

THE GENERATIONAL DIMENSION OF TECHNOLOGY ACCEPTANCE: THE CASE OF GENERATION X AND MILLENNIAL MANAGERS

Samson Nambei Asoba, Walter Sisulu University
Nteboheng Patricia Mefi, Walter Sisulu University

ABSTRACT

With the advancement to industry 4.0 which are associated with recent technological developments, there is increased interest into the acceptability of technological systems in organizations. In particular, technological acceptance has been observed to have a generational dimension which is of interest in recent talent driven enterprises. The study was designed to with the objective of adopted naturalistic observations to explore differences in the disposition to use technological tools in performing managerial tasks among millennial and generation X managers. To achieve the objective, the study relied on naturalistic observations of a millennial manager and a generation X manager taking a record of their reliance on technology in performing managerial tasks that they were scheduled to perform. The study found evidence that millenials have a high affinity for technological systems which they use to perform their scheduled tasks as well as socially engage and build relationship with others. Additionally, it was found that generation X managers rely more on telephone calls and seem to have a distrust of social media systems which were however notably used by millenials. The study recommend that organizations should facilitate the acquisition of technological skills among generation X managers as well as ensure that technological systems are used for the realization of organization goals.

Keywords: Generation X, Millenials, Technology, Technological Acceptance, Generational Cohorts

INTRODUCTION

To some extent, increased thrust in technological use is determined by the readiness, attitude and willingness of managers (Govindarajo & Kumar, 2013). A key variable that shape managerial attitudes and behaviours have been found to be age with different generational cohorts having been found to differ in these determinants of technological acceptance (Ng & Johnson, 2015; Bako, 2018). In a study of the leadership style of different generations, Bako (2018) observed that the behaviours, preferences and attitudes of millennials differ greatly with those of generation Z managers. These observations are essential when one takes into consideration that across organizations in both developed and developing countries, talent has become a critical determinant of competitiveness (Gallardo-Gallardo, Thunnissen & Scullion, 2020). In South Africa the need to drive economic growth and organizational competitiveness for better Gross Domestic Products (GDP) throws the focus on talent employees. Consequently, the work-related behaviours of the different generations is an important focus area. Organisations are concerned about the millennials and generation Z employers both as part of the talent themselves as well as in their capacity as talent managers (Gallardo-Garllado, et al, 2020). This study considered the propensity to technological acceptance among generation X as compared to millennial managers. Belfo & Sousa (2016) provided that different generations perceive technology differently and technological acceptance is also affected

by generational issues. The importance of this study owes itself to technological advancements and intensity of use which have culminated in the shift to the Fourth Industrial Revolution (4IR). To this end, Govindarajo & Kumar (2013) conducted a study which revealed that in the modern business environment, stakeholder satisfaction is dependent on effective technological use. These sentiments concur with those of Belfo & Sousa (2016) who argued that the increased technological use in organizations have meant increased concern on the role of technology in increasing managerial capabilities as well as enhancing satisfaction of suppliers, customers and other stakeholders.

LITERATURE REVIEW

Significant research has been done on the work related behaviours and actions of millennials and generation Z employers (Kaifi, Khanfar & Kaifi, 2012; McDonald, 2015). Most such studies have relied on the use of theoretical frameworks for technological adoption in order to understand technological adoption within the generations. Calvo-Porrall and Pesqueira- Sanchez (2019) used gratification theory to investigate generational technology adoption behavior and found that millennials were techno-savvy and used technology broadly for both work and recreation. In the same study, it was found that generation X managers used technology as a utility, for information as well as to simply achieve certain demands. While there are many technological adoption theories that can be used to explain technological acceptance among generation X and millennials, this study was based on Davis's (1986) theory of technological acceptance (TAM). The TAM provides that technological acceptance is influenced by two core variables, namely: (1) perceived ease of use and (2) perceived usefulness (Lee, Kozar & Larsen, 2003; Scherer, Siddiq & Tondeur 2018). Technological acceptance has become an important issue given 4IR advancements and the rise of industry 4.0. Hirschi (2018) observed that 4IR technologies present both opportunities and challenges in organizations as they seek to remain competitiveness and not to be left behind. In their efforts to advance technological acceptance and use in response to the 4IR, organizations have observed a generational dimension in respect of technological acceptance and affinity (Calvo-Porrall & Pesqueira-Sanchez, 2019). Moore and Bussin (2012) explains that the term generation in demographical studies refers to groups of individuals, who are categorised together because of specific events, which influenced their life, for instance the World Wars, the September 9/11 attack in New York or the 1994 transition from apartheid to democracy in South Africa. As a result, generational studies tend to observe homogeneity within generations and heterogeneity across them (Dimock, 2019). Today's workplace, as observed in Belfo and Sousa (2016), is composed of basically three generations, namely: (1) millennials, (2) generation X and (3) baby boomers. Dimock (2019) informs that millennials are a generational cohort that was born between from 1981 to 1996. The actual cut off years for the generations seem to differ across regions and countries. In South Africa, the millennial cohort stretches from 1981 to 2007 while the generation X cohort was born from 1961 to 1980 (Moore & Bussin, 2012). In describing generation X, Tolbize (2008) claim that they were born and grew up in a period of financial, familial and societal insecurity.

Objectives of the Study

Given the above, the study was designed to explore differences in the disposition to use technological tools in performing managerial tasks among millennial and generation X managers. Additionally, the study will be based on concepts of technological acceptance from the TAM model

METHODOLOGY

Naturalist observations of a generation X manager and a millennial manager at a selected organizations in the Air Transport sector in South Africa were conducted. Christensen, Johnson & Turner (2015) explains that naturalist observations are done in real world environment to observe a phenomenon happening in natural settings. A generation X manager and a millennial manager at the company were observed taking note of the challenges faced by each manager in using technologies in their offices. These challenges were deemed to be elements influencing perceived ease of use among the managers while there propensity to use technology in conducting scheduled tasks was also observed and recorded. These two concepts were deemed to be critical in establishing the generational dimension of technological acceptance among the managers. The study analysed the data collected taking note of the differences in observed challenges and observed disposition to use technology in conducting managerial roles of decisional, interpersonal and informational roles as informed by the Mintzberg's theory on the roles of a manager. It should be mentioned that Mintzberg's work was used as a lens to study. The event sampling procedure was used to establish what to observe and record. As advised in Christensen, et al., (2015), event sampling involves observing when a specific event was being conducted. In this study, the researcher observed the managers when they performed scheduled tasks which including meeting a key stakeholder, conducting organisational meetings, performing supervisory tasks, communicating with a client, decision making on certain organisational issues or officiating an event as a company representative

FINDINGS AND DISCUSSION

The study found that both the generation X and the millennial managers performed some repetitive tasks which were classified according to the frequency of which they are done. In addition, it was found that the tasks resembled each other. The observations were conducted over a period of three months during which the study was conducted. Table 1 provides the scheduled tasks that the managers were found to perform.

Scheduled task	Frequency of scheduled task
Meeting a stakeholder in the office (an important customer, supplier, local authority official etc)	At least one stakeholder was met every day
Meeting with organizational superiors	Once in a week
Formal meeting with a subordinate	At least twice a week
General staff meeting	Twice a month
Responding to strategic business mail	Regularly
Making decisions on critical matters affecting the organizations	Regularly
Representing the organization in several fora	At least once in a week
Solving routine problems	Regularly
Providing information to both internal and external stakeholders	Daily
Preparation of reports	Daily
Providing advice to senior management	Regularly

As shown above, there were regular, weekly and monthly scheduled tasks which the managers performed and the study sort to establish the technological dimension in the performance of the identified tasks. The specific focus was on the disposition to use technology as well as the acceptability of technological use in performing the various tasks.

As shown in Table 1. The preparation of reports and providing information to both internal and external stakeholders were daily tasks. Regular tasks included the providing advice to senior management, solving routine problems, decision making on critical matters as well as responding to critical business mail. These scheduled tasks of the managers supported the work of Mintzberg who classified managerial roles in terms of decisional, informational and interpersonal roles. Over the three months, it was found that there was a difference in the frequency of performance of certain scheduled among the managers. Table 2 provides the number of scheduled events which were found and observed among the two managers.

Scheduled task	Generation X Manager	Millennial Manager
Meeting a stakeholder (an important customer, supplier, local authority official etc)	30	15
Meeting with organizational superiors	15	10
Formal meeting with a subordinate	12	7
General staff meeting	6	6
Responding to strategic business mail	30	30
Making decisions on critical matters affecting the organisations	30	10
Representing the organization in several fora	10	6
Solving routine problems	30	30
Providing information to both internal and external stakeholders	13	15
Preparation of reports	12	7
Providing advice to senior management	30	30

The information provided in Table 2 is also shown in Figure 1. Figure 1 shows that the millennial manager dominated in performing information based tasks while the generation X manager was observed more while performing scheduled tasks such as the preparation of reports, making decisions on critical matters as well as meeting organizational stakeholders, representing the organization on various for a as well as engaging in formal meeting with subordinates.



**FIGURE 1
SCHEDULED TASKS AND FREQUENCY OF OBSERVATION AMONG THE MANAGERS**

In relation to technological use while performing tasks, a number of technological elements were observed among the managers. As shown in Table 3, thirty (30) events involving meeting a stakeholder were observed for the generation X manager and emails, virtual platforms and calls were used to perform the scheduled task. For the millennial manager, fifteen (15) events were observed and emails, social media, online chats, videos and other virtual communication platforms were observed in use. This shows that the millennial manager used a broad technological array than the generation X manager. This shows that the millennial manager seemed to have stronger affinity for technical tools, systems and platforms than the generation X manager.

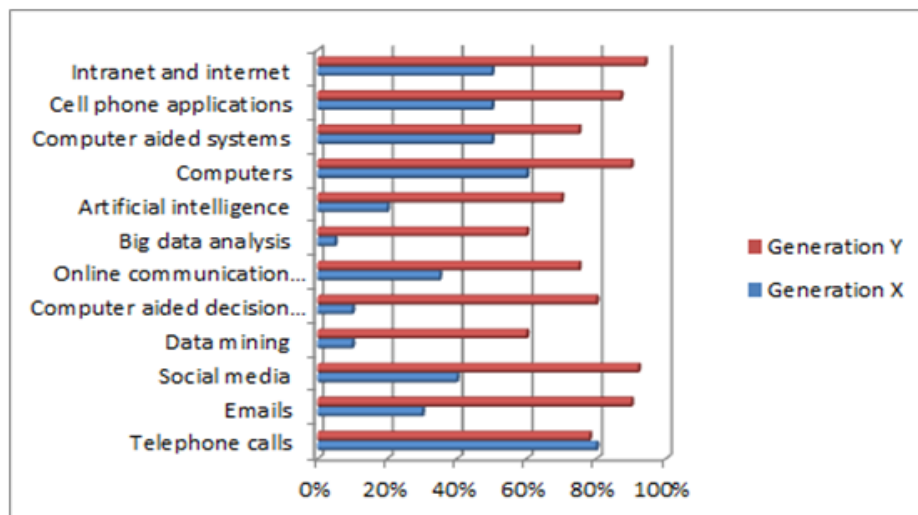
Scheduled task	Number events observed and technologies that the managers were using to perform scheduled tasks			
	Generation X Manager	Technologies used	Millennial manager	Technologies used
Meeting a stakeholder (an important customer, supplier, local authority official etc)	30	Emails, virtual platforms and calls	15	emails, social media, online chats, videos and other virtual communication
Meeting with organizational superiors	15	Emails, virtual platforms and calls	10	emails, social media, online chats, videos and other virtual communication
Formal meeting with a subordinate	12	Emails, virtual platforms and calls	7	emails, social media, online chats, videos and other virtual communication
General staff meeting	6	Emails, virtual platforms and calls	6	emails, social media, online chats, videos and other virtual communication
Responding to strategic business mail	30	Computers, phones, telephones, emails	30	Emails, phones, telephone
Making decisions on critical matters affecting the organisations	30	Computer aided decision systems, data mining, artificial intelligence, big data analysis	10	Computer aided decision systems, data mining, artificial intelligence, big data analysis
Representing the organization in several fora	10	emails, social media, online chats, videos and other virtual communication	6	emails, social media, online chats, videos and other virtual communication
Solving routine problems	30	Non-electronic records	30	Electronic records
Providing information to both internal and external stakeholders	13	emails, social media, online chats, videos and other virtual	15	emails, social media, online chats, videos and other virtual
Preparation of reports	12	Computer aided systems	7	Computer aided systems
Providing advice to senior management	30	emails, social media, online chats, videos and other virtual communication	30	emails, social media, online chats, videos and other virtual communication

Instances of the use of particular technological tools, platforms and systems for the managers are provided in Table 4. The table provides that the Generation X manager used telephone calls more (80% of the observed events) in performing certain tasks but significantly lags behind on big data analytics (5% of the observed events), computer aided decision making (10% of observed events) as well as data miningz (10% of observed

events). The use of artificial intelligence systems was also found to be significantly low among Generation X managers.

	Generation X	Generation Y
Telephone calls	80%	78%
Emails	30%	90%
Social media	40%	92%
Data mining	10%	60%
Computer aided decision systems	10%	80%
Online communication platforms	35%	75%
Big data analysis	5%	60%
Artificial intelligence	20%	70%
Computers	60%	90%
Computer aided systems	50%	75%
Cell phone applications	50%	87%
Intranet and internet	50%	94%

The information presented in Table 4 was presented in Figure 2. It is shown in Table 2 that millennials demonstrated stronger use of various technological tools and systems relative to generation Z managers. Generation X managers were found to be higher only in the use of the telephone while millennials or generation Y managers were found to significantly use many technologies and technological systems associated with the 4IR.



**FIGURE 2
FREQUENCY OF USE OF TECHNOLOGICAL SYSTEMS AND TOOLS AMONG
MILLENNIALS AND GENERATION Z MANAGERS**

The results of this study support prior studies that have found that millennials tend to have higher affinity for recent technologies than generation Z managers. Studies such as those of Ng & Johnson, (2015); Bako (2018) have established the generational differences in technological acceptance among the generations and have observed low technological

acceptance among generation Z managers. This study have found the generation Z managers seem to trust the use of the telephone more than social media and more specialized technological systems for decision making such as analytics and other computer systems. Millennials in this study were found to rely on technological tools and systems to perform their scheduled managerial tasks as well as to satisfy their interaction, recreational and relationship needs. These results are consistent a study by Calvo-Porrall and Pesqueira-Sanchez (2019) who also found that millenials use have a high technological acceptance which they use for both task related activities as well as other needs of a social nature.

CONCLUSION

This study was designed to investigate technological acceptability among generation Z and millennial managers in the context of the 4IR which is characterized by significant technological use. The objective of the study was to explore technological acceptance behaviours among generation X managers and millennials. The study found higher technological acceptability among millennials relative to generation X managers. Millennials were found to rely on technological tools and systems significantly as opposed to generation X managers. Generation X managers were found to rely more on the telephone and less on social media systems.

Recommendations

The study recommends the reliance of hybrid managerial structures in organizations which is composed of both millennials and generational X managers. In addition, it sis recommended that organizations should facilitate the acquisition of technological skills among generation X managers. It is also important for millennials to ensure that they strengthen their technological skills to fully exploit and realize the benefits associated with the 4IR. More research also seems essential in establishing why generation X managers seem to distrust the use of certain technological systems especially those in relation to social media.

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