# Bolstering Creativity Willingness through Digital Task Interdependence, Disruptive and Smart HRM Technologies

ABSTRACT

To sustain competitive advantage, employees must be willing to generate and pursue creative ideas. Sustaining competitive advantage in this way, can put organizational leaders under pressure to ensure smart human resource management technology (SHRMT) is effectively used to drive the exchange of creative ideas in work teams. Though collective creative idea generation could increase task interdependence between teams, we argue that this does not sufficiently guarantee "*willingness*" to exert increased creative behaviour, especially under disruptive technological conditions. Our study employed a cross-sectional (time lag) survey design with 396 respondents from 56 manufacturing organisations in Nigeria. We utilised partial least squares path modelling for data analysis. We investigate how digital task interdependence, disruptive technology and SHRMT act to predict team creativity willingness. Our findings indicate that digital task interdependence, disruptive technology and SHRMT have direct positive effects on team creativity willingness, while disruptive technology attenuates SHRMT's positive effect on team creativity willingness. Nevertheless, digital task interdependence dampens disruptive technology's positive effect on team creativity willingness. Considering the volatility of today's disruptive technology impacts, and by leveraging SHRMT and digital task interdependence tenets, practitioners may be able to better bolster team creativity willingness to sustain competitive advantage.

**Keywords**: Smart human resource management technology; Team creativity willingness; Digital task interdependence; Disruptive Technology.

# Bolstering Creativity Willingness through Digital Task Interdependence and Disruptive & Smart HRM Technologies

## 1. Introduction

Organizations increase their value creation and gain competitive advantage in the marketplace through the constant technological development resulting from the creativity of their human capital (Lages, 2016; Perez & de Pablos, 2003). Consistent with prior research (Adair, 2010; Ferreira, Fernandes & Ferreira, 2019), constant changes in technological advancements and increased digitalisation have continued to impend the pursuit of competitive advantage of diverse manufacturing organisations, thereby increasing uncertainty of their financial future (Bondarouk & Brewster, 2016). Additionally, the drive for competitive advantage in today's digitally evolving business environment has caused leaders of several manufacturing organisations to pursue digital task interdependent strategies that encourage creativity across teams (Fong, Men, Luo & Jia, 2018; Scuotto, Santoro, Bresciani, & Del Giudice, 2017; Sivathanu & Pillai, 2018). Consequently, organisational leaders are compelled to constantly engage in innovative processes for value creation by leveraging several internal dynamic capabilities fundamental to their respective innovative business models (Caputo, Garcia-Perez, Cillo & Giacosa, 2019; Santoro, Bresciani & Papa, 2020). In this context, studies contend that this approach demands effective deployment of human resources management (HRM) systems (Sivathanu & Pillai, 2018).

It is important for HRM practices to be given deeper attention in order to ensure its consistent congruence, adaptation and implementation of constantly evolving technology- a process otherwise, identified as "smart" HRM (Bondarouk & Brewster, 2016; Strohmeier, 2018). Sivathanu and Pillai (2018) further advocate that smart HRM has the potential to contribute towards the constant development of creativity. This is supported by prior debates that espouse on

the positive association between internal HRM processes, creativity and innovation (Del Giudice, Carayannis, Palacios-Marqués, Soto-Acosta, & Meissner, 2018; Ogbeibu, Emelifeonwu, Senadjki, Gaskin, & Kaivo-oja, 2020; Papa, Dezi, Gregori, Mueller & Miglietta, 2018). Smart HRM is thus argued to boost team creativity even in the face of *disruptive technology* (DT) (Bam, De Stobbeleir, & Vlok, 2019; Majumdar, Barneji & Chakrabarti, 2018). However, this does not sufficiently guarantee "*willingness*" of teams to exert such increased creative behaviours, especially under disruptive technological conditions (Chandy & Tellis, 1998; Sousa & Rocha, 2018). Notwithstanding, there is a thesis that by implementing smart HRM, organizations may be able to better mitigate the effects and challenges of constant DT and further increase value creation and sustain their competitive advantage (Christensen, Raynor & McDonald, 2015). It is under this backdrop and rationale then that the conceptual underpinning of *smart HRM technology* (SHRMT) becomes important and interesting (Kupper, Klein & Volckner, 2019; Sardi, Sorano, Garengo, & Ferraris, 2020; Strohmeier, 2018).

Though a collective creative idea generation could provoke an increase in task interdependence between teams, we argue that this does not sufficiently guarantee *willingness* to exert increased creative behaviour, especially under disruptive technological conditions. Our study employed a cross-sectional (time lag) survey design with 396 respondents from 56 manufacturing organisations in Nigeria. We utilised partial least square path modelling (SmartPLS3) for data analysis. We investigate how digital task interdependence, disruptive technology and SHRMT act to predict team creativity willingness. Our findings indicate that digital task interdependence, disruptive technology and SHRMT exemplify direct positive predictions of team creativity willingness, while disruptive technology attenuates SHRMT’s positive prediction of team creativity and innovative willingness. Nevertheless, digital task interdependence dampens

disruptive technology's positive prediction of team creativity willingness. Considering the volatility of today's disruptive technology impacts, and by leveraging SHRMT and digital task interdependence tenets, practitioners may be able to better bolster team creativity willingness to sustain competitive advantage. In the following sections, we review the relevant literature, explain our context, and form hypotheses to be tested, discuss our methods, communicate our findings, link them back to the literature and theory and then conclude with relevant implications.

## 2. Literature review and theoretical framework

*SHRMT* is defined as the digital revolution in HRM tasks which are executed in a manner that depends somewhat on artificial intelligence, cloud computing, big data and automation (Strohmeier, 2018). Sivathanu and Pillai (2018) argue that SHRMT can provoke changes in ways that HRM implements data, software and hardware related practices. Given today's rapid change in technology, overlooking the significance of SHRMT could cause even an established global organization to become less relevant over time and consequently lose its status as a global corporate entity (Bondarouk & Brewster, 2016; Majumdar et al., 2018).

SHRMT has thus become a necessary tool for driving competitive advantage (Bondarouk & Brewster, 2016; Kupper et al., 2019; Sardi et al., 2020). Additionally, as a major organisational resource and dynamic capability, SHRMT has been argued to have the ability to engender teams' creativity in the workplace (Ogbeibu et al., 2020; Parry & Battista, 2019; Strohmeier, 2018) by provoking an integration of creative ideas across diverse teams (Adair, 2010; Amabile, & Pillemer, 2012). Moreover, under disruptive technological conditions, teams can also experience increased pressures as they constantly strive to learn to adapt to market changes (Issa, Isaías, & Kommers, 2016; Sivanthu & Pillai, 2018). Studies thus, argue that this could imply a negative impact on the willingness of teams to continuously exert creativity (Chandy & Tellis, 1998; Strohmeier, 2018).

However, despite the plethora of studies that have investigated SHRMT and team creativity related concepts, extant research continues to overlook the significance of *team creativity willingness* (TCW) (Adair, 2010, Fay, Shipton, West, & Patterson, 2015). There is also a lack of sufficient empirical evidence that investigates how DT is associated with *willingness* of a team to exhibit increased creativity (Chandy & Tellis, 1998; Majumdar et al., 2018). Willingness is a critical precursor to action (Chandy & Tellis, 1998; Dezi, Pisano, Pironti, & Papa, 2018). Therefore, unless we can predict willingness to be creative, we cannot predict actual creative behaviour, and the innovation process relevant for engendering value creation would consequently be impaired when faced with unwilling team members (Chandy & Tellis, 1998; Fay et al. 2015).

*TCW* is conceptualized as the inclination – the push factor (Dawson & Henley, 2012; Pereira, Malik, & Sharma, 2015) – of team members to conceive, produce, improve or advance creative ideas regardless of the nature of feedback or support received (Fay et al. 2015; Korzynsk, Paniagua & Rodriguez-Montemayor, 2019). Debates of Barczak, Lassk and Mulki (2010) and Fay et al. (2015) relate that a team's willingness to demonstrate creative behaviours is a key aspect of an organization's ability to sustain or increase competitive advantage. With constantly increasing DT influencing the degree of creative behaviours among team members, leaders are becoming more concerned that teams may not want to further commit towards creativity and exchange of creative ideas in the short run (Majumdar et al., 2018). Due to DT's dynamic impact, it is unclear how teams may react in terms of continuous exhibition of creative behaviours. DT have been argued to be able to cause increased stress, pressures and work life balance conflict in team members who may have been delegated with the need to exert novel ideas that align with constantly changing technologies (Christensen et al. 2015; Christensen, McDonald, Altman & Palmer, 2018). Such effects have been argued to impede the creativity of team members and

consequently hamper their willingness to demonstrate creative behaviours that could have otherwise fostered innovation processes, business model transformations, and value creation (Alberti-Alhtaybat, Al-Htaybat & Hutaibat, 2019; Bai, Lin, & Li, 2016)

The influence of DT has a wide socio-economic impact in terms of scope and has a propensity to completely alter current innovation processes, provoke transformation of business models, and consequently determine the kind of value to be created (Alberti-Alhtaybat et al., 2019; Majumdar et al., 2018). However, DT implies high rates of technological advancements that have extensive potential and scope of impact on organizational economic value (Kaivo-oja & Lauraeus, 2018). Kassicieh, Kirchhoff, Walsh, and McWhorter (2002) defined *DT* as scientific findings that discontinue or break through existing technology/product capabilities whilst providing a ground for a stream of new competitive innovation trajectory. DT has the capacity to provoke either unruly or promising changes in established and emerging innovations (Sivathanu & Pillai, 2018). DT is argued to have the capability to render some products obsolete, while opening up new business opportunities (Majumdar et al., 2018). DT can thus, incite the need for organisations to conduct and run business in ways that teams in an organisation are willing to learn, work and exhibit increased creativity (a push factor for creativity motivation) (Fay et al., 2015), thus promoting an organisation's competitive advantage (Majumdar et al., 2018; Perez & Pablos, 2003).

Notwithstanding, leaders are certain to face difficult challenges should workers become unwilling to contribute to the conception and development of novel ideas (Chandy & Tellis, 1998; Wang, Liu & Zhu, 2018). Auernhammer and Hall (2013) and Kozbelt Beghetto and Sternberg (2010) relate that the unwillingness (the pull factor) to be creative could be due to several reasons, including avoiding additional tasks, a threat to work-life-balance, a threat to the leader's position, or team members' deliberate rational act to withhold creativity in order to protect their jobs (Fay

et al., 2015). Teams may also exhibit unwillingness to be creative especially if the power distance disposition between them and their leader is high (Anand, Vidyarthi, & Rolnicki, 2018; Hofstede, 2001). Although research related to *willingness* may have yielded meaningful results emanating from distinct cultural contexts and developing economies (Chandy & Tellis, 1998; Auernhammer & Hall, 2013; Kozbelt et al., 2010; Wang, Liu & Zhu, 2018), much is left unexplored.

Moreover, recent extant literature argues that the presence of DT could provoke teams to be more digitally engaged and interdependent (Bam et al., 2019; Chandy & Tellis, 1998). Interdependent teams may consequently need to be efficiently supported by appropriate digital capabilities needed to complete digital tasks, which could bolster an organisation's competitive advantage (Majumdar et al. 2018). Therefore, to achieve competitive advantage, teams across the organisation might need to digitally depend on each other to execute tasks, as doing so promotes the conditions for increased efficiency and effectiveness (Del Giudice & Straub, 2011; Fong et al., 2018; Shaughnessy, 2018). To achieve the above, organizations are digitizing team tasks in the workplace (Fossen and Sorgner, 2019; Kruining, 2017). Building on the work of Subramaniam and Watson (2006), recent research also advocates the importance of motivating teams to employ digital resources to work interdependently, as this aids a cross-fertilization of creative ideas relevant for reinforcing organisational competitive edge (Shaughnessy, 2018).

Consequently, at a team level analysis, *digital task interdependence (DTI)* could be interpreted as the extent to which the coordination and interaction of several teams are required to digitally execute and complete digital tasks (Langfred, 2005; Subramaniam & Watson, 2006). *DTI* is the degree to which anticipated outcomes of a particular team is dependent on the digital contributions and efforts of other teams (Anand et al., 2018). DTI embodies the degree of online interconnectedness of various teams and their entire digital operations in such a way that they are

highly dependent on applications such as cloud computing, internet and or software interactive services to achieve organisational objectives (Shaughnessy, 2018). DTI is the degree to which forms of digital relationships exist between several teams across various departments that are working interdependently towards the execution, management or completion of a digitally enabled task (Bosch-Sijtsema, Ruohomaki & Vartianinen, 2009; Fong et al., 2018; Kruining, 2017). DTI deals with new ways in which teams address, share, exploit, manage and execute digitally enabled tasks via the internet (Adair, 2010; Barczak et al., 2010). Such digital interdependence of teams on tasks accomplishment has been debated to bolster performance and yield substantive value for organisations (Ferreira et al., 2019). As an overarching digital strategy, digital task interdependence of teams is even now more than ever, becoming a needed strategy organisation may leverage in order to adequately exchange creative ideas for business models' transformation, drive innovation processes and engender value creation (Scuotto et al., 2017).

To further deepen insights into how organisations may drive value creation and consequently sustain their competitive advantage, we build upon the theorisations of the VRIO (Hinterhuber, 2013; Knott, 2015). The VRIO (Valuable, Rare, Imperfectly Imitable and Organized to capture value) provides a theoretical undergirding by which organizations evaluate their internal human capital capabilities in order to ascertain if they can sustain competitive advantage in the industry (Lin, Tsai, Wu, & Kiang, 2012; Perez & Pablos, 2003). In the VRIO, there are two categories of resources: tangible and intangible (Hinterhuber, 2013; Knott, 2015). Tangible resources have to do with physical assets of the organization such as machinery, land and computers (Coley, Lindemann, & Wagner, 2012). Intangible resources could range from organizational culture, human behavioural values and intellectual capital, which can be seen in its brand, trademark, or the exclusive training program adopted by the organization in order to enable

team members to execute tasks in a manner that is not easily replicated by other organizations (Chen, Danbolt, & Holland, 2014; Lee, Lin, & Lin, 2017).

Although the VRIO assumptions address both tangible and intangible resources and have yielded meaningful results in extant research, the VRIO has faced certain limitations in its scope due to its initial conceptualizations and definitions (Wu, 2016). Specifically, the VRIO overlooked the capability of SHRMT which, by its conceptualization (Lee et al., 2017; Strohmeier, 2018), encompasses both tangible and intangible resources and is, therefore, rare, unique, and valuable to organizations. SHRMT incorporates data and software (intangible) and hardware (tangible), which help to provide insights into how organizations might be able to effectively utilize its internal human capital capabilities, in the attempt to sustain competitive advantage (Dodd, 2016; Lee et al., 2017). However, to date, VRIO research has overlooked the importance of assessing the *willingness* (intangible) of organizations' human capital to aid in sustaining competitive advantage through creativity (Jugdev, Mathur, & Fung, 2019), as well as the context of DT. Such investigations, provided herein, could help advance prior insights to inform organizational leaders how to inspire team level creativity in the context of DT (Jugdev, Mathur, & Fung, 2019; Majumdar et al., 2018).

In this study, we therefore, aim to advance prior theoretical insights and further contribute to the literature by achieving the following objectives. Given recent technological and rapid digital disruptions influencing organisations and their innovative business models (Bondarouk & Brewster, 2016; Papa, Dezi, Gregori, Mueller, & Miglietta, 2018), our primary objective is to investigate how digitally interdependent teams that are engaged in a digital task affect team member's willingness to demonstrate creativity. In doing so, we also seek to investigate how DT influences the *willingness* of team members to demonstrate creativity. We further examine how

SHRMT acts to predict the *willingness* of team members to exhibit increased creativity. We also seek to further contribute to the literature by investigating what predictive role DT plays on the relationship between SHRMT and the *willingness* of team members to demonstrate creativity. Additionally, we attempt to investigate how digitally interdependent teams that are engaged in a digital task act to hamper or reinforce the association of DT and the *willingness* of team members to demonstrate creativity. In order to achieve these objectives, we probe prior literature related to our objectives, develop and further test our hypotheses which are exemplified in the subsequent sections. As part of our aims, we seek to advance prior insights by empirically examining how SHRMT, DT and DTI affects the willingness of a team to exhibit creativity in an emerging economy, such as Nigeria, and specifically within the manufacturing industry where the effects of DT are particularly salient (Adegbile & Sarpong, 2018; Kolade, Obembe, & Salia, 2019).

Congruently, to contribute to practically and empirically unresolved debates associated with the aforementioned aims, we argue that this study is of particular importance for several reasons. First, despite prior probable influences and associations advocated between SHRMT, DT, DTI and TCW, several questions are left unaddressed (Bam et al., 2019; Majumdar, Barneji & Chakrabarti, 2018). For example, it is unclear from prior debates how SHRMT can aid to predict and further bolster the "willingness" of teams to employ creative behaviours, especially under disruptive technological conditions (Chandy & Tellis, 1998; Sousa & Rocha, 2018). Considering the importance of having a willing team exert increased creativity amid today's DT volatility, insights which inform how DT acts to hamper or bolster creativity willingness is left unexplored (Chandy & Tellis, 1998; Majumdar et al., 2018). Second, how DTI may be leveraged to ensure the innovation process is established on a timely business model that creates value which fosters competitive advantage is yet to be given apt empirical consideration (Fong et al., 2018; Kruining,

2017). As radical impacts of DT continue to permeate today's digitalized global economy, the relevance of DTI on the innovation process is now, more than ever, on the rise (Ferreira et al., 2019; Bresciani, Ferraris, & Del Giudice, 2018). However, scant evidence exists that mirrors how DTI may drive TCW to transform business models in ways that are fundamental to today's dynamic digital landscape. Though prior evidence directly or implicitly associated with the "willingness" concept may have borne meaningful results across distinct cultural contexts and developing economies (Chandy & Tellis, 1998; Auernhammer & Hall, 2013; Kozbelt et al., 2010; Wang, Liu & Zhu, 2018), the specific concept of "creativity willingness", particularly from a team level, has so far scarcely received attention.

## 3. Context of the study

Nigeria, once ranked as one of the most creative countries in Africa in the 1960s, has recently been reported to be grossly underperforming in terms of its capabilities to foster creativity (Ogbeibu et al., 2018). This is further supported by the Global Creativity Index, in which Nigeria is not even listed among the top 139 creative countries in the world (Florida, Mellander, & King, 2015). Ferreria et al. (2018) and Ogbeibu et al. (2018) advocate that creativity is a key component for advancing the implementations of meaningful innovative outcomes, and the manufacturing industry is a platform and a major catalyst. However, in 2015, Nigeria scored a 29% in the creativity index, far below the 78% it had before the 1980s (Ogbeibu et al., 2018). The desire for increased competiveness in the global marketplace has also provoked organizations, even in developing countries such as Nigeria, to adopt SHRMT that firmly support their human capital development (Olusegun & Olusola, 2016; Sulaiman, Bala, Tijani, Waziri, & Maji, 2015). However, lacking is the sufficient availability and efficient deployment of SHRMT necessary to

boost and sustain competitive advantage in several manufacturing organisations in Nigeria (Ismail, Majid, Jibrin-Bida & Joarder, 2019; Oruh, Nwagbara, Mordi, & Mushfiqur, 2018).

Studies further support that insufficient availability and deployment of SHRMT can also spur unwillingness to exert creativity in the workplace (Kolade et al., 2019; Uwaifo & Uddiin, 2009). It is therefore, important to not overlook the significance of SHRMT and its association to TCW. Additionally, the decline of creativity in Nigeria is also attributed to the fact that several of its manufacturing organisations lack the capability to keep up with the rate of constant DT (Adegbile & Sarpong, 2018; Ogbeibu et al., 2018). Due to constant rise of DT, and the need for workplace digitalization, SHRMT and DTI deployment must be given sufficient attention in the Nigerian manufacturing industry in order to sustain (or reclaim) competitive advantage (Adegbile & Sarpong, 2018; Uwaifo & Uddiin, 2009).

Similarly, recent insights from Fossen and Sorgner (2019) relates that DTI further includes tasks that involve the use of the latest tech applications such as cloud based systems and software services which allows for extensive data sharing among teams. Studies show that constant technological advancements have also provoked organisational leaders to devise strategies that digitally combine and integrate tangible and intangible resources (Majumdar et al., 2018; Shaughnessy, 2018). Kruining (2017) as well as Shaughnessy (2018) articulate that the digitalization of tasks across teams fosters organisational productivity, significantly advances prior creative ideologies, and boosts proactive decision making processes in organizations. Consequently, team members across various teams may feel more *willing* (the pull factor) to exchange creative ideas using digital platforms for collective digital task execution which may help sustain competitive advantage (Christensen et al., 2015; Sicotte, De Serres, Delerue and Ménard, 2019).

## 4. Hypothesis development

### 4.*1.* *Smart human resource management technology (SHRMT) and team creativity willingness (TCW).*

The advent of globalization and the constant quest by organizations to gain competitive advantage in the market place has demanded that strategies for HRM practices depart from its traditional tenets to the implementation of recent SHRMT in the work environment (Bresciani, Ferraris & Del Giudice, 2018; Sivathanu, & Pillai, 2018; Strohmeier, 2018). SHRMT is geared towards leveraging emerging data, software and hardware to foster creativity initiatives among teams (Bondarouk & Brewster, 2016; Ferraris, Erhardt & Bresciani, 2019). SHRMT has been shown to motivate team members to become more willing to exert creativity (Anderson, Potočnik, & Zhou, 2014; Krunining, 2017). Organizational use of SHRMT thus has a positive association with the willingness of teams to exert creativity and Cirella, Radaelli and Shani (2014) assert that this may lead to better organizational performance.

SHRMT provides the platform in which team members can exchange creative ideas and consequently act as intellectual support systems for the completion of digital tasks of other interdependent teams (Fong et al., 2002). Sicotte, De Serres, Delerue and Ménard (2019) and Majundar and Chakrabarti (2018) further support that this can also engender increased willingness of team members to efficiently execute several digital tasks. Moreover, by leveraging the growing relevance and benefits of big data, SHRMT can also engender quick identification of creative team members and their probable subsequent placements across various teams (Fay et al., 2015). Cirella et al. (2014) argued that organizational leaders might consequently be able to strengthen and further catalyse the willingness of team members to synergize and develop creative ideas of other teams in order to collectively foster organizational competitive advantage (Bam, De Stobbeleir &

Vlok, 2019). Therefore, willingness of teams to be creative in an organization is stimulated by teams embracing established and emerging SHRMT, as expertise is gained and transferred from one team to another (Adair, 2010). Extant debates support that this can provoke the willingness of team members to exert increased creativity within and across other teams (Adair, 2010; Barczak et al., 2010).

> **H1:** Organizational use of smart human resource management technology positively predicts team creativity willingness.

*4.2. Disruptive technology (DT) and TCW*

Given the constant rise of DT via its several capabilities (for example, artificial intelligence, internet of things, cloud computing, robotics and others), team members' willingness may be dampened in light of perceptions of their jobs being plausibly replaced by emerging technology (Barczak et al., 2010; Issa et al., 2016). Studies further contend that the organizational demands that comes along with DT could increase stress and pressure of team members, and thus, reduce their productivity (Fulcheri, Barzega, Maina, Novara, & Ravizza, 1995; Majundar et al., 2018). However, DT is debated to have the ability to incite negative or positive team members' reactions to proven and emergent technology and this could be partly exemplified by their (un)willingness to embrace emerging technology (Christensen, et al., 2018). Consistent with the works of Christensen et al. (2015) and Fay et al. (2015), Sousa and Rocha (2018) argue that in order to survive the blows of DT, team members ought to acquire newer technology related skills and continuously develop their capabilities.

Due to the drive of curiosity associated with DT, team members may become more inquisitive and willing to exert creativity (Bai et al., 2016; Fong, 2019). Likewise, ambitious team

members could be inspired to understand and exploit the DT changes and demands of new knowledge adoption, adaptation and implementation in order to increase their relevance in the organisation (Barczak et al., 2010; Christensen et al., 2018). Though DT can foster increased pressure in team members, debates of extant research indicate that increased pressure can also provide the push needed for invaluable creativity (Bam et al., 2019; Cirella et al., 2014; Lages, 2016). Equally, as DT can be perceived as a lever that intensifies team members' responsibilities and engagement, this could inspire more willingness to exert creativity (Bam et al., 2019).

**H2:** Disruptive technology positively predicts team creativity willingness.

*4.3. Digital task interdependence (DTI) and TCW*

Extant research suggests that there may be a negative relationship between task interdependence and creativity when there is a lack of effective exchange of creative ideas (Cerne, Nestad, & Skervalaj, 2014; Fong et al., 2018). However, there is insufficient empirical evidence to establish this relationship (Fong et al., 2018). Being able to execute tasks via digital platforms, teams can enjoy increased productivity, increased support from other teams, increased task execution speed and increased team member's engagement that may consequently provoke active participation in creativity initiatives (Korzynsk et al., 2019; Parry & Battista, 2019).

It can therefore be inferred that DTI might be positively associated with team willingness to be creative, as it gives room for more efficient exchange of creative ideas (Fong et al., 2018). Bai et al. (2016) and Ogbeibu et al. (2018) and Madsen, Mosakowski and Zaheer (2002) further supports this notion by emphasising that there is a positive connection between creative ideas exchange and creativity amongst team members. Additionally, Fong et al. (2018) and Bachrach, Powell, Bendoly and Richey (2006) found that DTI provides an avenue for members in various

teams to effectively communicate in order to competently execute various tasks in an organization. Staples and Webster (2008) and Hon and Chan (2012) further advocated that the lack of creative ideas exchanged across teams could less likely occur when digital execution of tasks are interdependent.

**H3:** Digital task interdependence positively predicts team creativity willingness.

*4.4. The moderating effect of DT on the relationship between SHRMT and TCW.*

Extant literature argues that due to constant increase in changing technology, SHRMT may constantly need to be changed, thereby overburdening teams who need to constantly learn and adopt new technologies (Strohmeier, 2018). Studies argue that the overburdening of team members has a tendency to increase pressure and subsequently cause less productivity which may also be due to increased use of "learning time" rather than "actual working" time (Majundar et al., 2018). Whilst there may be few prior empirical evidence on DT and TCW, constant learning cycle demands from SHRMT could provoke a more challenging experience in work-life balance of team members who may often be required to learn new skills in the training room (Strohmeier, 2018). Prior research supports that this might consequently hamper team & De Pater, 2011).

Nevertheless, the impact of DT on SHRMT capabilities could also present opportunities for team members to develop a learning culture and increase their need to become more digitally engaged with other teams (Ismail, Iqbal, & Nasr, 2019; Strohmeier, 2018). Prior research relates that giving team members opportunities and sufficient support to become more actively engaged in creativity initiatives could generate a positive outcome that may partly involve an increase in their willingness to exhibit creativity (Chandy & Tellis, 1998; Ismail, Iqbal, & Nasr, 2019). Furthermore, the plausible roles of DT in view of prior research yet calls for further empirical

investigations within the context of SHRMT and TCW (Strohmeier, 2018; Van Vianen, Dalhoeven, & De Pater, 2011). This might also be due to inconclusive and insufficient empirical evidence of extant research (Kaivo-oja, 2018; Majundar et al., 2018).

> **H4**: Disruptive technology moderates the positive relationship between smart human resource management technology and team creativity willingness.

*4.5. The moderating effect of DTI on the relationship between DT and TCW*

There is yet a growing debate encompassing the negative or positive roles of DT (Christensen et al., 2018). Notwithstanding, in light of extant scholarly works, it is yet unclear as to how DT might impact team creativity willingness when several creative teams become more digitally interdependent (Adair, 2010; Bam et al., 2019; Majumdar et al., 2018). Consequently, when teams effectively embrace DTI, it could help combat adverse impacts of DT on TWC, or otherwise foster positive impacts of DT on TWC (Fay et al., 2015; Fong et al., 2018; Majumdar et al., 2018). To effectively deploy the tenets of DTI, it might be necessary for organizational leaders to ensure that team members across several teams are consistently inspired to upskill their digital know-how, as this may be a necessary drive that might help sustain competitive advantage (Strohmeier, 2018). With an integration of diverse intangible human capital resources from various teams, effectively deploying the tenets of DTI could give organizational leaders a wider range of access to exploit and obtain creative ideas across teams (Christensen et al., 2018; Sicotte et al., 2019).

DTI could also create wider platforms in which members of diverse teams can become actively engaged and inspired to be more willing to exchange creative ideas (Barczak et al., 2010; Cirella et al., 2014). When teams in various departments are digitally interacting with each other, it could present a wider spectrum of opportunities for leveraging individual skills and knowledge

(Bam et al., 2019; Fong et al., 2018). Leaders can thus coordinate creative ideas across teams to reflect a major intangible resource for combatting probable negative impacts of DT (Bondarouk & Brewster, 2016; Christensen et al., 2015). While there are yet few empirical evidences about the plausible effects of DTI, prior research supports that by cross-fertilizing creative ideas via digital platforms, teams may become better equipped to handle the negative effects of DT (Fong et al., 2018). Several debates of prior literature have deepened theoretical insights that have advanced extant knowledge of DTI. Nevertheless, there is further need to empirically determine the effects that might ensue from deploying the tenets of DTI under the growing uncertainty associated with DT's possible impacts (Fong et al., 2018).

**H5**: Digital task interdependence positively moderates the negative relationship between Disruptive technology and team creativity willingness.

- INSERT FIGURE 1 ABOUT HERE -

## 5. Methodology, analysis, and results

### *5.1. Sample and data collection procedure*

We collected data from 56 distinct manufacturing organisations. Consistent with extant research, team members and leaders were from HRM, information technology (IT) and research and development (R&D) departments (Ogbeibu et al., 2018). In this study, leaders managed groups of 2 to 4 interdependent teams and each team ranged from 4 to 8 (average = 5.2) team members. Congruent with extant research (Ogbeibu et al., 2018; Usman & Amran, 2015), the Nigerian Stock Exchange has been used to identify the 56 manufacturing organisations. We used the Krejcie and Morgan (1970) determinant of sample size to aid in achieving stratified proportionate sampling and adequate sample size. A total of 424 questionnaires were distributed, and 396 completed copies were returned and considered appropriate for further analysis. This indicates an overall

response rate of 93%. Moreover, a total of 92 teams and 22 leaders were each given a questionnaire and 89 teams' responses (97% team response rate) were returned and considered appropriate for subsequent analysis. Twenty team leaders properly responded to our distributed questionnaire. Total respondents ranged from 26 to 59 years old and consisted of 41.9% female team leaders. The R&D departments consisted of 35.6% respondents compared to 33.8% and 30.6% of respondents from HRM and IT departments respectively. Regarding education, 8.6% had a PhD, 33.5% held a master's degree, 38% had undergraduate degrees, and 19.9% had a diploma/equivalent.

Before data collection, five experts and researchers evaluated our questionnaire items. We recruited seven research assistants (RAs) who were trained for data collection purposes. Congruent with extant literature, 50 respondents were involved in our pilot study and SPSS was employed for data analysis and deletion of poorly loaded items as per the recommendations of prior research (Hair, William, Barry, & Rolph, 2010). For actual data collection, the RAs visited the headquarters of the manufacturing organisations which were located in seven dissimilar Nigerian states. These states typify the centre of manufacturing organisations in Nigeria (Ogbeibu et al., 2018). The RAs established and maintained contact with the manufacturing organisations via direct visit to their headquarters, emails, and telephone calls. The RAs contacted human resource (HR) managers and participants were instructed to ensure their completed questionnaires were sealed and returned in their respective envelopes. RAs obtained submitted envelopes from respective HR managers for further data collation purposes. The total data collection period was thirteen months and two weeks. Congruent with Stone-Romero and Rosopa (2008) on prediction studies, we ensured RAs distributed questionnaires for DT and TCW, twenty-four weeks after the distribution of SHRMT and DTI questionnaires. This was necessary to help team members have clear cognizance of plausible disruptive technological trends that might have occurred. Likewise, this time lag

approach helped to more closely identify variations of probable disruptive technological related changes that may be occurring in their markets and the effects of these changes on organisational or team level anticipated outcomes with respect to defined aims and objectives.

Questionnaires for TCW were distributed three weeks after the distribution of DT questionnaires. Overall, this approach allowed for improved validity of inferences on exogenous constructs' predictive criterion and further helped to reduce the likelihood of common method bias (CMB) (Podsakoff, MacKenzie, & Podsakoff, 2012; Stone-Romero & Rosopa, 2008). Additionally, we mitigated common source bias (CSB) concerns by ensuring team leaders assessed the TCW measures of their team members and themselves, while other exogenous constructs were assessed by leaders and team members. Further, consistent with the recommendation of Kock (2015) on collinearity assessment, the variance inflation factor (VIF) result of 1.881 (see Table 1) is far below the threshold of 3.3. We can therefore, conclude that CMB and CSB are not major issues in our study (Kock, 2015; Stone-Romero & Rosopa, 2008).

- INSERT TABLE 2 ABOUT HERE -

*5.2. Measures*

Distributed questionnaires were comprised of 7-point Likert scales which ranged from strongly disagree to strongly agree (see appendix for full measurement items of DTI, SHRMT, DT and TCW). Several of the measures employed in this study were directly adapted from prior research with relevant slight adjustments to much closely identify with our study's context, aims and constructs investigated. To measure DTI, seven items directly based on Langfred's (2005) measures of task interdependence were adapted to a digital task context. For example, item 5 from Langfred (2005) was "Most of my work activities are affected by the activities of other people on the team", and our adaptation for DTI 5 was "Most of my digital tasks are affected by the activities

of team members from other teams". Similar in rational to other subsequent constructs, this was necessary to help us precisely capture perceptions relating to digital interdependence of teams, and their completion of digital tasks interdependently. Cronbach's Alpha is 0.88 (Langfred, 2005). To measure DT, six items were self-developed based on extant research (Kaivo-oja & Lauraeus, 2018; Tellis, 2006). Sample items include "there has been frequent occurrence of displacements of one or more of our organisation's dominant technology(s) by an emerging technology(s)" and "the nature of work in our organisation changes often by the relatively rapid growth of new technology(s)".

We measured SHRMT via four items which were directly based on Strohmeier (2018). We made only minor context adaptations where needed. Sample items include "human resource management (HRM) employs smart things (sensors and actuator) and the internet of things for ascertaining human resource data" and "human resource (HR) software interacts with hardware and smart things which provides services in near or real-time". Finally, given the sparseness of empirical research that has precisely examined TCW, we used six items for its measure based directly on 'willingness to take risks' from Dewett (2006). All edits to the wording were necessary context adaptations. An example is "this team member is willing to think of a creative idea despite the possibility of potential rejection" and "this team member is willing to share creative ideas with work colleagues despite their evaluations of it". Consistent with the debates of extant research (Amabile & Mueller, 2008; Chandy & Tellis, 1998; Melkonian, Monin, & Noorderhaven., 2011; Van Vianen et al., 2011) that have argued concerning probable factors that may influence *willingness*, we thus, controlled for resource availability, task satisfaction, and work environment.

*5.3. Analysis*

Given that the scope of our study is prediction-oriented, we employed partial least squares structural equation modelling (PLS-SEM) for data analysis. This is due to the model complexity and soft distributional assumptions, interpretation ease, specification of model, and exploratory nature of our study. Constructs examined in our study are yet relatively and empirically underdeveloped, as several prior studies have mainly focused on advancing their respective theoretical and or conceptual underpinnings. Thus, studies (Hair, Hult, Ringle, & Sarstedt, 2014; Hair, Risher, Sarstedt, & Ringle, 2019; Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016) recommend the use of PLS-SEM for new and relatively underdeveloped constructs of investigations as this is also suitable for theory development. PLS-SEM has raised increasing awareness for its capability to simultaneously tackle multiple dependency relationships with higher statistical efficiency (Ringle, Sarstedt, Mitchell, & Gudergan, 2018). Furthermore, in light of our study's causal-predictive nature, PLS-SEM is recommended compared to alternative co-variance-based SEM approaches which is tailored towards theory testing (Lowry & Gaskin, 2014; Sarstedt et al., 2016). SmartPLS3 has consequently been employed for data analysis.

*5.4. Results*

Results of standard deviation (SD) ranges from 1.3 to 1.7 and mean results of 5.1 to 5.7 indicate no substantial dissimilarity among the examined constructs. Additionally, values of skewness (-0.8 to -1.6) and kurtosis (0.3 to 1.8) suggests distribution normality (Hair et al., 2010). Values of Figure 2, indicate that all measurement items surpass their minimum factor loading requirement of 0.7, and thereby, contribute substantially to their individual constructs (Ringle et al., 2018).

- INSERT FIGURE 2 AND TABLE 2 ABOUT HERE -

Values of CR and Rho_A in Table 1 suggest internal reliability and consistency of all examined constructs, and values of average variance extracted (AVE) confirms convergent validity (Hair et al., 2019). Results of the heterotrait-monotrait ratio (HTMT) as highlighted in Table 2 indicate discriminant validity of examined constructs (Ogbeibu et al., 2018). Additionally, concerns for multicollinearity is evidenced to not be a problem in our study (See Table 1), since all VIF values are shown to be less than acceptable maximum of 5 (Hair et al., 2019). In view of model fitness values, it is important to note that Hair et al. (2019) firmly advocate that using model fitness indices in PLS-SEM should be done with extreme caution. This is due to the yet incomprehensive assessments of the measures, thresholds encouraged recently are very tentative, and unlike in covariance-based SEM, the concept of model fit in PLS-SEM is of questionable value in general. Therefore, Ringle et al. (2018) and Sarstedt, Ringle, and Hair (2017) and Shmueli, et al. (2019) advocate that PLS-SEM estimations should uphold a causal-predictive nature which should rely on the model's predictive accuracy, relevance and power ($Q^2$, $\beta$, $R^2$ *and RMSE or MAE*).

We consequently estimate the structural model using SmartPLS bootstrapping preference and overall model's statistical significance test of 5000 subsamples. The values of $R^2$ for TCW ($R^2$ = 0.497, $t$ = 9.016, $p$=.000) suggest relatively moderate degrees of variance explained in TCW (Ringle et al., 2018). Consistent with recent scholarly recommendations (Hair et al., 2019; Ringle et al., 2018; Shmueli et al., 2019), inner model values of Figure 3 show that DT exerts the most significant positive effect on TCW, followed by DTI, and then SHRMT. The results provide significant support for **H1, H2** and **H3**. Effect sizes ($f^2$) for DTI (.122), DT (.116), and SHRMT (.102) indicate close to medium effects (Aiken & West, 1991). Figure 3 also indicates that resource

availability, work environment, and task satisfaction are not significant predictors of TCW, and thus, have no effect in our study.

- INSERT FIGURE 3 ABOUT HERE -

Figures 4 and 5 visualize moderation analysis results which reflect disordinal interactions. Given that our study examined two distinct interaction effects, we followed the recommendations of Hair, Ringle, and Sarstedt (2013), which advocated that when estimating multiple interactions in a specific structural model, researchers should estimate one moderator variable at a time. In other words, estimation of the direct effects should first be initiated, followed by a subsequent analysis of one moderator which includes their product term and interaction effect. This is to mitigate against confounding effects that may hamper achievement of consistent estimates of main and simple effects. Therefore, consistent with results of Figure 4, moderation analysis result show that DT weakens ($\beta$ = -0.100, $t$ = 3.672, $p$=0.000) the positive relationship between SHRMT and TCW. DT moderating $f^2$ of 0.027, suggests a small effect. This consequently supports the **H4** prior theorisation. In Figure 5, the moderation analysis indicates that DTI weakens ($\beta$ = -0.130, $t$ = 4.742, $p$=0.000) the positive relationship between DT and TCW. DTI's moderating $f^2$ of 0.048, shows a small effect. Although, this result is yet significant, it however is unexpected and thus, doesn't support our **H5** hypothesis. Moreover, we have exemplified a much simplified interpretation of our findings in Table 3.

- INSERT FIGURES 4 AND 5 ABOUT HERE -

In light of our model's predictive relevance, the $Q^2$ of TCW (0.284) and results of $Q^2$ effect sizes in Table 1, suggests sufficiently moderate predictive relevance and support for predictive accuracy (Shmueli et al., 2019). Further, to examine our model's out-of-sample predictive power,

the hold-out sample data is estimated using the PLSPredict procedure of 10 folds and 10 replications. This is to foster a comparative analysis of the PLS-SEM RMSE values with those of a naïve linear benchmark identified as the linear model (LM) RMSE found in the PLSpredict output. Moreover, as a rule of thumb, Shmueli et al. (2019) advocate that lesser values (*lower prediction errors)* for all measurement indicators of PLS-SEM RMSE (or MAE) compared to all those of the LM RMSE, indicates high predictive power. While lesser values for a majority of measurement indicators of PLS-SEM RMSE compared to those of the LM RMSE indicates medium predictive power, lesser values for a minority of measurement indicators of PLS-SEM RMSE compared to those of the LM RMSE indicates minor predictive power. Additionally, higher values for all the measurement indicators of LM RMSE compared to those of the PLS-SEM RMSE (or the MAE), indicate a lack of predictive power for the model. In comparing the results of the PLS-SEM RMSE with those of the LM RMSE, we find that PLS-SEM RMSE values for all TCW measurement indicators are less than those of LM RMSE, thus indicating *lower prediction errors* in PLS-SEM RMSE results (See Table 1). This therefore, offers substantial support for our model's high predictive power.

## 6. Discussion and conclusion

Consistent with the debate of prior literature (Anderson et al., 2014; Fong, 2019; Krunining, 2017; Majundar et al., 2018; Sivathanu, & Pillai, 2018; Strohmeier, 2018), our study exemplifies that SHRMT, DT, and DTI are positive predictors of TCW. Consequently, they act as 'push' factors (Pereira et al., 2015) that can engender TCW. More especially, Figure 2 shows that DTI is evidenced to have the strongest positive prediction of TCW, but is less significant compared to DT which exerts the most significant positive prediction of TCW as exemplified in Figure 3. This implies that though the coefficient on DTI is larger, its significance is lower than that of DT. Thus,

this further supports the discourse of extant research (Kaivo-oja, 2015; Sivathanu & Pillai, 2018) that have discoursed on the importance and significance of DT and its capability of influencing organisational processes and anticipated outcomes. Likewise, by demonstrating that DT has positive association with TCW, we show evidence that contradicts prior debate of extant scholarly works that show DT as a negative predictor (Fan & Suh, 2014; Majumdar et al., 2018; Tellis, 2006).

We also provide evidence that shows that DTI does have a positive relationship with TCW. This means that engaging in the co-ordination of digital tasks and their implementations across diverse creative teams who are digitally interdependent does have a positive effect on the willingness of teams to exert increased creativity. Consequently, we contribute to the findings of earlier research that have advanced knowledge of the DTI (Fong et al., 2018; Langfred, 2005; Shaughnessy, 2018; Vidyarthi et al., 2014). Moreover, given the rising need for the use of smart systems, internet of things, big data and cloud computing in today's technologically evolving workplace, HRM's effective leveraging and implementation of related emerging technologies could provoke teams to become more willing to exert creativity (Ferraris et al., 2019; Issa et al., 2016; Strohmeier, 2018). Thus, our evidence that SHRMT has a positive relationship with TCW provides additional support to the contentions highlighted in recent discourses on SHRMT (Krunining, 2017; Majundar et al., 2018; Strohmeier, 2018).

Our findings indicate that DT has a dampening capability which weakens the positive relationship between SHRMT and TCW. DT thus, represent a 'pull' factor for TCW in that it has the capability to pull team members from being willing to exert increased creativity. We consequently, provide evidence that further supports extant research (Fan & Suh, 2014; Majumdar et al., 2018; Tellis, 2006) that has discoursed on the negative impact of DT. Due to constant

evolving innovativeness, prior established technologies employed to foster HRM operations may quickly become redundant or obsolete (Caputo et al., 2019; Fan & Suh, 2014). Hence, the willingness of creative teams to become more actively engaged in creativity initiatives may face a steady decline as they continue to develop less interest to utilise technologies that might mainly contribute less to their creative efforts to sustain organisational competitive advantage (Majundar et al., 2018; Strohmeier, 2018). Notwithstanding, we find that DTI exerts a stifling effect on the otherwise positive relationship between DT and TCW. DTI thus, demonstrates a 'pull' effect on TCW in that team members show unwillingness to exert increased creativity. This result is unexpected and might have ensued as a consequence of several other factors. Similar to the debates of extant research (Fong et al., 2018; Langfred, 2005; Shaughnessy, 2018; Vidyarthi et al., 2014), a plausible reason for this is closely linked to two factors known as team autonomy and leader power distance disposition. This could be a probable fact, given the literature is replete with evidence of high power distance and concerns of low team autonomy in the Nigerian manufacturing organisations (Hofstede & McCrae, 2004; Ogbeibu et al., 2018).

Wang and Cheng (2010) and Li, Li, and Chen (2018) advocate that team autonomy mirrors the degree to which a team exercises considerable freedom and discretion. Teams' level of creativity may also be contingent on the degree of autonomy their leaders have apportioned to them as individual teams (Anand et al., 2018; Li et al., 2018). It is important to note that the interdependent nature of several teams therefore, requires a high level of interaction and coordination of distinct team members working digitally and interdependently across distinct teams (Langfred, 2005). Consequently, studies (Kozlowski, Watola, Jensen, Kim, & Botero, 2009; Langfred, 2005) contend that there is usually less room for autonomy, which leads to a decline in the degree of individual teams' autonomy. Our study thus, harmonises the debates of extant

research that emphasises that less team autonomy has a tendency of hampering best creative efforts (Langfred, 2005; Li et al., 2018; Ogbeibu et al., 2018). Conversely, a strong level of leadership is required to drive the distinct and often competitive creative ideas emanating from several interdependent teams (Anand et al., 2018). This is supported by Vidyarthi et al. (2014) who asserted that higher task interdependence mirrors ambiguous and complex tasks which require greater levels of teams' coordination by leaders. This might present a major challenge for leaders with a high power distance disposition (Anand et al., 2018; Emelifeonwu & Valk, 2019). Consistent with prior studies (Berson, Halevy, Shamir, & Erez, 2015; Wang & Howell, 2010), Vidyarthi et al. (2014) lament that leaders with high power distance disposition unintentionally attenuate the social proximity that would have otherwise helped them to be perceived as approachable by teams who may have invaluable creative ideas. Studies (Ogbeibu et al., 2018; Oruh et al., 2018) lament that leaders with high power distance disposition in Nigeria, inadvertently strenghten psychological distance with teams, which consequently hampers effective creative ideas exchange. Therefore, while teams find leaders unapproachable, the collective purpose of combatting and addressing the plausible impacts of DT becomes stiffled and their willingness to exert increased creativity may subsequently decline. Furthermore, at the respective levels of moderating effects of DT and DTI, both exhibit the 'pull' effects, compared to their direct predictions of TCW which respectively exemplify DT, DTI and SHRMT as 'push' factors.

### *6.1. Theoretical implications*

Although the HRM, task interdependence and creativity literature is brimming with research that might have examined their associations over the years, only a handful of studies have attempted to advance contemporary HRM and task interdependence to more closely fit into *smart* things, digitalization and technology. As emerging topics, SHRMT and DT have mostly received

theoretical and conceptual attention, and much is yet to be done to advance their collective undergirding in order to more closely capture invaluable resources organisations need to sustain competitive advantage that is relevant for mitigating change and uncertainty. Likewise, not much has been done to extend prior team level creativity conceptualisations, especially from the lens of investigating the willingness to be creative. Consequently, the literature on how SHRMT, DT and DTI can be collectively deployed to drive team level creativity willingness is yet sparse. To the best of our knowledge, this is the first study that has empirically investigated the relationship between SHRMT and TCW, whilst simultaneously taking into account the predictive powers and contextualization of DT and DTI.

Building upon the theoretical undergirding of VRIO, we extend prior insights by empirically investigating emerging concepts that previously have mostly received conceptual and theoretical attention in prior research. We deepen insights into a novel stream of emerging conceptualisations by which organisations may further articulate and drive their tangible and intangible resources towards achieving a sustainable competitive advantage. We contribute to the debates of extant research that advocate how organisations might strengthen and sustain their competitive advantage. We do this by demonstrating how SHRMT (a push factor)—which is a valuable and rare organisational resource—can help to engender another invaluable and intangible resource: the willingness of teams to exert increased creativity.

Likewise, we show how DTI can be deployed as a valuable human capital and digital resource by which organisational leaders may directly drive creativity initiatives. Insights from our findings exemplify DTI's relevance and capability for sustaining competitive advantage. We provide evidence that extends knowledge on the value of DTI and how DTI acts as a push factor for the willingness of team members' creativity effort. We further provide novel empirical

evidence that deepens insights into how DTI acts as a pull factor that dampens the positive influence of DT on TCW. We extend prior understandings by taking a valuable environmental factor—DT—into consideration. We thus exemplify how DT, as an external factor, directly and positively acts as push factor that provokes teams to be more willing to exert creativity. We also contribute to earlier theoretical underpinning by further empirically showing how the capabilities of DT and DTI can respectively mirror negative (pull factors) and positive (push factors) impacts in the organisation. Consequently, we provide empirical evidence that demonstrates that DT does not only have a direct positive relationship with TCW but it also acts as a pull factor that attenuates the positive association between SHRMT and TCW. We thus incite substantial discourse for subsequent managerial implications.

*6.2 Managerial implications*

Given the rapid and constant changes of technological advancements in today's digitally evolving business environment, it is important for leaders and policymakers to not overlook the distinct roles and predictive powers of DT, DTI and SHRMT on TCW. We furnish leaders and practitioners with supportive evidence for instituting regulations needed to drive consistent adoption and implementation of constantly emerging SHRMT. Leaders should thus, ensure that high volume data, established software and hardware which are reliable and timely, are effectively deployed to drive team level creativity willingness. Likewise, policymakers should take into consideration the direct predictive power of DT on the creativity willingness of team members. Bearing in mind that, although organisations may experience frequent occurrence of displacements of their dominant technology as a consequence of DT, it does positively influence team members' creativity. Creative minds are often quite curious to know more, and DT could serve as a possible drive to upsurge their willingness to further engage in creativity initiatives. Since, DT is a more

significant predictor, policies should thus be instituted to further ensure team members are consistently motivated and challenged to embrace its probable positive impacts.

It is also important for policymakers and practitioners to deal cautiously with concerns of DT when developing policies tailored towards adoption and implementation of SHRMT. Whilst in an attempt to engender TCW by leveraging the predictive capabilities of SHRMT, policymakers should take into consideration the possibility that the effects of DT can disrupt the nature of work. Given that teams consist of team members with diverse and probably complex value systems respectively, it is quite likely that disruption in the nature of work could provoke ambiguity and uncertainty within and across teams and this can incite resistance to change. This could be a likely outcome if the consistent adoption of SHRMT is not efficiently deployed in a way that inspires team members to be more willing to exert creativity. We thus furnish evidence which exemplify that DT inverts the positive relationship between SHRMT and TCW. Moreover, policies ought to be made to mitigate probable uncertainty and ambiguity that may ensue due to DT's influence on the relationship between SHRMT and TCW.

Likewise, leaders and practitioners should ensure ample consideration is given towards implementing the tenets of DTI on TCW. Thus, to sustain competitive advantage by deploying DTI, strategies that reinforce collaborations, engagements, commitments, and effective coordination should be developed. This could also be important for fostering digital task interdependence across several teams. Further, considerations should also be given to the predictive moderating capability of DTI. We have demonstrated that DTI inverts the positive relationship between DT and TCW. It is therefore, important for leaders and practitioners to ensure that when deploying the tenets of DTI on TCW under conditions of DT, careful attention into how team autonomy and leader power distance disposition implicitly act to dampen TCW ought to be

noted. Given the demanding nature of the DTI paradigm, leaders should endeavour to ensure teams are able to exercise a considerable degree of autonomy while engaging in or executing digital tasks interdependently.

It is also important for leaders to develop a work climate and build a work environment that supports effective communication. This is relevant to tap into diverse creative ideas from across teams. Practitioners may also want to note that while the act of demonstrating strong leadership is important to drive diverse teams, it is quite likely to easily cultivate a high power distance disposition in the process. Power distance disposition has been evidenced in prior literature to hamper creativity. Consequently, policymakers should endeavour to set up guidelines that control for high power distance disposition among leaders. Strategies should be put in place to further ensure interdependent teams and their leaders are driven by considerable degree of socio-emotional ties, which helps draw acceptable lines between flexibility and productivity demands. This could help interdependent teams effectively execute digital tasks across digital platforms with good orientations of their leader's supportive response.

*6.3 Implications to academia*

We furnish researchers with evidence and tools on how issues associated with emerging and novel topics such as TCW and SHRMT may be measured, examined and addressed. Our study can be used to compliment already established guides by academia for instituting regulations needed to drive consistent adoption and implementation of constantly emerging SHRMT knowledge within the organizational behaviour and HRM fields. We provide evidence that could be used to foster classroom knowledge exchange pertaining to smart technology in HRM and concerns of environmental influences by DT. Our findings mirror support that can advance the doctrines of HRM and organizational behaviour in today's dynamic digital age. For academics considering

further curriculum developments associated with the HRM field, we also provide evidence that supports the incorporation, examination and delivery of the smart technology side of HRM – since it's yet in its embryonic stage. Our findings equip technology management, HRM, digitalization, business research, and creativity focused researchers with evidence of the interplay between the related constructs presently examined in our study. We provide empirical support to researchers interested in replicating or further initiating cross-disciplinary research similar to our study. This is because, though a core foundation of our study sits in HRM and organization behaviour, it also directly reflects tenets like DTI, DT, and TCW which can be useful to researchers across the psychology, marketing, information and communication technology, technology and innovation management, and digital innovation disciplines. Our findings thus incite substantial discourse for subsequent academic investigations.

*6.4 Limitations and recommendations*

The scope of our study is a team-level analysis. Hence, inferences of individual or organisational-level implications shouldn't be drawn. However, this provides future researchers a window to delve into individual and organisational-level analysis which could extend knowledge into the willingness of organisation-wide members to exhibit increased creativity. We also acknowledge that our study's aims have not allowed us to probe into a clear fact that one team with a strategic role could effectively undermine the creativity of others, and this could provoke creativity unwillingness in the affected teams. We therefore, call on future research to investigate how organisations may address such issues and consequently foster TCW. Additionally, our study may not have exhausted the list of possible antecedents of TCW despite our attempt to test and control for task satisfaction, resource availability and work environment. We therefore call for further investigations that can inform on the influence of probable TCW antecedents such as task

motivation, self-efficacy, and leader trustworthiness (benevolence, integrity, and ability). These factors could not all be investigated in this study. It would be an ambitious and unrealistic venture to have examined all antecedents and control variables that may be influencing TCW. Although, as its investigation is yet in its early stages of development, it is important for future researchers to further investigate how the concept of willingness can be explored with respect to improving individual and organisational creativity.

As a further avenue for future inquiry, researchers could investigate how organisations deploy the conceptual insights undergirding SHRMT (data, hardware, software) by empirically developing, testing and validating their plausible respective instruments. This would be relevant for understanding how these underlying concepts respectively act to influence TCW. This was not covered in our study. Likewise, it would be interesting to see how DTI may act as a moderator and what its plausible role is on the relationship between SHRMT and TCW. This has also not been investigated in our study. Whilst the focus of DTI was on teams, it would also be interesting for future research to explore the role of DTI between organisations. This would help to reinforce contemporary perspectives on the relevance, probable roles, strengths and limitations of DTI. Moreover, though DTI positively impacts TCW in our study, it is also quite likely that such a relationship may be influenced by DT – being an external environmental factor within the business ecosystem. While this has not been considered in our study, it could yet be another fruitful avenue for future research investigations.

We acknowledge the inherent weakness of cross-sectional studies, particularly those that are prediction oriented. However, we have attempted to carry out a similitude of the longitudinal tenets in light of the time gaps evidenced in our data collection. Consequently, given the relative novelty of our study we offer future researchers an opportunity to further initiate longitudinal

studies that investigate and possibly replicate our research in the hopes of establishing greater study generalizability. We also acknowledge that our results may be particular to manufacturing organisations. More robust insights may have been obtained if data was also collected from another industry source. Thus, future research should consider exploring other industries to generate and encourage new insights via comparative evidence. Although, our findings could be of relevance to developing economies with similar context such as Nigeria, generalisation of our findings ought to be done with caution as we only investigated 56 distinct manufacturing organisations. In light of the cultural context, the Nigerian manufacturing industry is inherently conditioned by the nation's cultural norms to structure and operate innovation oriented processes via deployment of high power distance attributes. While this may have, to some degree, produced results over the years, it is yet apparent that Nigeria has struggled to advance creativity relevant tenets such as teams' willingness to exercise creativity. While empirical evidence has shown that power distance dampens creativity within and across Africa, there is yet scarce empirical evidence from other economies with similar contexts like Nigeria that inform on relevant issues their manufacturing organisations may face. For example, issues (like high power distance in Nigeria) could dampen the willingness of teams to creatively contribute towards building innovative business models.

Innovative business models ought to be consistently transformed to better address technological uncertainties, hypercompetitive markets, and increase competitive edge amid a dynamic digital future. It is likely that other economies similar to Nigeria, within and across West Africa, may consequently struggle to drive their innovation processes in ways that foster timely value creation and increased competitive advantage. However, this also does require the initiation of separate empirical studies for further validation as this present study mainly focused on Nigeria. We therefore, call on future researchers to examine how, under disruptive technological

conditions, TCW can be engendered when faced with high power distance. We thus, call on future researchers to extend the scope of our study across the Nigerian economy and cultural contexts. Novel insights could be obtained from a cross-cultural examination of TCW antecedents. Likewise, rather than initiate a causal-prediction mode of analysis (due to the emerging stage of our examined constructs), a confirmatory approach which implies the use of the covariance-based SEM can be adopted to further advance theoretical postulations and confirmation. In our study, model fit measures have not been included, partly due to the causal-predictive nature of our study's aims and scope, expert recommendations from established PLS-SEM literature and similar published investigations. Primarily, this omission of model fit assessment is due to a clear limitation in PLS-SEM, which is its lack of optimization of a distinctive global scalar function and lack of robust and well-established global goodness-of-fit indices. However, if the aim of this study mirrored a confirmatory factor or the covariance based SEM analysis approach (CB-SEM), then we would have included results of the SRMR (the presently established model fit measure in PLS-SEM). We further recommend that in light of fostering study replication and generalisation, researchers investigating constructs in this study's model may consider employing a CB-SEM approach that allows the inclusion of model fit measures, if the nature of their research is not causal-predictive. While conventional approaches recommend adapting (if necessary) established and validated measures, we could not compromise on the precision of the measures, which is a limitation of adapting established measures. Nevertheless, we did observe factor reliability and validity in all cases. We hope future research may benefit from these new measures.

*Funding*

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**References**

Adair, J. (2010). Leadership for Innovation: How to Organize Team Creativity and Harvest Ideas, *Human Resource Management International Digest*, 18 (6), 332-345, Doi.org/10.1108/hrmid.2010.04418fae.00.3

Adegbile, A., & Sarpong, D. (2017). Disruptive innovation at the base-of-the-pyramid: Opportunities, and challenges for multinationals in African emerging markets. *Critical perspectives on international business*, 14(2/3), 111-138, Doi:10.1108/cpoib-11-2016-0053

Aiken, L., & West, S. G. (1991). Multiple Regression: Testing and interpreting interactions. Newbury Park, CA: Sage.

Alberti-Alhtaybat, L., Al-Htaybat, K., & Hutaibat, K. (2019). A knowledge management and sharing business model for dealing with disruption: The case of Aramex. *Journal of Business Research*, 94, 400-407.

Amabile, T, & Mueller, J. (2008). Studying Creativity, Its Processes, and Its Antecedents: An exploration of the componential theory of creativity. In J. Zhou, & C. E. Shalley, *Handbook of Organizational Creativity* (pp. 33-64). New York: Lawrence Erlbaum Associates.

Amabile, T., & Pillemer, J. (2012). Perspective on the Social Psychology of Creativity. The Journal of Creative Behavior. 46(1), 3-15, https://doi.org/10.1002/jocb.001.

Anand, S., Vidyarthi, P., & Rolnicki, S. (2018). Leader-member exchange and organizational citizenship behaviors: Contextual effects of leader power distance and group task interdependence. *The Leadership Quarterly*, 29(4), 489-500, Doi:10.1016/j.leaqua.2017.11.002

Anderson, N., Potočnik, K. & Zhou, J. (2014). Innovation and Creativity in Organizations. *Journal of Management*, 40(5), 1297–1333, Doi:10.1177/0149206314527128

Auernhammer, J., & Hall, H. (2013). Organizational culture in knowledge creation, creativity and innovation: Towards the Freiraum model. *Journal of Information Science*, 40(2), 154–166. doi:10.1177/0165551513508356

Bachrach, D., Powell, B., Bendoly, E. & Richey, R. (2006). Organizational citizenship behavior and performance evaluations: exploring the Impact of Task interdependence, *Journal of Applied Psychology*, 91(91), 193-201.

Bai, Y., Lin, L., & Li, P. (2016). How to enable employee creativity in a team context: A cross-level mediating process of transformational leadership. *Journal of Business Research*, 69(9), 3240-3250, Doi:10.1016/j.jbusres.2016.02.025

Bam, L., De Stobbeleir, K., & Vlok, P. (2019). Outcomes of team creativity: a person-environment fit perspective", *Management Research Review*, 42, 760-774, https://doi.org/10.1108/MRR-02-2018-0098

Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of Team Creativity: An Examination of Team Emotional Intelligence, Team Trust and Collaborative Culture, *Creativity and Innovation Management*, 19(4), Doi:10.1111/j.1467-8691.2010.00574.x

Berson, Y., Halevy, N., Shamir, B., & Erez, M. (2015). Leading from different psychological distances: A construal-level perspective on vision communication, goal setting, and follower motivation. *The Leadership Quarterly*, 26, 143–155.

Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research, *The International Journal of Human Resource Management*, 27(21), 2652-2671, DOI: 10.1080/09585192.2016.1232296

Bosch-Sijtsema, P., Ruohomäki, V., & Vartiainen, V. (2009). Knowledge work productivity in distributed teams, *Journal of Knowledge Management*, 13(6), 533-546, https://doi.org/10.1108/13673270910997178

Bresciani, S., Ferraris, A., & Del Giudice, M. (2018). The management of organizational ambidexterity through alliances in a new context of analysis: Internet of Things (IoT) smart city projects. *Technological Forecasting and Social Change*, 136, 331-338, https://doi.org/10.1016/j.techfore.2017.03.002

Caputo, F., Garcia-Perez, A., Cillo, V. and Giacosa, E. (2019). A knowledge-based view of people and technology: directions for a value co-creation-based learning organisation, *Journal of Knowledge Management*, 23(7), 1314-1334. https://doi.org/10.1108/JKM-10-2018-0645

Cerne, M., Nestad, C. & Skervalaj, M. (2014). What goes around comes around: knowledge hiding, perceived motivational climate, and creativity, *Academy of Management Journal*, 57(1) 172-192

Chandy, R., & Tellis, G. (1998). Organizing for Radical Product Innovation: The Overlooked Role of Willingness to Cannibalize. *Journal of Marketing Research, 35*(4), 474-487.

Chen, L., Danbolt, J. & Holland, J. (2014). Rethinking bank business models: the role of intangibles, *Accounting, Auditing & Accountability Journal*, 27(3), 563-589

Christensen, C., Raynor, M., & McDonald, R. (2015). What is disruptive Innovation? *Harvard Business Review*, December issue

Christensen, C. M., McDonald, R., Altman, E. J., & Palmer, J. E. (2018). Disruptive Innovation: An Intellectual History and Directions for Future Research. *Journal of Management Studies.* 55(7), Doi:10.1111/joms.12349

Cirella, S., Giovanni Radaelli, G. & Shani, A. (2014). Team creativity: A complex adaptive perspective, *Management Research Review*, 37(7), 590-614, https://doi.org/10.1108/MRR-12-2012-0261

Coley, L., Lindemann, E. & Wagner, S. (2012). Tangible and intangible resource inequity in customer-supplier relationships, *Journal of Business & Industrial Marketing*, 27(8) 611-622

Dawson, C., & Henley, A. (2012). Push versus "pull entrepreneurship: an ambiguous distinction? *International Journal of Entrepreneurial Behavior & Research*, 18(6), 697-719, Doi:10.1108/13552551211268139

Del Giudice, M., Carayannis, E. G., Palacios-Marqués, D., Soto-Acosta, P., & Meissner, D. (2018). The human dimension of open innovation. *Management Decision*, 56(6), 1159-1166. https://doi.org/10.1108/MD-06-2018-950

Del Giudice, M., & Straub, D. (2011). Editor's comments: IT and entrepreneurism: an on-again, off-again love affair or a marriage? *MIS Quarterly*, 35(4), iii-viii. DOI: 10.2307/41409961

Dezi, L., Pisano, P., Pironti, M., & Papa, A. (2018). Unpacking open innovation neighborhoods: le milieu of the lean smart city. *Management Decision,* 56(6), 1247–1270. doi:10.1108/md-04-2017-0407

Dewett, T. (2006). Exploring the Role of Risk in Employee Creativity, *The Journal of Creative Behavior,* 40(1), 27–45. doi:10.1002/j.2162-6057.2006.tb01265.x

Dodd, M (2016). Intangible resource management: social capital theory development for public relations, *Journal of Communication Management*, 20(4), 289-311.

Emelifeonwu, J., & Valk, J. (2019). Employee voice and silence in multinational corporations in the mobile telecommunications industry in Nigeria, *Employee Relations,* 41(1). 228-252. https://doi.org/10.1108/ER-04-2017-0073.

Fan, L., & Suh, Y. (2014). Why do users switch to a disruptive technology? An empirical study based on expectation-disconfirmation theory. *Information & Management,* 51, 240-248. doi:10.1016/j.im.2013.12.004

Fay, D., Shipton, H., West, M., & Patterson, M. (2015). Teamwork and Organizational Innovation: The Moderating Role of the HRM Context. *Creativity and Innovation Management*, 24(2). https://doi.org/10.1111/caim.12100

Ferraris, A., Erhardt, N., & Bresciani, S. (2019). Ambidextrous work in smart city project alliances: unpacking the role of human resource management systems. *The International Journal of Human Resource Management*, 30(4), 680-701. https://doi.org/10.1080/09585192.2017.1291530

Ferreira, J. J., Fernandes, C. I., & Ferreira, F. A. (2019). To be or not to be digital, that is the question: Firm innovation and performance. *Journal of Business Research*, 101(c), 583-590.

Florida, R., Mellander, C., & King, K. (2015). *The global creativity index 2015.* Martin Prosperity Institute. Retrieved from http://martinprosperity.org/content/the-global-creativity-index-2015/

Fong, P., Men, C., Luo, J., & Jia, R. (2018). Knowledge hiding and team creativity: the contingent role of task interdependence. *Management Decision,* 56(2), 329–343.doi:10.1108/md-11-2016-0778

Fossen, F. M., & Sorgner, A. (2019). Digitalization of work and entry into entrepreneurship. *Journal of Business Research*. doi:10.1016/j.jbusres.2019.09.019

Fulcheri, M., Barzega, G., Maina, G., Novara, F. & Ravizza, L. (1995). Stress and managerial work: organizational culture and technological changes: a clinical study, *Journal of Managerial Psychology,* 10(4),.3-8, https://doi.org/10.1108/02683949510084065

Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM).* Thousand Oaks: Sage.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning,* 46, 1-12. doi:10.1016/j.lrp.2013.01.001

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. (2019). When to use and how to report the results of PLS-SEM. *European Business Review,* 31(1), 2-24. doi:10.1108/EBR-11-2018-0203

Hair, J. F., William, B. C., Barry, B. J., & Rolph, A. E. (2010). *Multivariate Data Analysis, 7th Edition* (7th ed.). Pearson Prentice Hall.

Hinterhuber, A. (2013). Can competitive advantage be predicted?, *Management Decision,* 51(4), 795-812.

Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviours, Institutions and Organizations Across Nations, Second Edition, Thousand Oaks, CA: Sage Publications

Hofstede, G., & McCrae, R. R. (2004). Personality and Culture Revisited: Linking Traits and Dimensions of Culture. *Cross-Cultural Research,* 38(1), 52-88. doi: 10.1177/1069397103259443

Hon, A & Chan, W. (2012). Team creative performance: the roles of empowering leadership, creative-related motivation, and task interdependence, *Cornell Hospitality Quarterly*, 54(2), 199-210.

Ismail, H., Iqbal, A. & Nasr, L. (2019). Employee engagement and job performance in Lebanon: the mediating role of creativity, *International Journal of Productivity and Performance Management,* 68(3), 506- 523, https://doi.org/10.1108/IJPPM-02-2018-0052

Issa, T., Isaías, P., & Kommers, P. (2016). Editorial: The impact of smart technology on users and society, *Journal of Information, Communication and Ethics in Society,* 14(4), l,310-312, https://doi.org/10.1108/JICES-09-2016-0035

Ismail, A., Majid, A., Jibrin-Bida, M., & Joarder, M. (2019). Moderating Effect of Management Support on the Relationship Between HR Practices and Employee Performance in Nigeria. *Global Business Review*, 1-19.

Jugdev, K., Mathur, G. & Fung, T. (2007). Project management assets and their relationship with the project management capability of the firm, *International Journal of Project Management*, 25(6), 560-568, doi: 10.1016/j.ijpmroman.2007.01.009.

Kaivo-oja, J. R., & Lauraeus, I. (2018). The VUCA approach as a solution concept to corporate foresight challenges and global technological disruption. *Foresight*, 20(1), 27-49. doi:10.1108/FS-06-2017-0022

Kassicieh, S. K., Kirchhoff, B. A., Walsh, S. T., & McWhorter, P. (2002). The role of small firms in the transfer of disruptive technologies. *Technovation,* 22, 667–674.

Knott, P. (2015) "Does VRIO help managers evaluate a firm's resources?", *Management Decision*, 53(8), 1806-1822

Kolade, O., Obembe, D., & Salia, S. (2019). Technological constraints to firm performance: The moderating effects of firm linkages and cooperation", Journal of Small Business and Enterprise Development, 26(1), 85-104, https://doi.org/10.1108/JSBED-01-2018-0029

Korzynski, P., Paniagua, J. & Rodriguez-Montemayor, E. (2019). Employee creativity in a digital era: the mediating role of social media", *Management Decision*, 58(6), 1100-1117. https://doi.org/10.1108/MD-05-2018-0586

Kozbelt A., Beghetto R. A., & Sternberg R. J. (2010). "Theories of creativity," in The Cambridge Handbook of Creativity. eds Kaufman James C., Sternberg Robert J., editors. (Cambridge: Cambridge University Press; 20–47

Kozlowski, S. W., Watola, D. J., Jensen, J. M., Kim, B. H., & Botero, I. C. (2009). Developing adaptive teams: A theory of dynamic team leadership. Team effectiveness in complex organizations. *Cross-disciplinary perspectives and approaches*, 113–155.

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 1-4.

Kruining, I. (2017). The dis-appearance of HRM: Impact of Digitization on the HRM Profession, in Tanya Bondarouk , Huub J. M. Ruël , Emma Parry (ed.) *Electronic HRM in the Smart Era (The Changing Context of Managing People, Volume )* Emerald Publishing Limited, pp.311 – 337

Küpper, D. M., Klein, K., & Völckner, F. (2019). Gamifying employer branding: An integrating framework and research propositions for a new HRM approach in the digitized economy. *Human Resource Management Review.* doi:10.1016/j.hrmr.2019.04.002

Lages, L. F. (2016). VCW—Value Creation Wheel: Innovation, technology, business, and society. Journal of Business Research, 69(11), 4849–4855. doi:10.1016/j.jbusres.2016.04.042

Langfred, C. (2005). Autonomy and Performance in Teams: The Multilevel Moderating Effect of Task Interdependence. *Journal of Management,* 31(4), 513-529. doi:10.1177/0149206304272190

Lee, I., Lin, C. & Lin, T (2017). The creation of national intellectual capital from the perspective of Hofstede's national culture, *Journal of Intellectual Capital*, 18(4), 807-831

Li, H., Li, F., & Chen, T. (2018). A motivational–cognitive model of creativity and the role of autonomy. *Journal of Business Research,* 92, 179-188. doi:10.1016/j.jbusres.2018.07.025

Lin, C., Tsai, H., Ya-Jung Wu, Y. & Kiang, M. (2012) A fuzzy quantitative VRIO-based framework for evaluating organizational activities, *Management Decision*, 50(8), 1396-141.

Lowry, B & Gaskin, J. (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) for Building and Testing Behavioral Causal Theory: When to Choose It and How to Use It, *IEEE TPC*, 57(2), 123-146

Madsen, T. L., Mosakowski, E., & Zaheer, S. (2002). The dynamics of knowledge flows: human capital mobility, knowledge retention and change. *Journal of knowledge management*, 6(2), 164-176. https://doi.org/10.1108/13673270210424684

Majumdar, D., Banerji, P., & Chakrabarti, S. (2018). Disruptive technology and disruptive innovation: ignore at your peril!, *Technology Analysis & Strategic Management*, 30(11), 1247-1255, DOI: 10.1080/09537325.2018.1523384.

Melkonian, T., Monin, P., & Noorderhaven, N. G. (2011). Distributive justice, proceedural justice, exemplarity, and employees' willingness to cooperate in M&A integration processes: An analysis of the Air France-KLM merger. *Human Resource Management, 50*(6), 809 – 837. doi:10.1002/hrm.20456

Ogbeibu, S., Senadjki, A., & Gaskin, J. (2018). The moderating effect of benevolence on the impact of organisational culture on employee creativity. *Journal of Business Research,* 90(C), 334-346.

Ogbeibu, S., Emelifeonwu, J., Senadjki, A., Gaskin, J., & Kaivo-oja, J. (2020). Technological turbulence and greening of team creativity, product innovation, and human resource management: Implications for sustainability. *Journal of Cleaner Production,* 244(118703), 1-15.

Olusegun, C. & Olusola, B. (2016). Human capital development in the Nigerian hospitality industry: The imperative for a stakeholder driven initiative, *Worldwide Hospitality and Tourism Themes*, 8(2), 195-206. https://doi.org/10.1108/WHATT-11-2015-0051

Oruh, E. S., Nwagbara, U., Mordi, C., & Mushfiqur, R. (2018). Legitimisation strategies and managerial capture: a critical discourse analysis of employment relations in Nigeria. *The*

*International Journal of Human Resource Management*, 1-27. doi:10.1080/09585192.2018.1474940

Papa, A., Dezi, L., Gregori, G.L., Mueller, J. and Miglietta, N. (2018). Improving innovation performance through knowledge acquisition: the moderating role of employee retention and human resource management practices, *Journal of Knowledge Management*, 24(3), 589-605. https://doi.org/10.1108/JKM-09-2017-0391

Parry, E., & Battista, V. (2019). The impact of emerging technologies on work: a review of the evidence and implications for the human resource function [version 1; peer review: 2 approved, 1 approved with reservations]. *Emerald Open Res*, 1:5 (https://doi.org/10.12688/emeraldopenres.12907.1).

Pereira, V., Malik, A., & Sharma, K. (2015). Colliding Employer-Employee Perspectives of Employee Turnover: Evidence from a Born-Global Industry. Thunderbird International Business Review, 58(6), 1-15. doi:10.1002/tie.21751

Perez, J. R., & de Pablos, P. O. (2003). Knowledge management and organizational competitiveness: a framework for human capital analysis. Journal of Knowledge management, 7(3), 82-91.

Podsakoff, P., MacKenzie, S., & Podsakoff, N. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, 63, 539-569.

Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2018). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, 1-27. doi:10.1080/09585192.2017.1416655

Santoro, G., Bresciani, S., & Papa, A. (2020). Collaborative modes with Cultural and Creative Industries and innovation performance: The moderating role of heterogeneous sources of knowledge and absorptive capacity. *Technovation*, April–May 2020, 102040 https://doi.org/10.1016/j.technovation.2018.06.003

Sardi, A., Sorano, E., Garengo, P., & Ferraris, A. (2020). The role of HRM in the innovation of performance measurement and management systems: a multiple case study in SMEs. *Employee Relations: The International Journal*, ahead-of-print (ahead-of-print). doi:10.1108/er-03-2020-0101

Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM:Where the bias lies. *Journal of Business Research*, 69, 3998–4010. doi:10.1016/j.jbusres.2016.06.007

Scuotto, V., Santoro, G., Bresciani, S., & Del Giudice, M. (2017). Shifting intra- and inter-organizational innovation processes towards digital business: An empirical analysis of SMEs. *Creativity and Innovation Management*, 26(3), 247–255. doi:10.1111/caim.12221

Shaughnessy, H. (2018). Creating digital transformation: strategies and steps, *Strategy & Leadership*, 46(2), 19-25, https://doi.org/10.1108/SL-12-2017-0126

Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.-H., Ting, H., Vaithilingam, S. and Ringle, C.M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict, *European Journal of Marketing*, 53(11), 2322-2347. https://doi.org/10.1108/EJM-02-2019-0189

Sicotte, H., De Serres, A., Delerue, H., & Ménard, V. (2019). Open creative workspaces impacts for new product development team creativity and effectiveness. *Journal of Corporate Real Estate*. 21(4), 290-306. doi:10.1108/jcre-10-2017-0039

Sousa, M. J., & Rocha, Á. (2018). Skills for disruptive digital business. *Journal of Business Research*, 94, 257-263, doi:10.1016/j.jbusres.2017.12.051

Stone-Romero, E., & Rosopa, P. (2008). The Relative Validity of Inferences About Mediation as a Function of Research Design Characteristics. *Organizational Research Methods,* 11(2), 326-352. doi:10.1177/1094428107300342

Staples, D. & Webster, J. (2008). Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams, *Information Systems Journal*, 18(6), 617-640

Strohmeier, S. (2018). Smart HRM – a Delphi study on the application and consequences of the Internet of Things in Human Resource Management, *The International Journal of Human Resource Management*, 1-30, DOI: 10.1080/09585192.2018.1443963

Sivathanu, B., & Pillai, R. (2018). Smart HR 4.0 – how industry 4.0 is disrupting HR, *Human Resource Management International Digest*, https://doi.org/10.1108/HRMID-04-2018-0059

Subramaniam, M., & Watson, S. (2006). How interdependence affects subsidiary performance. Journal of Business Research, 59(8), 916–924. doi:10.1016/j.jbusres.2005.12.005

Sulaiman, C., Bala, U., Tijani, B. A., Waziri, S. I., & Maji, I. K. (2015). Human Capital, Technology, and Economic Growth: Evidence From Nigeria. *SAGE Open*, 5(4), 215824401561516. doi:10.1177/2158244015615166

Tellis, G. (2006). Disruptive Technology or Visionary Leadership? *Journal of Product Innovation Management*, 23, 34–38.

Usman, A., & Amran, N. (2015). Corporate social responsibility practice and corporate financial performance: evidence from Nigeria companies. *Social Responsibility Journal*, *11*(4), 749-763. doi:10.1108/SRJ-04-2014-0050

Uwaifo, V., & Uddin, P. (2009). Technology and Development in Nigeria: The Missing Link. *Journal of Human Ecology*. 28(2), 107 – 111

Van Vianen, A. E., Dalhoeven, B. A., & De Pater, I. E. (2011). Aging and training and development willingness: Employee and supervisor mindsets. *Journal of Organizational Behavior, 32*, 226–247. doi:10.1002/job.685

Vidyarthi, P., Anand, S., & Liden, R. (2014). Do emotionally perceptive leaders motivate higher employee performance? The moderating role of task interdependence and power distance. *The Leadership Quarterly, 25*, 232–244. doi:10.1016/j.leaqua.2013.08.003

Wang, A.-C., & Cheng, B.-S. (2010). When does benevolent leadership lead to creativity? The moderating role of creative role identity and job autonomy. *Journal of Organizational Behavior, 31*, 106–121. doi:10.1002/job.634

Wang, X. H., & Howell, J. M. (2010). Exploring the dual-level effects of transformational leadership on followers. *Journal of Applied Psychology, 95*, 1134–1144

Wang, Y., Liu, J., & Zhu, Y. (2018). Humble Leadership, Psychological Safety, Knowledge Sharing, and Follower Creativity: A Cross-Level Investigation. *Frontiers in psychology, 9,* 17-27. doi:10.3389/fpsyg.2018.01727

Wu, J. (2016). 'Total Resources and Speeds of Internationalization', Global Entrepreneurship: Past, Present & Future (Advances in International Management, 29, 279-319. Emerald Group Publishing Limited.

## APPENDIX

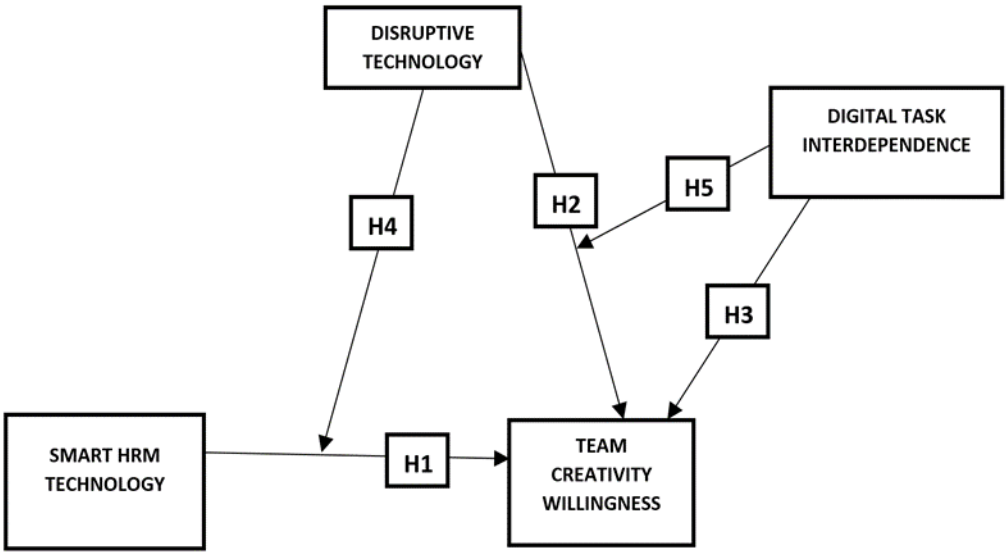


**Figure 1**. Theoretical Framework

**Table 1:** Reliability, Validity and Prediction-Oriented Analysis

| Construct | | rho_A | VIF values | Composite reliability (CR) | AVE | PLS PREDICT RMSE/ $Q^2$ | $Q^2$ Effect Size | LM RMSE/ $Q^2$ |
|---|---|---|---|---|---|---|---|---|
| Digital task interdependence (DTI) | | 0.895 | 1.504 | 0.919 | 0.656 | | 0.249 | |
| Disruptive technology (DT) | | 0.867 | 1.363 | 0.900 | 0.601 | | 0.251 | |
| Resource availability (RA) | | 1.000 | 1.881 | 1.000 | 1.000 | | | |
| Shrm technology (SHRMT) | | 0.848 | 1.585 | 0.898 | 0.687 | | 0.255 | |
| Team creativity willingness (TCW) | | 0.883 | **ENDOGENOUS** | 0.910 | 0.628 | | | |
| ITEMS - | TCW6 | | | | | 1.302/ 0.244 | | 1.365/ 0.169 |
| | TCW5 | | | | | 1.107/ 0.346 | | 1.138/ 0.309 |
| | TCW1 | | | | | 1.108/ 0.312 | | 1.120/ 0.297 |
| | TCW2 | | | | | 1.139/ 0.300 | | 1.174/ 0.256 |
| | TCW4 | | | | | 1.248/ 0.267 | | 1.285/ 0.224 |

| | | | | | | |
|---|---|---|---|---|---|---|
| TCW3 | | | | | 1.219/ 0.286 | 1.223/ 0.281 |
| Task satisfaction (TS) | 1.000 | 1.581 | 1.000 | 1.000 | | |
| Work environment (WEN) | 1.000 | 1.623 | 1.000 | 1.000 | | |

**Table 2:** Heterotrait-Monotrait Ratio (HTMT) Test

| Constructs | DTI | DT | RA | SHRMT | TS | TCW | WEN |
|---|---|---|---|---|---|---|---|
| Digital task interdependence (DTI) | | | | | | | |
| Disruptive technology (DT) | 0.466 | | | | | | |
| Resource availability (RA) | 0.074 | 0.105 | | | | | |
| Shrm technology (SHRMT) | 0.627 | 0.536 | 0.037 | | | | |
| Task satisfaction (TS) | 0.063 | 0.169 | 0.573 | 0.057 | | | |
| Team creativity willingness (TCW) | 0.650 | 0.610 | 0.084 | 0.670 | 0.100 | | |
| Work environment (WEN) | 0.079 | 0.072 | 0.598 | 0.029 | 0.474 | 0.063 | |

Table 3: Summary of findings

| Number of Hypothesis | Hypothesised Relationships | Results Interpretation | Remarks |
|---|---|---|---|
| H1 | Smart HRM technology (SHRMT) → Team Creativity Willingness (TCW) | SHRMT has a medium positive effect on TCW. | Supported |
| H2 | Disruptive Technology (DT) → Team Creativity Willingness (TCW) | DT has a medium positive effect on TCW. | Supported |
| H3 | Digital Task Interdependence (DTI) → Team Creativity Willingness (TCW) | DTI has a medium positive effect on TCW. | Supported |

| | | | |
|---|---|---|---|
| H4 | DT's interaction effect between SHRMT and TCW | DT weakens the positive relationship between SHRMT and TCW by a small effect. | Supported |
| H5 | DTI's interaction effect between DT and TCW | DTI weakens the positive relationship between DT and TCW by a small effect. | Not Supported (Significant – opposite direction) |

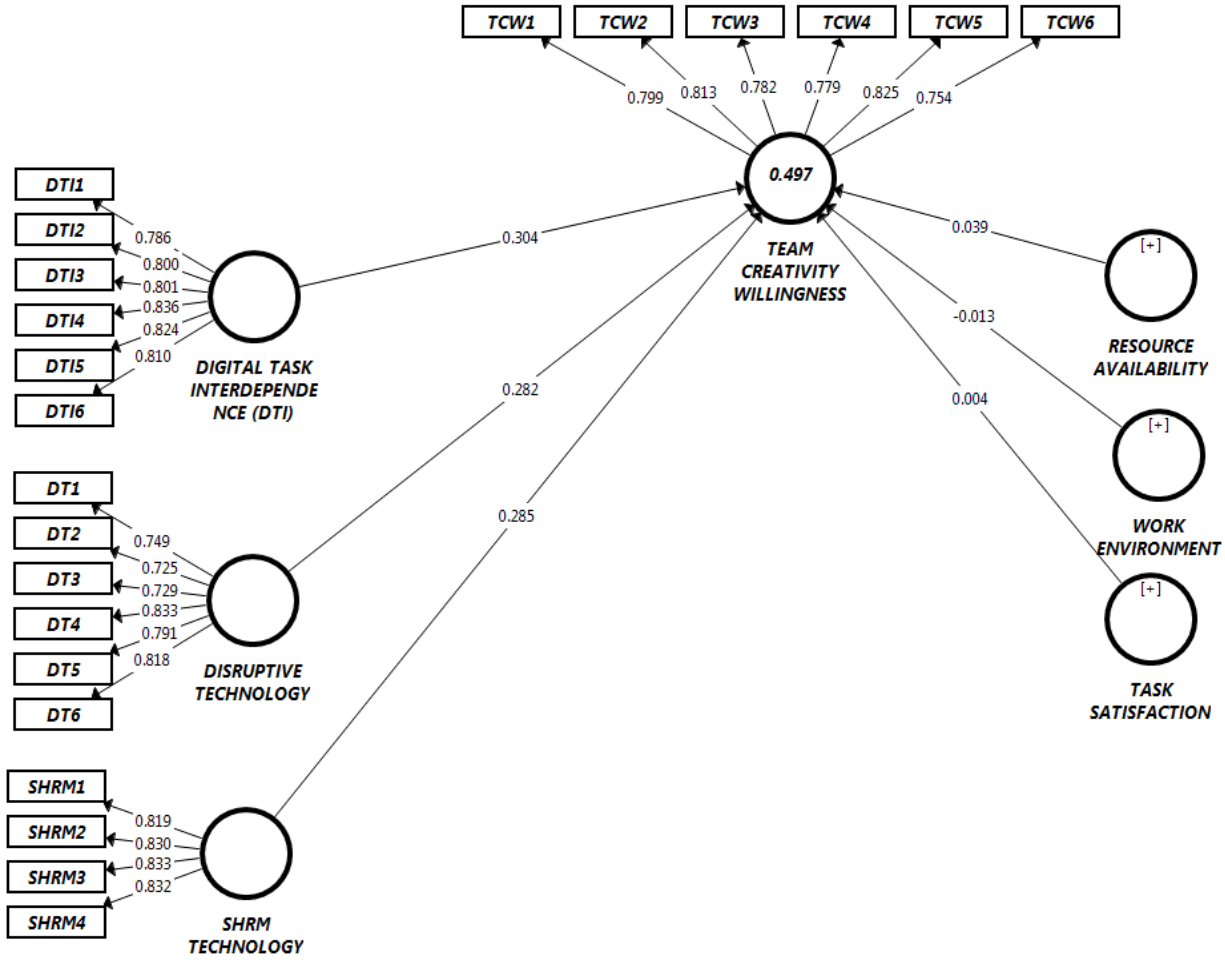


**Figure 2.** Inner and Outer Model

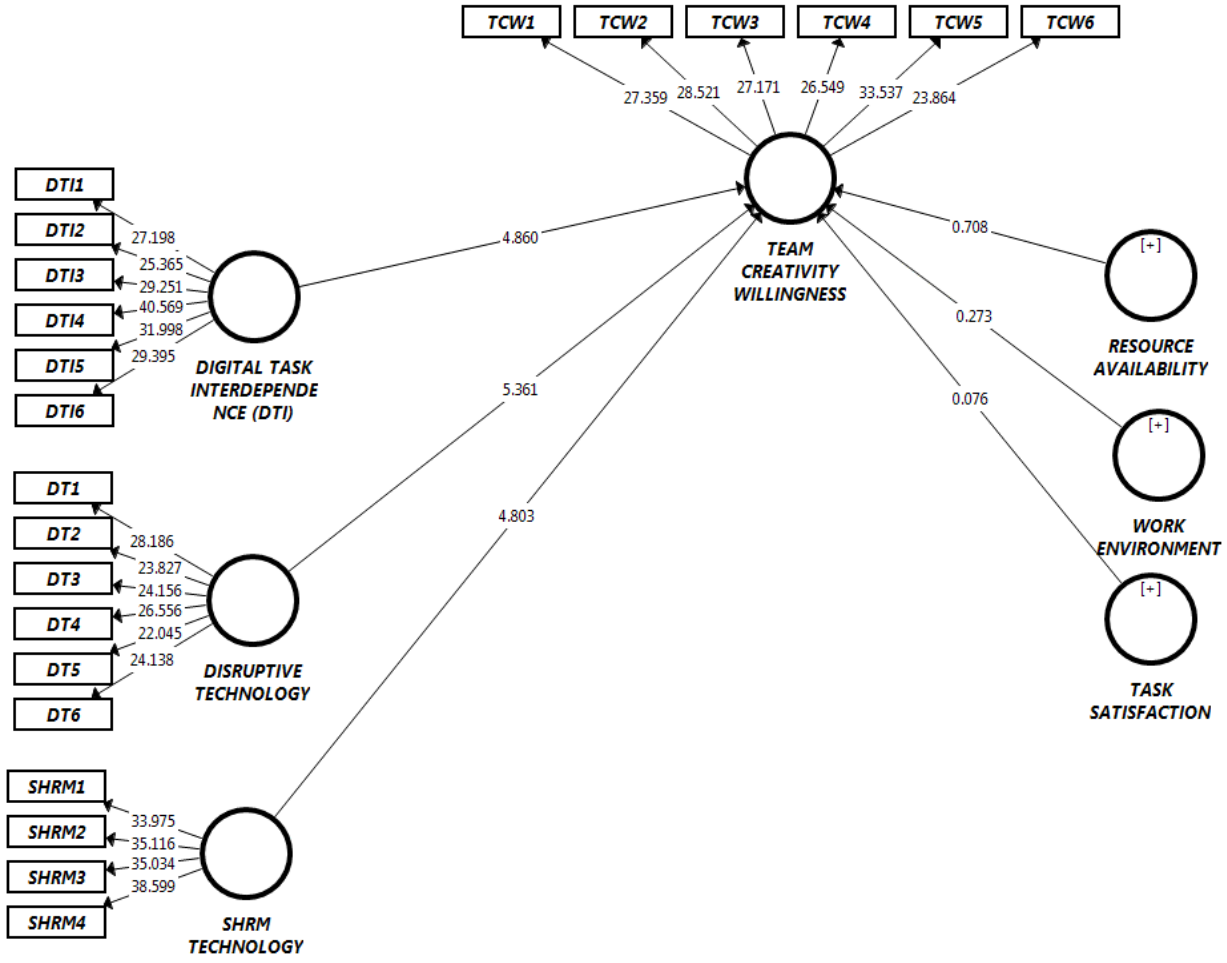


**Figure 3.** Inner model with T-statistics.

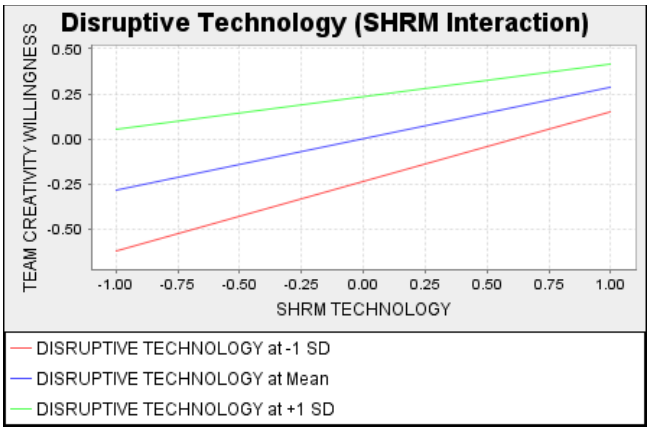


**Figure 4.** DT moderation effect

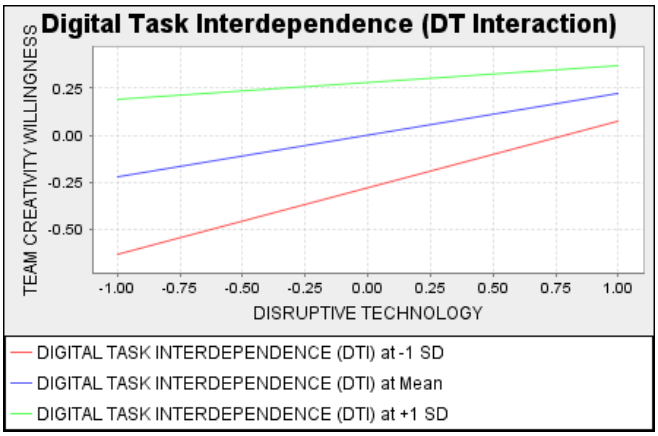


**Figure 5.** DTI moderation effect

## MEASUREMENT ITEM SCALES

### Digital Task Interdependence

1. I work best when I coordinate my digital tasks closely with other teams.
2. I have to digitally work together with other teams to complete digital tasks.
3. The way I perform my digital tasks has a significant impact on team members in other teams.
4. My digital task can't be completed unless team members from other teams do their work digitally.
5. Most of my digital tasks are affected by the activities of team members from other teams.
6. Team members from other teams and I frequently have to coordinate our efforts with each other digitally.
7. As a team, we cannot complete a project digitally unless contributions are gotten from team members of other teams.

### Disruptive Technology

1. There has been frequent occurrence of displacements of one or more of our organisation's dominant product(s) or technology(s) by an emerging technology(s).
2. The nature of work in our organisation changes often by relatively rapid breakthrough of new technology(s).

3. Our organisation have had to discontinue one or more innovation initiatives in recent months due to influence of a new and emerging technology.
4. New technology(s) in this market have broad potential scope of impact.
5. In this market, technological changes create a basis for new competitive innovation standards.
6. High rate of changing radical novelty of technology in this market has created increased uncertainty and ambiguity.

**Smart Human Resources Management Technology**

1. Human resource management (HRM) employs smart things (sensors and actuator) and the internet of things for ascertaining human resource data.
2. Human resource (HR) software interacts with hardware and smart things which provides services in near or real-time.
3. HR data is obtained from sensors on smart things that team members use.
4. HR data shows high volume and velocity and is more reliable and objective.

**Team Creativity Willingness**

1. This team member is willing to think of a creative idea despite the possibility of potential rejection.
2. This team member is willing to share creative ideas with work colleagues despite their evaluations of it.
3. This team member is willing to contribute creative efforts to improve his or her job.
4. This team member is willing to go the extra mile to generate, and execute creative ideas that could help this organisation become more successful.

5. This team member is willing to apply several creative ideas to address a specific job related problem.

6. This team member is willing to think of constructive feedbacks that could improve the process of a creative initiative.