researchers could investigate the effects of the UEM approach on employees. More broadly, the pre-and post-implementation of EMS could be studied longitudinally. Despite digital campaigns and mailers and a constantly new set of meeting protocols and stand-up calls, EMS policy awareness remains a challenge. Future studies could focus on EMS in the context of digital transformation strategies.

7. Conclusion

This study attempted to provide new insights into adoption research through alternate theoretical lens of CLT and RCT, as EMS adoption was primarily driven by security and privacy reasons. The impact of mobile

use context, in line with CLT, on EMS adoption is reported for the first time in this paper. Additionally, the study corroborates extant research on RCT usage, even in the case of EMS policy awareness and employee intention to comply with EMS policies, which have been reported to impact EMS adoption in organisations.

Investments in raising employee awareness through training and awareness programmes, and providing guidance regarding EMS adoption and enhanced/altered business processes with EMS could reap benefits. Given the ubiquitous connectivity of mobile devices coupled with exceptional levels of high-speed internet, employees can use and operate their devices for all categories of work, ranging from emails to critical business applications. Therefore, the results of this study are significant.

Annexure

Scales Used.

Adoption	Adapted Scale Items
EMS Adoption Kim et al. (2015),Venkatesh, Thong, and Xu (2012)	EMSA1: I often use the EMS to access my organizational systems and applications EMSA2: I often use the EMS to secure my mobile usage for corporate purposes EMSA3: I often use the EMS to manage my corporate email and other accounts
Use Context Kim et al. (2015)	I use my mobile to access corporate sites, emails, and applications if … UCT 1: My company provided device (e.g., laptop or desktop) is not working or accessible UCT 2: I have no access to using the corporate site or applications UCT 3: I am in a hurry or need the corporate sites fast UCT 4: I need corporate sites or applications unexpectedly and have not prepared to use it UCT 5: If there are delays and queues while using the company-provided device (e.g., desktop or laptop)
Intention to Comply with EMS Policy Bulgurcu et al. (2010),Ajzen (1991);Fishbein and Ajzen (1977)	ICP1: I intend to comply with the requirements of the EMS Policy of my organization in the future ICP2: I intend to protect information and technology resources according to the requirements of the EMS Policy of my organization in the future. ICP3: I intend to carry out my responsibilities prescribed in the EMS Policy of my organization when I use information and technology in the future ICP4: I intend to comply with the requirements of the EMS Policy of my organization in the future ICP5: I intend to protect information and technology resources according to the requirements of the EMS Policy of my organization in the future.
EMS Policy Awareness Bulgurcu et al. (2010)	EMSPA1: I know the rules and regulations prescribed by the EMS Policy of my organization EMSPA2: I know my responsibilities as prescribed in the EMS Policy to enhance the IS security of my organization. EMSPA3: I know the rules and regulations prescribed by the EMS Policy of my organization EMSPA4: I understand the rules and regulations prescribed by the EMS Policy of my organization
Employee Job Engagement Saks (2006), Kahn (1990, 1992); Rothbard (2001)	JE 1: I really "throw" myself into my job using my mobile-based solutions JE 2: Sometimes, I am so much into my job using mobile-based solutions that I lose track of time. JE 3: This job using my mobile-based solutions is all-consuming; I am totally into it.
Perceived Task Performance Kim et al. (2015) and Borman and Motowidlo (1993)	Perfo1: I successfully use EMS Solutions to perform my job. Perfo2: Using EMS Solutions helps reduce the lead time of performing the job tasks.

Excerpts from the FGDs and Expert interviews: .

Key Themes	Comments/Opinions shared during FGD and Interviews
EMS Implementation Challenges	*"Our greatest challenge for EMS implementation is to cater to multiple form factors, platforms, and various technologies across many user bases. Anyone category appears to be tens of thousands in a 1 lac people company. Furthermore, people vary in their expectations and relationship with technology and EMS policy awareness. Increasingly I need to see my users as B2C educated clients rather than B2B clients. As conusmers of my solutons, they expect higher level of support from corporate IT. They also want a similar user experience from the enterprise applications as the other global applications"* – CIO of the organization implementing EMS solution.
Trending towards the end to end EMS solution expectation	*"We were expected to create a comprehensive end to end EMS solution, which could be built over mobility platforms, devices including non-IT devices, and technologies and standards which could take care of device, applications, and content." The client had a business process led, a cross-functional solution which traversed boundaries of business processes across SCM, CRM, Operations or H.R. and Finance with clarity on which business processes are most amenable to mobility uptake, without jeopardizing the existing native desktop and functional/ platform-based solutions*." - Service Delivery Manager for one of the projects selected for FGD.
EMS Expectations with Individualized User Experience in Focus	"*There was an expectation for an EMS solution which was pivoted around smarter seamless user experience across lines of the business cross-functional solution with clear drivers around based on standardized parameters like revenue impact, technology adoptions levels, end-user experience requirements juxtaposed with a challenging expectation of specific Mobile Contexts, and Mobile Moments with flexible features like Rapid Web Development (RWD) and Gradual Degradations with individual privacy protections without jeopardizing security needs with allowances for industry app and company app working simultaneously apart from standard EMS features like OTA, etc*." – Technical Architect of one of the Project selected for FGD.
EMS solution effects on employees	*"Increasingly, we came across employees especially in more mobile functions like Sales and Presales, using their mobile for more and more official work across multiple platforms. Interestingly, many of the users are spending longer duration on their devices completeing many business transactions like leave and travel approvals, attending meetings and mail reviews* etc. *and demand seamless single sign on experiences. Since data accessed by exployees are from variety of sources, maintaining corporate data security remains our primary focus, without zeopardising the user experience as much as possible."* – Solution Architect for the EMS solution implementation team
EMS Development and Analytics and Benefit led solutions	"*All end users wanted some powerful data analytics with a drill-down and roll-up features with individual-level data capture which could be sometimes driven from non-digital devices with solid enterprise reporting and business intelligence from POS upwards, all the way up to enterprise dashboards. There is also an expectation of swift solution roll out with end-user context-driven solution around ecosystem like network bandwidth* etc., *and easy feature testing for users in multiple external usage scenarios*." – Test Lead of the Project lead selected for the FGD discussions.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179–211.

Alalwan, A. A. (2020). Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued Intention to reuse. *International Journal of Information Management, 50*, 28–44.

Albrecht, J. P. (2016). How the GDPR will change the world. *Eur Data Prot L Rev, 2*, 287.

Arachchilage, N. A. G., & Love, S. (2014). Security awareness of computer users: A phishing threat avoidance perspective. *Computers in Human Behavior, 38*, 304–312.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*(1), 74–94.

Baillette, P., & Barlette, Y. (2021). Coping strategies and paradoxes related to BYOD information security threats in France. *In Research Anthology on Securing Mobile Technologies and Applications*, 527–558.

Bamberger, P. (2008). *From the editors beyond contextualization: Using context theories to narrow the micro-macro gap in management research* (pp. 839–846).

Bang, Y., Lee, D. J., Han, K., Hwang, M., & Ahn, J. H. (2013). Channel capabilities, product characteristics, and the impacts of mobile channel introduction. *Journal of Management Information Systems, 30*(2), 101–126.

Barlette, Y., & Jaouen, A. (2019). Information security in SMEs: Determinants of CEOs' protective and supportive behaviors. *Systèmes d'Information & Management, 24*(3), 7–40.

Barlette, Y., Jaouen, A., & Baillette, P. (2021). Bring your own device (BYOD) as reversed IT adoption: Insights into managers' coping strategies. *International Journal of Information Management, 56*, Article 102212.

Basole, R., & Rouse, W. (2006). Mobile enterprise readiness and transformation. *Idea Group, Encyclopaedia of Mobile Computing and Commerce, Inc IGI*, 2006.

Bhattacherjee, A., Davis, C. J., Connolly, A. J., & Hikmet, N. (2018). User response to mandatory IT use: A coping theory perspective. *European Journal of Information Systems, 27*(4), 395–414.

Biondi, F. N., Cacanindin, A., Douglas, C., & Cort, J. (2020). Overloaded and at work: Investigating the effect of cognitive workload on assembly task performance. *Human Factors*, 0018720820929928.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71–98). San Francisco: Jossey-Bass.

Boudreau, M. C., & Robey, D. (2005). Enacting integrated information technology: A human agency perspective. *Organization Science, 16*(1), 3–18.

Boudreau, M. C., Gefen, D., & Straub, D. (2001). Validation of information systems research: A state of art assessment. *MIS Quarterly*, 1–16.

Bulgurcu, B., Cavusoglu, H., & Benbasat, I. (2010). Information security policy compliance: An empirical study of rationality based beliefs and information security awareness. *MIS Quarterly, 34*(3), 523–548.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*(2), 81–105.

Cavusoglu, H., Cavusoglu, H., & Raghunathan, S. (2004). Economics of IT security management: Four improvements to current security practices. *Communications of the Association for Information Systems, 14*, 65–75.

Chakraborty, T., Kumar, A., Upadhyay, P., & Dwivedi, Y., K. (2021). The link between social distancing, cognitive dissonance, and social networking site usage intensity: A country-level study during the COVID-19 outbreak. *Internet Research, 31*(2), 38.

Charki, M. H., Josserand, E., & Boukef, N. (2017). The paradoxical effects of legal intervention over unethical information technology use: A rational choice theory perspective. *The Journal of Strategic Information Systems, 26*(1), 58–76.

Chen, Q., Feng, Y., Liu, L., & Tian, X. (2019). Understanding consumers' reactance of online personalized advertising: A new scheme of rational choice from a perspective of negative effects. *International Journal of Information Management, 44*, 53–64.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research, 295*(2), 295–336.

Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research, 14*(2), 189–217.

Chung, S., Lee, K. Y., & Choi, J. (2015). Exploring digital creativity in the workspace: The role of enterprise mobile applications on perceived job performance and creativity. *Computers in Human Behavior, 42*(1), 93–109.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*(1), 3–21.

Dabholkar, P. A., & Bagozzi, R. P. (2002). An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the Academy of Marketing Science, 30*(3), 184–201.

Del Giudice, M. (2016). Discovering the Internet of Things (IoT): Technology and business process management, inside and outside the innovative firms. *Business Process Management Journal, 22*(2), 263-70.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.

Deng, Hepu, Sophia, Xiaoxia Duan, & Santoso, Wibowo (2022). Digital technology driven knowledge sharing for job performance. *Journal of Knowledge Management*. https://doi.org/10.1108/JKM-08-2021-0637

Dourish, P. (2004). What we talk about when we talk about context. *Personal and ubiquitous Computing, 8*(1), 19–30.

Dwivedi, Y. K., Shareef, M. A., Simintiras, A. C., Lal, B., & Weerakkody, V. (2016). A generalized adoption model for services: A cross-country comparison of mobile health (m-health). *Government Information Quarterly, 33*(1), 174–187.

Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., … Raman, R. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work, and life. *International Journal of Information Management, 55*, 02211.

Feng, G., Zhu, J., Wang, N., & Liang, H. (2019). How paternalistic leadership influences IT security policy compliance: The mediating role of the social bond. *Journal of the Association for Information Systems, 20*(11), 1650–1691.

Fishbein, M., Ajzen, I., 1977. Belief, Attitude, Intention, and behavior: An introduction to theory and research.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research, 18*(3), 328–388.

Friedman, Debra, & Michael, Hechter (1988). The contribution of rational choice theory to macro-sociological research. *Sociological Theory, 6*, 201–218.

Garba, A. B., Armarego, J., Murray, D., & Kenworthy, W. (2015). "Review of the information security and privacy challenges in Bring Your Own Device (BYOD) environments,". *Journal of Information Privacy and security, 11*(1), 38–54.

Gartner , 2018. Magic Quadrant for Unified Endpoint Management (UEM) ⟨https://securityintelligence.com/gartner-releases-first-ever-magic-quadrant-for-unified-endpoint-management-uem/⟩.

Gebauer, J., Shaw, M. J., & Gribbins, M. L. (2010). Task–technology fit for the mobile information system. *Journal of Information Technology, 25*(3), 259–272.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information System, 4*(1), 1–7.

Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating uni-dimensionality and its assessment. *Journal of Marketing Research, 25*(2), 186–192.

Giddings, L. S. (2006). Mixed-methods research: Positivism dressed in drag. *Journal of Research in Nursing, 11*(3), 195–203.

Gode, H. E., Johansen, W., Thomsen, C. , 2019. Employee engagement in generating ideas on internal social media: A matter of meaningfulness, safety, and availability. Corporate Communications: An International Journal.

Green, S. L. , 2002. Rational choice theory: An overview. Waco, TX: Baylor University. Retrieved from ⟨http://business.baylor.edu/steve_green/green1.doc⟩.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. *Academy of Management Annals, 5*(1), 317–371.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139–152.

Harris, A. M., & Patten, K. P. (2014). Mobile device security considerations for small-and-medium-sized enterprise business mobility. *Information Management and Computer Security, 22*(1), 97–114.

Harris, J., Ives, B., & Junglas, I. (2012). IT Consumerization: When gadgets turn into enterprise IT tools. *MIS Quarterly Executive, 11*, 3.

Harrison, S., & Dourish, P. (1996). Re-place-ing space: the roles of place and space in collaborative systems. *Proceedings of the 1996 ACM Conference on Computer supported cooperative Work*, 67–76.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.

Herath, T. C., Herath, H. S. B., & D'Arcy, J. (2022). Organizational adoption of information security solutions: An integrative lens based on innovation adoption and the technology-organization-environment framework. *The Data Base for Advances in Information Systems, 51*(2), 12–35 (In Press).

Hindmoor, A. & Taylor, B. , 2015. Rational choice (2nd edition). London; New York, NY: Palgrave Macmillan.

Ho, C. K., Ke, W., Liu, H., & Chau, P. Y. (2020). Separate versus joint evaluation: The roles of evaluation mode and construal level in technology adoption. *MIS Quarterly, 44*(2), 725–746.

Hoehle, H., & Venkatesh, V. (2015). Mobile application usability. *MIS Quarterly, 39*(2), 435–472.

(ter) Hoeven, C. L., van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee burnout and engagement. *Communication Monographs, 83*(2), 239–263.

Hovav, A., & Putri, F. F. (2016). This is my device! Why should I follow your rules? Employees' compliance with BYOD security policy. *Pervasive and Mobile Computing, 32*, 35–49.

Ifinedo, P. (2014). Information systems security policy compliance: An empirical study of the effects of socialisation, influence, and cognition. *Information & Management, 51*(1), 69–79.

Iqbal, M. W., Ch, N. A., Shahzad, S. K., Naqvi, M. R., Khan, B. A., & Ali, Z. (2021). User context ontology for adaptive mobile-phone interfaces. *IEEE Access, 9*, 96751–96762.

Jamshidi, D., Keshavarz, Y., Kazemi, F. & Mohammadian, M., 2018). Mobile banking behavior and flow experience. International Journal of Social Economics.

Jarrahi, M. H., Crowston, K., Bondar, K., & Katzy, B. (2017). A pragmatic approach to managing enterprise I.T. infrastructures in the area of Consumerization and

individualization of I.T. *International Journal of Information Management, 37*(6), 566–575.
Jeonga, M., Minwoo, L., & Balendra, N. (2016). Employees' use of mobile devices and their hperceived outcomes in the workplace: A case of a luxury hotel. *International Journal of Hospitality Management, 57*, 40–51.
Kaatz, C. (2020). Retail in my pocket–replicating and extending the construct of service quality into the mobile commerce context. *Journal of Retailing and Consumer Services, 53*, Article 101983.
Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.
Kahn, W. A. (1992). To be full there: Psychological presence at work. *Human Relations, 45*, 321–349.
Kang, K., Lu, J., Guo, L., & Zhao, J. (2020). How to improve customer engagement: A comparison of playing games on personal computers and on mobile phones. *Journal of Theoretical and Applied Electronic Commerce Research, 15*(2), 76–92.
Katz, S. J., & Byrne, S. (2013). Construal level theory of mobile persuasion. *Media Psychology, 16*(3), 245–271.
Kim, M. J., Chung, N., Lee, C. K., & Preis, M. W. (2015). Motivations and use context in mobile tourism shopping: Applying contingency and task–technology fit theories. *International Journal of Tourism Research, 17*(1), 13–24.
Kristoffersen, S., & Ljungberg, F. (1999). "Making place" to make IT work: Empirical explorations of HCI for mobile CSCW (November) *Proceedings of the International ACM SIGGROUP Conference on Supporting Group Work*, 276–285.
Krotov, V., Junglas, I., & Steel, D. (2015). The mobile agility framework: An exploratory study of mobile technology enhancing organizational agility. *Journal of Theoretical and Applied Electronic Commerce Research, 10*(3), 1–7.
Kwon, J., Ulmer, J. R., & Wang, T. (2013). The association between top management involvement and compensation and information security breaches. *Journal of Information Systems, 27*(1), 219–236.
Lamfus, C., Wang, D., Sorzabal, A. A., & Zheng, X. (2015). Going mobile: Defining context for on-the-go travelers. *Journal of Travel Research*, 1–11.
Lebek, B., Degirmenci, K. & Breitner, M. H. , 2013. Investigating the influence of security, privacy, and legal concerns on employees' Intention to use BYOD mobile devices, In 19th Americas Conference on Information System (AMCIS 2013), 15–17 August 2013, Chicago, Illinois.
Lee, C., Lee, C. C., & Kim, S. (2016). Understanding information security stress: Focusing on the type of information security compliance activity. *Computers & Security, 59*, 60–70.
Li, H., Zhang, J., & Sarathy, R. (2010). Understanding compliance with internet use policy from the perspective of rational choice theory. *Decision Support Systems, 48*(4), 635–645.
Li, L., He, W., Xu, L., Ash, I., Anwar, M., & Yuan, X. (2019). Investigating the Impact of cybersecurity policy awareness on employees' cybersecurity behavior. *International Journal of Information Management, 45*, 13–24.
Liu, X., & Varshney, U. (2020). Mobile health: A carrot and stick intervention to improve medication adherence. *Decision Support Systems, 128*, Article 113165.
Luo, X., Andrews, M., Feng, Z., & Phang, C. W. (2014). Mobile Targeting. *Management Science, 60*(7), 1738–1756.
Madden, J. , 2014. Enterprise mobility management. ⟨http://www.brianmadden.com/MDMbook⟩.
Mallat, N., Rossi, M., Tuunainen, V. K., & Öörni, A. (2009). The Impact of use context on mobile services acceptance: The case of mobile ticketing. *Information & Management, 46*(3), 190–195.
Mehmood, M. A., Khan, M. N. A. & Afzal, W. , 2018, November. Automating test data generation for testing context-aware applications. In 2018 IEEE 9th International Conference on Software Engineering and Service Science (ICSESS) (pp. 104–108). IEEE.
Men, L. R., O'Neil, J., & Ewing, M. (2020). Examining the effects of internal social media usage on employee engagement. *Public Relations Review*, Article 101880.
Moran, T. P., & Dourish, P. (2001). Introduction to this special issue on context-aware computing. *Human-Computer Interaction, 16*(2–4), 87–95.
Moschella, D., Neal, D., Opperman, P. & Taylor, J. , 2004 The "consumerization" of information technology. In the Leading-Edge Forum, El Segundo, CA, USA.
Murthy, D., Sudarshan, S., Lee, J. A., Ghosh, C., Shah, P., Xiao, W. J., … Acker, A. (2020). Understanding the meaning of emoji in mobile social payments: Exploring the use of mobile payments as hedonic versus utilitarian through skin tone modified emoji usage. *Big Data & Society, 7*(2), 2053951720949564.
Nah, F. F. H., Siau, K., & Sheng, H. (2005). The value of mobile applications: A utility company study. *Communications of the ACM, 48*(2), 85–90.
Nunamaker, J., Chen, M., & Purdin, T. D. M. (1991). Nunamaker 1990/91 IS systems development in IS research. *Journal of Management Information Systems, 7*(3), 89–106.
Nussbaum, S., Liberman, N., & Trope, Y. (2006). Predicting the near and distant future. *Journal of Experimental Psychology General, 135*, 152–161.
Ortbach, K., Köffer, S., Müller, C. P. F., & Niehaves, B. (2013). How IT consumerization affects the stress level at work: A public sector case study. *In PACIS*, (231).
Ortbach, K., Köffer, S., Bode, M., & Niehaves, B. (2013). Individualization of information system—analyzing antecedents of IT consumerization behavior. *Proceedings of the International Conference on Information System (ICIS), Milano, ITA*, 1–18.
Ortbach, K. , Brockmann, T. , Stieglitz, S. , Drives the adoption of mobile device management in the organization *Proceedings of the Twenty-Second European Conference on an Information System, Tel Aviv, Israel, July 9-14, 2014*, AISeL 2014 1 18.
Osborne, S., & Hammoud, M. S. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management and Technology, 16*(1), 50–67.
Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.
Pranggono, B., & Arabo, A. (2021). COVID-19 pandemic cybersecurity issues. *Internet Technology Letters, 4*(2), Article e247.
Puhakainen, P., & Siponen, M. (2010). Improving employees' compliance through information systems security training: an action research study. *MIS Quarterly*, 757–778.
Ransbotham, S., & Mitra, S. (2009). Choice and chance: a conceptual model of paths to information security compromise. *Information Systems Research, 20*(1), 121–139.
Reyt, J. N., & Wiesenfeld, B. M. (2015). Seeing the forest for the trees: Exploratory learning, mobile technology, and knowledge workers' role integration behaviors. *Academy of Management Journal, 58*(3), 739–762.
Ringle, C. M., Wende, Sven & Becker, J. , 2015. SmartPLS 3. Bönningstedt: SmartPLS. Retrieved from ⟨http://www.smartpls.com⟩.
Rocha Flores, W., Holm, H., Svensson, G., & Ericsson, G. (2014). Using phishing experiments and scenario-based surveys to understand security behaviors in practice. *Information Management & Computer Security, 22*(4), 393–406.
Rothbard, N. P. (2001). Enriching or depleting? ? The dynamics of engagement in work and family roles. *Administrative science quarterly, 46*(4), 655–684.
Rubineau, B., Gounden Rock, A., Reyt, J. N., & Wiesenfeld, B. M. (2021). Are men just insensitive (to job experience in their application decisions)? *Academy of Management Proceedings* (Vol. 2021,(No. 1), 11183. Briarcliff Manor, NY 10510: Academy of Management.
Safa, N. S., Sookhak, M., Von Solms, R., Furnell, S., Ghani, N. A., & Herawan, T. (2015). Information security-conscious care behavior formation in organizations. *Computers & Security, 53*, 65–78.
Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology, 21*, 600–619.
Salo, M., & Frank, L. (2017). User behaviors after critical mobile application incidents: the relationship with situational context. *Information Systems Journal, 27*(1), 5–30.
Samonas, S., Dhillon, G., & Almusharraf, A. (2020). Stakeholder perceptions of information security policy: Analyzing personal constructs. *International, Journal of Information Management, 50*, 144–154.
Sarangi, A., & Sarangi, D. (2016). Creating learning organization: An OD. Practice. *IRA, International Journal of Management & Social Sciences, 3*(3), 398–405.
Schaub, M. (2015). Is there a home advantage in school readiness for young children? Trends in parent engagement in cognitive activities with young children, 1991–2001. *Journal of Early Childhood Research, 13*(1), 47–63.
Schuetz S.W., Lowry P.B., Pienta D.A., Thatcher J.B. (2020) The effectiveness of abstract versus concrete fear appeals in information security., Journal of Management Information Systems. (in press 14-May-2020).
Sharma, S. K., Sharma, H., & Dwivedi, Y. K. (2019). A hybrid SEM-neural network model for predicting determinants of mobile payment services. *Information Systems Management, 36*(3), 243–261.
Siponen, M., Mahmood, M. A., & Pahnila, S. (2014). Employees' adherence to information security policies: An exploratory field study. *Information & Management, 51*(2), 217–224.
Siponen, M. T. (2005). An analysis of the traditional is security approaches implications for research and practice. *European Journal of Information Systems, 14*(3), 303–315.
Steelman, Z. R., Lacity, M., & Sabherwal, R. (2016). Charting your organization's bring-your-own-device voyage. *MIS Quarterly Executive, 15*(2), 85–104.
Stieglitz, S., & Brockmann, T. (2012). Increasing organizational performance by transforming into a mobile enterprise. *MIS Quarterly Executive, 11*(4), 189–204.
Tamilmani, K., Rana, N. P., & Dwivedi, Y. K. (2021). Consumer acceptance and use of information technology: A meta-analytic evaluation of UTAUT2. *Information Systems Frontiers, 23*(4), 987–1005.
Tashakkori, A., and Charles T. (2010), eds. Sage handbook of mixed methods in social & behavioral research. Sage.
Tenenhaus, M., Amato, S., & Esposito Vinzi, V. (2004, June). A global goodness-of-fit index for PLS structural equation modelling. In Proceedings of the XLII SIS scientific meeting (Vol. 1, No. 2, pp. 739-742). 2005.
Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review, 11*(7), 440–463.
Turner P., 2020, The Organisation of Work and Employee Engagement. In: Employee Engagement in Contemporary Organizations. Palgrave Macmillan, Cham.
Vallejo-Correa, P., Monsalve-Pulido, J., & Tabares-Betancur, M. (2021). A systematic mapping review of context-aware analysis and its approach to mobile learning and ubiquitous learning processes. *Computer Science Review, 39*, Article 100335.
Van der Heijden, H., Ogertschnig, M., & van der Gaast, L. (2005). Effects of context relevance and perceived risk on user acceptance of mobile information services. *In ECIS*, 286–296.
Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157–178.
Venkatesh, Viswanath, Susan, A., Brown, & Hillol Bala. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly, 37*(1), 21–54.
Viete, S., & Erdsiek, D. (2020). Mobile information technologies and firm performance: The role of employee autonomy. *Information Economics and Policy, 51*, Article 100863.
Vrontis, D., Thrassou, A., Santoro, G., & Papa, A. (2017). Ambidexterity, external knowledge, and performance in knowledge-intensive firms. *The Journal of Technology Transfer, 42*(2), 374–388.

Wakslak, C. J., & Trope, Y. (2009). Cognitive consequences of affirming the self: The relationship between self-affirmation and object construal. *Journal of Experimental Social Psychology, 45*, 927–932.

Watson, D., Clark, L. A., & Carey, G. (1988). Positive and negative affectivity and their relation to anxiety and depressive disorders. *Journal of Abnormal Psychology, 97*(3), 346.

Weeger, A., Wang, X., Gewald, H., Raisinghani, M., Sanchez, O., Grant, G., & Pittayachawan, S. (2020). Determinants of intention to participate in corporate BYOD-programs: The case of digital natives. *Information Systems Frontiers, 22*(1), 203–219.

Zhonglin, W., Kit-Tai, H., & Marsh, H. W. (2004). Structural equation model testing: Cutoff criteria for the goodness of fit indices and chi-square test. *Acta Psychologica Sinica, 36*(2), 186–194.

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