



Information Technology: A Precursor To Workforce Integration In Business Organizations

Obara, Chizi Ernuchi

**Department of Office and Information Management
Rivers State University, Port-Harcourt, Nigeria
E-mail- chizi.obara@ust.edu.ng**

ABSTRACT

Related concerns of contemporary organizations are such that border on the challenges associated with workforce diversity, global migration explosion and group attitudinal bias. These emphasize the imperatives of actions channeled toward addressing workforce integration, and that way ensuring organizational wellbeing and functionality. This paper addressed the role of Information Technology (IT) as a possible predictor of workforce integration and its related outcomes such as team cohesion, functional integration and information sharing. As an opinion paper, content focused on the review of related theories (social presence theory and organizational generative learning theory) and the conceptualizations of the variables — IT and workforce integration. Following the review, it was affirmed that IT advances actions which enable the effective coordination and structuring of workforce features in ways that contribute towards outcomes of team cohesion, functional integration and information sharing. It was recommended that the development of IT should be premised on strengthening communication and coherence across the organization's groups, teams and levels, in ways that advance its systemic behaviour.

Keywords: Information Technology, team cohesion, workforce integration

INTRODUCTION

The wellbeing and success of organizations have been credited to the extent to which those organizations workforces are integrated (Gibson, Ivancevich & Donnelly, 2014). According to Chan and Kaka (2007), workforce integration is a reflection of the level of collaboration and connectedness expressed in the workplace. It describes the depth of the relationship and exchanges that occur between the various groups and levels in the organization. As George and Jones (2015) noted, through the effective integration of the workforce, organizations can effectively advance a harmonized position, where various interests, values and actions are synchronized to ensure improved outcomes of control and coordination within the workplace. Similarly, Irvine and Baker (2015) argued that when there is an evident level of agreement within the organization's workforce, creative solutions are readily advanced as there is a shared perception and interpretation of the organizations realities.

Nardon, Zhang, Szkudlarek and Gulanowski (2021) identified workforce integration as necessary and increasingly important within the 21 century, due to the changing realities of the business world. Some of these changes include the growth in workforce diversity as a result of global migration explosion, the rising concerns of tribalism in African work organizations and the noted challenges of conflict within workplaces (Idowu, 2020; Obuma & Worgu, 2017; Ordu, 2016). Related studies (Twine & Baker, 2015; Ayega & Muathe, 2018) suggest that where there is a disconnect between organizational groups and units,

there is a stronger tendency for inter-group strife, bias and dispute; all of which impact negatively on the organization's functional capacity and ability to thrive. The problem of poor workforce integration is therefore such that, in recent years, has attracted the interest of various scholars and professionals, especially given its implications for the performance and continuity of the organization (Idowo, 2020).

Extant literature on workforce integration has primarily focused on the development of Human Resource (HR) policies and the structuring of relationships for improved levels of communication and collaboration in the workplace (Ager & Strang, 2006; Zarate, Garcia, Garza & Hitlan, 2004; Fosslund, 2013). However, recent events such as the COVID-19 pandemic, has spurred on interest in the role of information technology (IT) in the coordination of related organizational HR features (for example, payroll, qualifications, work experience and other characteristics), in enabling outcomes such as cohesion and robustness, necessary for dealing with highly turbulent contexts (Lee, Szkudlarek, Nguyen & Nardon, 2020; Nardon et al, 2021). Emerging studies (Andaregie & Astakie, 2021; Moussa & El Arbi, 2020) in this area have also shown that related IT applications such as human resource information systems and workforce analytics are crucial to building and reinforcing the connectedness of the organization's workforce. Nonetheless, more effort is required in validating IT as a substantial predictor of workforce integration.

This paper offers an evaluation of the nature and the relationship between IT and workforce integration. It builds on extant literature, discussing related theories (social presence theory and the organizational generative learning theory) and advancing a position which enriches literature on the conceptualization and link between the variables of interest. Thus, this paper contributes substantially to scholarship as it expands on knowledge with regard to the role of IT in advancing outcomes of team cohesion, functional integration and information sharing.

Conceptual Framework

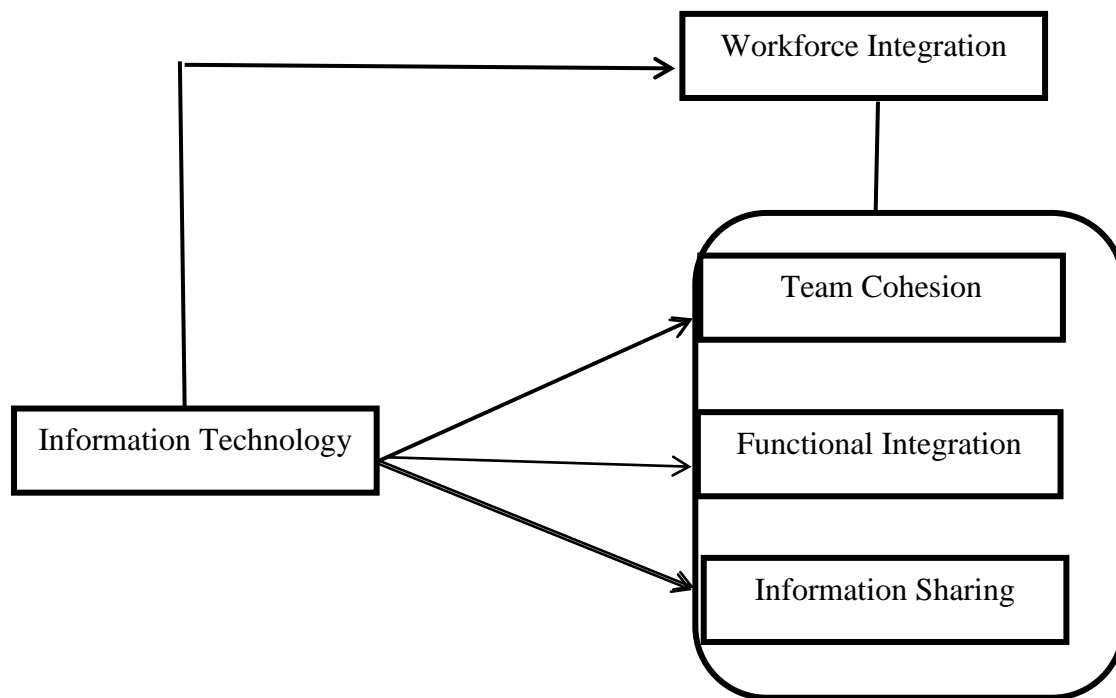


Figure 1: Conceptual Framework for the Relationship between Information Technology (IT) and Workforce Integration

Source: Researcher's Desk (2023); Measures are sourced from Ager and Strang (2008).

Theoretical Frameworks (Social Presence Theory & Organizational Generative Learning Theory)

Social Presence Theory

Social Presence Theory (SPT) was originally defined by Short, Williams and Christie (1976) as the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships. The level of social presence influences the quality of virtual interactions and outcomes as a person is perceived to be a “real person” in their computer-mediated communication or virtual environments (Cui, Lockee & Meng, 2013). Social presence theory explores how the sense of being with another is influenced by digital interfaces in human-computer interactions. A more modern definition of social presence theory was refined by Gunawardena (cited in Lowenthal, 2010) as the degree to which a person is perceived as a ‘real person’ in mediated communication. Lowenthal (2010) feels that definitions of social presence tend to lie on a continuum where a focus on interpersonal emotional connection between communicators is on one end and a focus on if someone is perceived as being ‘present’, ‘there’ or ‘real’ at the other end. Lowenthal (2010) also goes on to state that most researchers tend to lie in the middle of the road, with both ends of that continuum retaining some focus.

According to Short et al. (1976), social presence as a construct was primarily composed of two main concepts: intimacy (Cobb, 2009) and immediacy (Richardson & Swan, 2003). Intimacy Cobb (2009) posited that intimacy in a communication medium is influenced by a number of factors, such as: physical distance, eye contact, smiling, and personal topics of conversation. Immediacy was conceptualized by Richardson and Swan (2003), as paraphrased by Cobb (2009), as a measure of psychological distance that a communicator puts between himself and the object of his communication. Examining the concepts of “social presence” and “interactivity” Kreijns, Kirschner, Jochems and Buuren (2011) observes that social presence is a subjective measure of the presence of others as Short et al. defined it in 1976, while “interactivity” is the actual quality of a communication sequence or context. Interactivity is a quality (potential) that may be realized by some, or remain an unfulfilled option. When it is realized, and when participants notice it, there is “social presence.”

However, in reviewing social presence research, it is important to examine whether the actual characteristics of the information technology are the causal determinants of communication differences or whether users’ perceptions of information technology alter their behavior (Gunawardena, 2015). It was noted that social presence can “be cultured” among teleconference participants, a position different from the view that social presence is largely an attribute of the communication medium. These instructors need to learn to adapt to information technology by developing interaction skills that create a sense of social presence (Osei-Frimpong & McLean, 2018). It is these skills and techniques that will ultimately impact the workforce integration, interaction and social presence.

Organizational Generative Learning Theory

The generative learning theory explains the brain processes that comprise the production of meaning or individual knowledge Bosnia and Herzegovina (cited in Odoyo, 2014). Generative learning theorists define knowledge as the meaningful understanding of information through the creation of connections among new bits of information and between new information and organizational memory. According to Noe, Clarke and Klein (2014), the generative learning theory is based on the idea that organizations can actively integrate new ideas into their memory to enhance their experiences. In essence, it involves linking new with old ideas, in order to gain a better understanding of the instructed concepts (Tsang, 2012). This potential helps them respond more efficiently to environmental changes (Higgins *et al.*, 2012) and contribute to creating the organization’s value, improving its operations’ effectiveness and efficiency, and achieving a sustainable workforce integration (Noe *et al.*, 2014). The generative learning theory suggests that the learning process is based on the memory that is already stored in our brains, *herein new data is added to our long-term memory and becomes part of our knowledge base (Wang, Han, Fisher & Pan, 2017).

The theory of Generative Learning is based on the assumption that the organization does not just passively observe its environment or the events it experiences, but that it constructs its own perceptions about problems, scenarios, and experiences (Tohidi, Mohsen, & Mandegari, 2012). This positively affects sustainable workforce integration through enhancing staff competencies for efficient problem solving and

decision making, knowledge strategy achieving, and local and global leadership. Kump *et al.* (cited in Wael, 2017)) analyzed the cognitive foundations of organizational generative learning to find that collective declarative knowledge could be developed through verbal communication at the organizational level.

However, collective non-declarative knowledge is based on repetitive practices where collaboration between individuals in mutual tasks may improve individual expertise and skills. The distinction between declarative and non-declarative knowledge provides a better perception of practical problems related to organizational generative learning and change (Wang *et al.*, 2017). Knowledge is a crucial asset and a critical organizational resource. It is a combination of personal judgment, values, competencies, capabilities, know-how, and techniques (Odoyo, 2014). Knowledge management is characterized by knowledge strategies and processes implemented in the organization to increase the effectiveness and efficiency of business processes, achieve knowledge strategy, and sustain workforce integration (Tohidi *et al.*, 2012).

Concept of Information Technology

Nowadays, employees with business acumen have acknowledged the power of information technology (IT) tools for reaching business targets. It not only helps achieve the business goals but also optimizes the work processes (Tohidi, 2011). Human Resource Management (HRM) includes activities such as recruiting, training, developing and rewarding people in the organization (Gascó, Llopis & Gonzalez, 2004). HRM must aim at achieving competitiveness in the field of HR by providing constant educational and training programs for the personal and professional development of the employees of the organization (Haines & Lafleur, 2008). According to Wiblen, Grant and Dery (2010), Information technology are an umbrella term for software and associated hardware, useful for automating the human resources function in organizations. It includes employee payroll and compensation, talent acquisition and management, workforce integration and benefits.

Information Technology has developed rapidly in recent years; employers around the world are widely adopting and getting involved with core information technology from enterprise software companies and specialized HR tech vendors (Muda, Wardani, Maksum, Lubis, Bulcit & Abubakar, 2017). Many of these employers are entering a second generation of HR technology by migrating from their on-premises systems to cloud computing platforms. It has been conventionally proved that Information Technology (IT), such as the Internet, mobile communication, new media, and such in HR can greatly contribute to the fulfillment of personnel policies of the organization. Technological advancement can have a huge impact on the HR department of an organization. It allows the company to improve its internal processes, core competencies, relevant markets and organizational structure as a whole. Tohidi (2011) posit that human resource must mainly be focused on the strategic objectives of the organization. These strategies must be led to incorporate an IT strategic plan for the organization. These are activities related to any development in the technological systems of the entity, such as product design (research and development) and IT systems.

Today the face of HR is often a portal, rather than a person. Almost all firms now provide universal access to HR services through technology and web based applications, dramatically changing the practice of human resource management (Hendrickson, 2003). Technology development is an important activity for the innovation process within the business, and may include acquired knowledge. In the context, all activities may have some technical content, and results in greater technological advancement and changes (Haines & Lafleur, 2008). These changes often result from the need to cut costs and expand or improve services.

Recent research according to Gasco, Llopis and Gonzalez (2004), shows organizations that successfully adopt sophisticated HR technology tools outperform those that do not, but because most organizations already have automated basic HR administration, the simple automation of HR processes can no longer assure a competitive advantage. Instead, organizations must determine how to use technology to transform their HR practices and market their HR brand (Powell & Dent-Micallef, 2017). Information Technology may have a greater impact on organizations that exist in a dynamic environment. This will

lead to greater workforce integration of the Human Resources. Hence, utilizing IT application for database management and advances recruitment system will increase the efficiency of the business.

Concept of Workforce Integration

Today, traditional understanding of workforce integration is evolving and expanding to meet rapidly changing business needs (Lee, Szkudlarek, Nguyen & Nardon, 2020). The practice of human resource management (HRM) is highly contextual (Baron & Kreps, 1999), and the evolving global mobility trends form an important part of such context. The dramatic increase in workforce integration worldwide provides an important and timely contextual setting on the research and practice of information technology (Chan & Kaka, 2007). Workforce integration broadly to refer to a process in which employees engage in economic activities (employment or self-employment) with economic security and prospects for advancement (Jaselskis, Strong, Aveiga, Canales & Jahren, 2008).

According to Baumann, Blythe and Ross (2010), workforce integration is about working together to meet people's needs and enabling people with care and support needs to live as independently as possible. Its purpose is to improve the quality of care and support by keeping the individual, not the organisation or particular profession, as the driving force behind care and support. Adopting an integrated approach enables workers to understand each other's roles and contributions, and to build support networks around individuals (Kole & Lehn, 2000). At a strategic level, integration creates a more seamless experience for individuals.

Nardon, Zhang, Szkudlarek and Gulanowski (2021) posits that in understanding workforce integration, there are people in the organization and these people you support want it provided in ways that make sense to them, that reflects their lives, their needs and their wishes. This is best achieved through integrated working, where leaders collaborate and are working across traditional boundaries to support individuals, their families and careers. Adopting an integrated approach enables workers to understand each other's roles and contributions and to build support networks around individuals and their community. Irvine and Baker (2015) asserted that a true process of employee integration aims to facilitate their adaptation to the work environment, disclose the company's culture, its mission, values, and the appropriate and accepted behaviours, in order to align the company's expectations and the performance of its members.

Literature abounds on workforce integration, more so, when it comes to its conceptualization and measurement. Baron and Kreps (1999) defined workforce integration as working together to meet people's needs and enabling people with care and support needs to live as independently as possible. Lee et al. (2020) identified a variety of characteristics which could be used to classify workforce integration namely-mutual respect, commitment, enthusiasm, optimism and discretionary efforts to serve customers heifer. These qualities have also been reinforced by research. Jaselskis, *et al* (2008), with Nardon *et al* (2021) arguing that workforce integration is focused on identifying the needs, attending to workforce issues, identifying learning needs, addressing issues of professional identity and recognising infrastructure issues such as employment arrangements, gives a clear message about the value placed upon workers. Thus, demonstrating responsibility not only toward the organization but also toward the members of the organization.

For this study, three dimensions -Team cohesion, functional integration and information sharing are adopted. This choice borders on the consistency of reference (Chan & Kaka, 2007) in workforce integration literature advanced in line with these three (team cohesion, functional integration and information sharing). They also provide a more embracing approach toward the concept of workforce integration that not capture behavior but also reflect disposition toward the needs of others and the organization (Jaselskis *et al* 2008).

Measures of Workforce Integration

Team Cohesion

Teams play an important role in most organisations in today's modern economy. The use of teams has expanded dramatically in response to competitive challenges. Research indicates that teamwork can

achieve outcomes that could not be achieved by the same number of individuals working in isolation. However, teams need to be cohesive and effective in order to be successful. Kirkman (2000) defines a work team as a group of individuals working interdependently toward common goals and whose members are mutually accountable for task accomplishment. Cohesion has been constructively defined as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Eys *et al.*, 2003). Team cohesiveness is the sum of forces attracting team members and keeping the team together. It is a group phenomenon, and for a group to be highly cohesive, most if not all members must have strong motives to remain in the group” (Fox & Spector, 2000).

The concept of cohesion has been empirically linked with a number of group and individual variables. Examples of group variables include a positive relationship with team performance, collective efficacy, and group norms (Eys *et al.* 2003). According to Fox and Spector (2000), a high level of group cohesiveness has important implications for group behaviour. Group cohesion was described earlier as the interpersonal attraction binding group members together. Campbell Quick, Cooper, Gibbs, Little and Nelson (2010) agree with Fox and Spector (2000) that it enables a group to exercise effective control over its members in relation to its behavioural norms and standards.

Cohesiveness is the feeling of unity that holds a group together voluntarily. Employees operate better as individuals if they consider themselves to be part of a well-functioning supportive team to which all are happy to belong. As committed participants in the group, they are more productive, communicative, trusting, motivated and loyal (New Zealand Management, 2001). Robbins (2000) states that groups differ in their cohesiveness, that is, the degree to which members are attracted to each other and are motivated to stay in the group. Groups high in cohesiveness are very appealing to their members; groups low in cohesiveness are not very appealing to their members (George & Jones, 2015).

Formal and informal groups seem to possess a closeness or commonness of attitude, behaviour and performance. This closeness, referred to as cohesiveness, is generally regarded as a force acting on the members to remain in a group that is greater than the forces pulling the member away from the group (Gibson, Ivancevich & Donnelly, 2014). Armstrong (2012) believes that if group ideology is strong and individual members identify closely with the group, it will become increasingly cohesive. The impact of group cohesion can, however, result in negative as well as positive results.

The key to successful cohesive team, team members need to set goals jointly and understand them, all team members need to have equal participation in team activities, there must be good communication between team members, team members should share and exchange ideas freely, conflict needs to be effectively resolved in the team, interpersonal relations among team members needs to be good and obstacles need to be overcome and resolved together as a team. It is only through a high level of cohesiveness that these teams can be effective in carrying out daily functions. There is therefore a need to ensure that teams are highly cohesive in order to enhance team effectiveness.

Functional Integration

The contemporary business world is most characterized by the transformation and change speed in the business environment, which has become the hallmark of the business world (Eisenberger, Armeli, Rexwinkel, Lynch & Rhoades, 2001). This resulted in fierce competition among the organizations' endeavours to acquire competitive advantage, and in addition, the emergence of the time-based competition put the business organizations in the face of showdowns with the challenges of survival, continuity and growth which basically depend on gaining excellence in providing services and products that enable them achieve the excellence (Allen, Shore & Griffeth, 2013). One of the important ways of any organization success is the existence of employees who are capable to put on the required effort to carry out all the work activities inside the organizations. And, in return, the organizations guarantee their best employees' performance, functional integration becomes a must, being the basic motivator of energies, roles and abilities (Hui, Wong & Tjosvold, 2007).

Functional integration refers to the extent to which units or departments in the organization collaborate and are substantially synchronized (Rhoades & Eisenberger, 2002). Functional integration can generate a felt obligation to care about the welfare and of significant others and to help the organization accomplish

its goal (Eisenberger et al. 2001). In the meantime, Functional integration should realize socioemotional needs by integrating organizational membership and role status into their social identity and reinforce employees' beliefs that organization financial and non-financial compensations increase performance (Rhoades & Eisenberger, 2002). Employers want employees to be dedicated and loyal to their job. According to the norm of reciprocity, if employers offer a high level of support to their employees, employees are possibly to emotionally commit to their organizations with a low possibility of turnover and a high level of workforce integration (Allen et al. 2013; Hui et al, 2007).

Among many of such supports is the application of a Tactical system, being a sub-set of Human Resource Information systems address facets and processes in the organization such as training/development, job analysis and compensation (Obara & Zeb-Obipi 2020). Tactical systems can be used to manage human capital and maximize talent. This supports the idea of reducing employee turnover as it aims to develop employees.

According to Miao (2011), functional integration provides an integrative mechanism which can promote intergroup relations and encourage greater organizational commitment among an ethnically diverse workforce. functional integration among teams can contribute to reduced intergroup conflict and promote the development of organizational identification (Allen et al. 2013). The benefits of functional integration among teams are particularly important in situations where the workforce is diverse.

Information Sharing

According to Zhou and Benton (2007), Information integration is considered one of the most representative tools to change the function and structure of an organization. It allows decision makers to manage information from several sources at the same time. It has the potential to support the transformation of organizational structures and to provide communication channels between multiple organizations working in different locations. Li and Lin (2006) defined information sharing as the voluntary act of making information possessed by one entity available to another entity. Information sharing is an activity in which conscious and voluntarily flow of information occurs as a result of the interaction between the businesses having information and the one to be informed in the organization.

McCormack and Johnson (2001) defined information sharing as the exchange of information between parties that allows one party to access information collected or maintained by another party. It involves providing the proper technical solutions - including hardware and software, instituting formal agreements between organizations, adopting standards, and changing business processes to allow organizations to share data and information with many other organizations. Sharing knowledge helps them connect, perform better, and become stronger as professionals (Zhou & Benton, 2007). Companies can improve their common knowledge by restructuring rules regarding their co-workers (Cheung, 2005). The degree of cooperation and integration between business departments and employees is crucial to the success of workforce integration. Cheung (2005) asserts that by managing knowledge properly, employees gain access to valuable information and deliver better results. The organization stimulates innovation and, directly, achieves growth a lot easier. Information sharing among employees is the most obvious indication of collaboration between team members (McCormack & Johnson, 2001).

Feldmann and Muller (2003) posits that to be competitive; businesses must be able to effectively manage their workforce, therefore sharing and coordination of information between employees and costs across organizations should be controlled. Businesses that use the right information at the right time and have knowledge will be more advantageous than their competitors. For any information to be useful and achieve business survival it should go through information management processes, which are based on culture and human. Businesses need to have strategies for information management, acquisition, use and transfer of information.

As one of the information processes, information sharing is an organizational culture in businesses and it helps businesses to succeed. It has been pointed out that information sharing and the quality of information shared are indications of the workforce integration (Cheng et al, 2008; Zhou et al., 2007; Feldman et al, 2003). Li *et al* (2006) also affirms that keeping everyone informed and appropriately involved in decision making is the foundation of an effective strategy of workforce integration.

Empirical Relationship between Information Technology and Workforce integration

There is evidence in the literature that information technology has an impact on workforce integration. For example; Barnes and Adam (2017) conducted a survey with 158 companies operating in Istanbul and Marmara Region in the manufacturing industry and found a positive significant relationship between IT and workforce integration with employees through communication- information sharing between functions and innovation. Bondarouk, Parry and Furtmueller (2017) using data obtained from 203 small and medium-sized enterprises operating in the metal industry and machinery, concluded in their analysis that the technology and human resource management have positive effects on the operational performance of the organization and workforce integration of employees.

The findings of Hendrickson (2003) in their research on the staff of Backbone technology (an online organization contemporary human resource organization), confirmed that IT was implemented in an organisation to streamline HRM processes in order to improve competitiveness. Also, that IT will probably not be implemented successfully if people and technology fail to interact with each other. Their research was descriptive and utilized the survey instrument in the assessment of specific constructs related to the research. This finding corroborates with the works of Varey, Wood-Harper and Wood (2002) who stated that that technology changes are often undertaken from within an engineering or functionalist paradigm. Further, that such an approach is primarily undertaken to ensure consistent performance outcomes. Also, that such a functionalist paradigm more often than not fails or underperforms and that rigid adherence to functional principles leads to dysfunctional technology application.

Also, in the works of Teo, Lim and Fedric (2007), the study findings revealed that information technology fuels employee isolationism and hampers managing diversity. As employee isolationism increases, employees increasingly feel under threat, reducing productivity, as top- down communication through the hierarchical structure struggles to enable participation, feelings of isolation increase. This can easily become a vicious cycle, furthering employee isolationism and further reducing the potential benefits of workforce integration (Mayfield, Mayfield & Lunce, 2003; Ball, 2001). The varied results from the empirical literature on the role of information technology in outcomes of work integration outcomes is such that demonstrates the imperatives for further research in the field.

Knowledge Gap

Extant research on the relationship between IT and workforce integration primarily anchors on data generated from Western and Asian contexts. Such offers knowledge and insight on the unique disposition and characteristics of organizations and their workplaces when it comes to the relationship between IT and workforce integration. However, such do not substantially reflect nor capture the organizational and social realities of other distinct contexts, thus limiting the extent of generalizations. This poses a gap in knowledge, given the paucity of research advanced in line with ascertaining the nature and relationship between these variables based on their evidence within most African contexts - particularly Nigeria. Further empirical research is thus required for advancing and broadening knowledge on variables, especially from the perspective of diverse contexts and related moderating contextual variables.

CONCLUSION

The discussion and literature review on the variables – Information Technology and Workforce Integration, offers a position on the imperatives of IT in bridging communication gaps and in ensuring collaboration within the workplace, which in turn drives outcomes of team support, functional integration and information sharing. The study, through its literature, demonstrates the imperatives of IT for improved outcomes of workforce integration - thus suggesting that through the strengthening and development of the organization's IT capabilities, organizations can effectively harmonize their systems and processes in a way that allows for team cohesion, functional integration and also information sharing. Based on this position, it is therefore affirmed that the IT is integral to the organization's capacity for effective workforce integration outcomes, and through its development, reinforcement and application, organizations can hilly harness its potentials and benefits.

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