Cargo cult agile: Use of information technology by senior executives for decision making activities

Cargo culto ágil: uso de tecnología de la información por parte de altos ejecutivos para las actividades de toma de decisiones

Written by:
Muhammad Sajjad[58]
ORCID ID: https://orcid.org/0000-0001-8409-0063
Orangzab[59]
Muhammad Irfan Chani[60]
Muhammad Sohail Tahir[61]

Abstract

Cargo cult agile is a metaphorical notion for senior executives (SEs') who have latest and costly information tools at workplace but their use for decision making is very limited. The study initiated to measure the use of information technology (IT) by senior executives for decision making activities. For this very purpose, territory of Islamabad, Pakistan were chosen for survey. Target population were top ranked officers or executives from the public organizations. Access to these executives were a big challenge, so the snowball sampling was the only technique which were employed in this study. A semi structured interview technique was used for data collection. This semi structured interview was divided into four portions. In first portion, simple and direct questions were asked about the routine tasks performed by senior executives while using their personal computers or laptops. Second portion consisted of questions related to hardware knowledge while the third portion have the questions about use of web, emails or blogs. The fourth and utmost important portion of this semi structured interview consisted of questions related to decision making activities. All responses were recorded on piece of papers in hard form and later transformed into percentages. It was found that most of the senior executives use their personal computers or laptops for drafting or for instant communication using internet. The real essence or tasks of these

Resumen

Cargo Cult Agile es una noción metafórica para los altos ejecutivos (SE) que tienen las últimas y costosas herramientas de información en el lugar de trabajo, pero su uso para la toma de decisiones es muy limitado. El estudio se inició para medir el uso de la tecnología de la información (TI) por parte de altos ejecutivos para las actividades de toma de decisiones. Para este mismo propósito, el territorio de Islamabad, Pakistán, fue elegido para la encuesta. La población objetivo eran oficiales o ejecutivos de alto rango de las organizaciones públicas. El acceso a estos ejecutivos fue un gran desafío, por lo que el muestreo de bolas de nieve fue la única técnica que se empleó en este estudio. Se utilizó una técnica de entrevista semiestructurada para la recopilación de datos. Esta entrevista semiestructurada se dividió en cuatro partes. En la primera parte, se hicieron preguntas simples y directas sobre las tareas de rutina realizadas por los ejecutivos superiores mientras usaban sus computadoras personales o computadoras portátiles. La segunda parte consistió en preguntas relacionadas con el conocimiento del hardware, mientras que la tercera parte tenía preguntas sobre el uso de la web, correos electrónicos o blogs. La cuarta y más importante parte de esta entrevista semiestructurada consistió en preguntas relacionadas con las actividades de toma de decisiones. Todas las respuestas se registraron en papel en forma dura y luego se transformaron en porcentajes. Se descubrió que la mayoría de los

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[58] Assistant Professor COMSATS University Islamabad, Vehari Campus
[59] Assistant Professor COMSATS University Islamabad, Vehari Campus
[60] Assistant Professor COMSATS University Islamabad, Vehari Campus
[61] Assistant Professor COMSATS University Islamabad, Vehari Campus

executives are impugned in decision making activities as per the title or resources they availed. But unfortunately, they have been stuck in minion jobs of IT which can be easily performed by their subordinates. The study highlighted and identified the cult of this modern era and urged the senior executives to effectively utilize the IT for decision making activities.

Keywords: Information Technology, Decision Making activities, Senior Executives, Semi Structured Interview, Snowball Sampling, Cargo Cult, Use of Internet, Blogs, Personal Computers.

altos ejecutivos usan sus computadoras personales o computadoras portátiles para realizar borradores o para comunicarse instantáneamente a través de Internet. La esencia o las tareas reales de estos ejecutivos están impugnadas en las actividades de toma de decisiones según el título o los recursos que utilizaron. Pero desafortunadamente, se han visto atrapados en trabajos de minion de TI que pueden ser fácilmente realizados por sus subordinados. El estudio destacó e identificó el culto de esta era moderna e instó a los altos ejecutivos a utilizar eficazmente la TI para las actividades de toma de
 decisiones.

Palabras clave: Tecnología de la información, actividades de toma de decisiones, altos ejecutivos, entrevista semiestructurada, muestreo de bolas de nieve, culto de carga, uso de Internet, blogs, computadoras personales-

Introduction

The present era is termed as information age due to advances in computer and communication technologies (McGuire, 1979; Viswe, 2019). Now-a-days, jobs are more information intensive and it is easy to manipulate and refine information for decision making purpose than early ages. It originates from the realization that if the information technology is used in a sensible and manageable way, it can be used as a competitive weapon. However, while the information technology (IT) can be used as a competitive edge (Powell & Dent-Micallef, 1997) and set new opportunities for organizations, it also creates a new set of challenges as well. For example, if the information technology resources are not properly managed, they tend to complicate the decision making process which may lead to failure of organizations ultimately (Buhalis, 1998; Clarkson, 2019; Zmud, Boynton, & Jacobs, 1986).

Every Organization either in public sector or private clinched the claim that if the technology is best utilized, it can enhance their effectiveness and efficiency (Frøkjær, Hertzum, & Hornbæk, 2000). The deployment and use of IT can be seen in every field from routine clerical activities to complex decision-making process and from service delivery to manufacturing units (Croteau & Bergeron, 2001). IT planning has been devised to improve technical infrastructure, trainings, education, product creation and enhancement, quality control and customer services, etc. for achieving the benefits associated with it. It has

been generally accepted that IT delivers competitive advantage, for speeding up the business transaction, to increase profitability, to deliver superior quality services and for improving customer satisfaction (Bhatt & Grover, 2005).

It is important that the organizations who have adopted the new technology must avoid what has become the cult of IT (Lowry, D'Arcy, Hammer, & Moody, 2016). The blind belief that technology alone will bring to the ladders of success is a fallacy. It can be attributed to the tribesmen in New Guinea who observed European administrators for placing an order by writing a letter and a cargo plane came with the goods. By observing this, the local tribesmen followed the same formal procedure by constructing crude airstrips, built warehouses and furnished their offices with furniture and started passing pieces of papers to each other with the belief that a cargo plane with goods will come to them. However, the plane will never come as the real essence of communication was missing. The anthropologists termed such infrastructure built by the tribesmen in the absence of real essence that have to bring the cargo plane with goods is known as "Cargo Cult" (Buck, 1988; Hughes, 2010). The term cargo cult has been transformed into 'cargo cult agile' by the authors of this study when associated it with information technology (IT). This is because IT is considered for speeding up all types of tasks performed within the organization (Mäki-Runsas, Wistrand, & Karlsson, 2019).

The term 'cult' is also suitable for SEs' as they emphasized on infrastructure and obtain the costly tools of IT like tribesmen but their actual use or real essence of this IT structured domain for decision making activities is missing. As a result, the effective use of IT tools by SEs' at workplace are subject to investigation for avoiding and falling in the fallacy of cargo cult agile. The belief that mere installation of IT would magically deliver the desired benefits can be associated with the blind belief of New Guinea tribesmen. History may repeat itself with regard to deployment of IT. To achieve maximum benefits from IT, it must be managed and utilized properly. As yet, there is still no evidence to support the popular myth that economic performance will be boosted by spending more on IT (Dedrick, Gurbaxani, & Kraemer, 2003). A poorly managed organization may add unnecessary costs even if it has adopted the best and latest technology. So, it can be determined that effective use of IT tools would be more beneficial rather than focusing on acquiring costly tools.

Problem Statement

The study raised the main question that to what extent SEs' use IT for decision making activities. Along with this main question three sub questions were also intrigued. These sub questions are

- To what extent SEs' use IT for their routine activities
- To what extent SEs' have knowledge about hardware specification of IT tools
- To what extent SEs' use IT for internet

To answer these questions, individuals at top positions from Pakistani Public Sector organizations were contacted. According to Sirisomboonsuk, Gu, Cao, and Burns (2018), actions and behaviors of SEs' has a vital role in the success or failure of a project. But their role is skeptical in IT usage, governance and its deployment, so it is crucial to measure the involvement of SEs' in use of IT. By addressing this very particular issue, this study uniquely measured the extent of use of IT by SEs'

Literature Review

SEs' are well aware about the usefulness of IT but IT tools yet are unable to grab their attention for effective use (Pijpers, Bemelmans, Heemstra, & van Montfort, 2001). So, if SEs' are not using IT properly, they are unable to reap its full benefits. Very few studies investigated the direct and indirect use of IT by SEs' (Harrison, Mykytyn Jr, & Riemenschneider, 1997; Jarvenpaa & Ives, 1991; Pijpers, 2002) and its consequences on organizational performance. Although, SEs' are aware that adoption of IT will leads their organization towards success but still acquiring the best IT tools will not guarantee the success. The reason is that investment in IT definitely will unable to deliver the value to the organization but the key is its effective usage and adoption (Shao & Lin, 2002).

The paradox behind the failure of organization instead of investing in IT is the result of non-involvement of its employees in such undertakings (Brynjolfsson, 1993). The employees are usually unable to reap IT related benefits when they don't have proper training for effective use of new technology. Even in the presence of demonstration and with proper training, the organizations failed to reap the benefits of investment in IT related projects because of the non-supportive behaviors of its SEs'. Lack of involvement by SEs' in IT tools and their use will definitely results in poor returns. It can be argued that why the SEs' should be so much involved in using IT and its applications. As the jobs of SEs' are related to the implementation of IT related projects to accomplish the firms' goals and are not installed for their personal use. However, studies related to adoption of IT revealed that when SEs' intentionally adapt and use IT for their personal use, they will not gain mastery on those tools but also become a role model for all other within the organization hence leads the organization to become IT oriented and savvy (Bakos & Treacy, 1986; Pijpers & van Montfort, 2005).

In some studies (Alavi, Yoo, & Vogel, 1997; Leidner & Jarvenpaa, 1995), it was argued that hurdle for using IT is the lack of getting formal education in IT and its related tools in spite of individuals commitment and willingness for IT usage. But when we associate it with SEs': there are two aspects, first IT is not the pre requisite for securing job at higher position nor the majority of SEs' possessed the IT related degree. Second, most of SEs' are in the age brackets of 50s and above and at the time of their formal education, no IT related degrees or courses were offered by their educational institutions. So, the unawareness of SEs' for IT related knowledge and its effective usage is a natural phenomenon. But with this natural phenomenon, it is also a bitter truth that without adopting the IT related tools and without its effective use, no organization can agile in today's competitive environment. So, instead of gaining in-depth

knowledge of IT and its use, SEs' should play their role in a symbolic way to encourage others (Alavi & Gallupe, 2003).

Use of IT in Routine Activities

To accomplish the routine tasks of the organizations, SEs' need managerial as well as technical skills. These skills of SEs' vary with their personality, background, experience, education, relationships and the time served in the organization. Although, use of IT to perform the routine tasks by SEs' are not mandatory because it comes under the heading of technical skill and SEs' require and relies on managerial skill to perform their day to day operations. Along with these managerial skills, SEs' also required strong interpersonal skills for communication and getting work from their subordinates. It is expected that using IT related tools enable the SEs' to enhance their managerial and interpersonal skills. The reason is that using IT in routine tasks saved a lot of time for SEs' and they can spend this extra time in other productive activities. Apart from gaining improved managerial and technical skills, using IT in routine activities can help managers with increased span of control and monitoring performance. Hence, using IT in routine activities by SEs' boost up their performance with time cutting edge.

Knowledge of IT Hardware

It is a common saying that a failed man blames his tools for his poor performance and failure. Lack of knowledge about the IT tools being used by SEs' may lead them to face with adverse consequences. This knowledge about the IT tools can be categorized into two parts, i-e, the basic knowledge and the in-depth knowledge. Of course, gaining the in-depth knowledge for IT tools underutilization of SEs' is not required but the basic or surface knowledge is mandatory. This basic knowledge of IT hardware help SEs' in estimating the efficiency and load capacity of their IT tools which help them for optimized use of these tools. Second, this knowledge also reduces their dependency on others if there is minor fault or just plug in or plug out issues of these IT tools. Moreover, this hardware knowledge facilitates SEs' to bargain with IT solutions providers whenever there is need to upgrade the IT infrastructure of their organization. From above, it can be said that having good knowledge about IT tools is essential for SEs' which will ultimately help them in decision making activities.
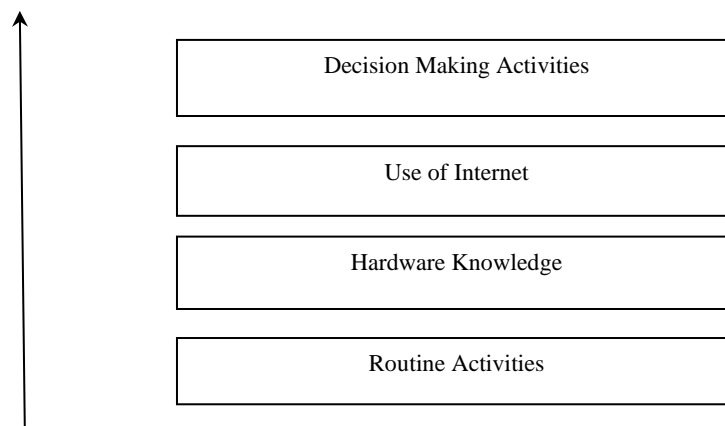
Use of IT through Internet

The advent of internet has changed the way of communication, gathering information, time to access the information and its comparison and evaluation with other data. Now a days, no Senior Executive (SE) can perform its duty without interacting with internet. It is mandatory for SEs' to improve their web skills to enhance their performance because effective use of web and its related application will help them to get the right information at right time. Later this information will improve their decision making skills by saving the time and cost. Having good grasp on web and its related applications will not enhance the capabilities of SEs' but also support them to monitor the performance of their subordinates while sitting in their luxury offices. Although, it is a reality that SEs' have very limited time to interact and experience the new applications of web and its applications but they need to understand that it is a precious source which have a positive and long-lasting effect on their job. Mastering on using internet will not only enhance the capability of SE's but also enable them to coordinate with others for guidance and solving problems.

Use of IT for Decision Making Activities

Decision making is the core job of SEs'. Usually SEs' make decisions based on their knowledge and experience for the best interest of their respective organizations. This decision making activity require a strong cognitive and analytical skills rather than having muscular powers or such related skills. While utilizing the cognitive skills, SEs' have to be vigilant, robust, dynamic, energetic and vigorous in all aspects. One aspect to make good decision is the source and speed of the information which will not help to improve the cognitive and analytical skills but also help in quick decision making. Although IT skill are not directly related to cognitive skills of SEs' but they enable them to quickly search for alternatives and choose the best alternative which is in favor of their organization. Without using IT, search for alternatives for making decisions can be a time-consuming activity which will ultimately leads the SEs' towards satisficing or compromising. But the effective use of IT empowers SEs' to quickly search for alternatives and choose the best one in no time. It is expected that the extended use of IT has not only good effect on the job of SEs' but also help them to seek the alternatives from reliable sources.

From critical review of literature and by considering the importance of use of IT in routine activities, hardware knowledge, use of internet and for decision making activities by SEs' this study proposed the following research model.

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│         Decision Making Activities        │
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│              Use of Internet              │
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│           Hardware Knowledge              │
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│            Routine Activities             │
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Research Model of the Study

Methodology

The study is quantitative in nature where the feedback from the respondents were collected through a structured questionnaire. Respondents of this study are government or public sector employees who are working on top ranked positions. The study area is the territory of Capital Islamabad Pakistan. In Pakistan, public sector employees are ranked from scale or grade 01 to 22 but broadly divided into two categories. One category is of non gazetted employees who are working below 16th grade. Other category is of gazetted employees who are working on BPS (Basic Pay scale) scale 16 up to 22th grade and also considered in officer ranks. The study targeted those public sector employees who are working on 18th BPS scale and above. These top ranked officers are enjoying top positions in their respective organizations and known as senior executives. The data was collected from these senior executives for using IT in their formal and routine activities on their job.

The reason to choose the senior executives for sampling is that they are directly involved in policy making and its implementation. They act role models for the rest of employees in their organizations. If they actively use the latest IT tools effectively, their subordinates automatically follow them and ultimately IT usage culture is promoted which is not only a time saving activity but cost efficient as well.
150 structured questionnaires were personally distributed to senior executives who are working in different areas of Islamabad, Pakistan. Out of 150, 106 completed questionnaires were received. The response rate is 71%. The purpose of research was to measure the usage of computer by managers in decision making activities and their knowledge about the latest trends of IT. The information was collected only from those executives who have computers at their home or office or both.

Access to senior executives were a cumbersome job because of their busy schedules and intensive tasks. Every senior executive was contacted through referral persons using a snow ball sampling technique. According to Faugier and Sargeant (1997), snowball sampling is very effective technique when the populations are very hard to reach. In this study, it was also very hard to contact the senior executives, so the snowball sampling technique was the only choice.

The survey was just like the semi structured interview. The information about nature of job was asked through a direct question. However, to measure the knowledge and usage of computer, dimensions were set. To measure knowledge about equipment of IT, information was collected about the computer the person had. Simple questions were asked about computer hardware such as (1) The model of the computer (2) The memory of the computer (3) the disk space of the computer. Similarly, simple questions have been asked about the routine software used by the person. For Example, (1) Word Processing Usage (2) Spread Sheet Usage (3) Presentation Software's used (4) Data Base Used (5) Statistical Package used.

These questions have not only measured the knowledge but also the usage of computer. As the people usually have good knowledge about software's which they frequently use in their routine activities. To measure the usage of online resources questions were asked about the (1) Extent of Web usage (2) Email Usage (3) Software Downloading (4) Participation in online Conferences. To measure the decision-making activities, questions have been asked

about (1) Exchange of information (2) Search of alternatives and (3) Choice of alternative. All the above information have been collected with face to face meetings from SEs' by using a structured questionnaire.

Results

The structured questionnaire was divided into four parts. In first part, information about routine tasks on computers were collected. In second part, the knowledge about hardware was checked. In third part, frequency to use the web and online resources was checked while in the fourth and last part the use of IT for decision making was measured. All results have been shown in percentages as given below.

In table 1 (below), the results showed that senior executives used word processing software very often and its parentage is 75.5%. Spread sheets usage in their routine activities were up to 54.7%. While the usage of presentation software's such as "Power Point and usage of databases are 22% and 13% respectively. Only 3% managers are indulged in research work and use statistical packages.

Table 1: SEs' Routine Activities

Software Used	Percentage
Word Processing Software	75.5%
Spread Sheets	54.7%
Presentation Software's	22.6%
Database	13.2%
Research Base Software's	2.8%

The statistics in table 1 are very alarming as most the SEs' usage of IT is limited to drafting or routine tasks which can be easily performed by their subordinates. The percentage of access to central or distributed databases is less than 15 percent which is not a good sign. As these databases provide instant and authenticated information in relation with internal and external customers of the organization. Lack to access this information through IT tool resulted in delayed decisions which ultimately affect the performance of the organization.

Using the research based software is trying to peeping into future which is for the best interest of any organization as they can prepare themselves for avoiding of unseen risks and exploiting the forthcoming opportunities. But the use of these research based softwares are less than 3 percent. It shows that SEs' are not well prepared and future oriented which is not in the best interest of their respective organizations. However, use of quantitative information through using spreadsheet is sufficient which is greater than 50 percent. It shows that SEs' are well aware about the facts and figures relevant to their tasks and are able to make decisions based on quantitative information. Use of PowerPoint or presentation softwares is also sufficient although not up to the mark which is 23 percent.

These presentation softwares are used for demonstration which is the key job indicator for SEs' when they have to exhibit their ideas or performance with internal or external stakeholders.

Table 2 (below) shows the information SEs' have about the IT equipment they have at their work place. In this study, the questions were asked about the hardware configuration of computers and laptops possessed by SEs'. The purpose was to assess the knowledge of SE's about hardware of their IT equipment as this knowledge can be associated with the performance of SEs' when they use these IT equipments for decision making activities. The questions about hardware knowledge were divided into two section. In the first section, simple questions about the hardware of the personal computer or laptop were asked. For example, the simple questions were asked about the brand, model, memory and speed of possessing of IT equipment. In second section, the more detailed and advance knowledge were intrigued by asking the questions of processor type, graphic or display memory, available ports and speed of wireless communication. It was estimated that the involvement of SEs' in the decision making would be high if they have the advance knowledge of IT equipment, they possess.

Table 2: SEs' Hardware Knowledge

Knowledge	Percentage
Hardware Knowledge	88%
Advance Knowledge	39%

Table 2 reveals that 88% of the SEs' know well about the hardware specification used in their computers or laptops. While only 39 % have in depth knowledge about the IT equipment they have. Overall results show that the in this area SEs' knowledge is adequate and satisfactory.

Table 3 (below) depicts that the tools which are used very often by managers in decision making activities while surfing the net. Internet has brought revolutionary changes in the current century. Due to advent and advancement in web, this era is labelled as the era of information age. With the help and effective use of web, SEs' can have access to the information with glimpse of eyes and communicate within and outside the organization. This communication will not help to save the time but also helps in quick decision making. In this study four questions were asked from SEs' about the use of internet or web. 80 percent of the SEs' claimed to have frequent use of web to perform their routine tasks. 61 percent confirmed the use of email for internal and external communication. Most of the SEs' told that they prefer to use organizations built or owned email for communication. The ratio of downloading softwares or attending online conference are 24 and 10 percent respectively. Although, the percentage of downloading softwares and other related materials by SEs' are very low but it was observed that it will not affect the decision making activities of SEs' as the essential softwares are pre-installed in their personal use IT equipments. Similarly, the frequency of online conferences or meetings are condensed because the online meetings will only take place when there is shortage of time with some issue which require immediate attention otherwise, SEs' prefer face to face meeting over virtual gatherings.

Table 3: SEs' Internet Usage

Web Usage	Percentage
Internet Usage	80%
Email Usage	61%
Downloading Software's	24%
Online Conferences	10%

Our results in table 3 shows that use of web and email usage by SEs' are suitable to help them in decision making, however for downloading, accessing softwares and their participation in online conferences are below the average of expected use. Possible reason for not accessing or downloading online softwares are the security threats or restrictions by the respective organizations. As these softwares may affect the privacy and sensitive data of SEs'. As far as the matter of online conferences, SEs' prefer face to face meetings with physical presence with protocol. One possible reason to avoid the online conferences or meetings by SEs' are the distortion or technical issues in group communication which are beyond the control of SEs'.

Table 4 shows (below) indicates the decision making attitude of SEs' for using their personal computers or laptops. SEs' act as role model for their subordinates. Their coordinates tried to mimic their bosses in formal or in informal settings. So, when SEs' actively and frequently use IT for decision making activities, it will help to create a IT oriented culture and this culture can be in the favor of their organization. In our study, 05 questions were asked from SEs' to measure the extent to which they use IT tools for decision making activities. Overall the use of IT for decision making activities is very minimal. 33

percent of managers use their IT tools for exchange of information and only 31 percent utilize them when they are facing problems and tried to search the alternative. IT tools and information help only 16 percent managers to make or finalize their choice while 24 percent of SE's feel that these IT tools have good effect and worthwhile in making their decisions. While

opting IT tools for making decision, one major concern from SEs' have about the reliability and authentication of information available through IT tools. Most of the SEs' doubt about the information accessed through IT equipment and hence the reliability of information obtained through IT by SEs' is only 17 percent.

Table 4: SEs' Decision Making Activities

Decision Making Activities	Percentage
Exchange of Information	33%
Search of Alternative	31%
Effect on Job	24%
Making Choice	16%
Reliability	17%

Our results in table 4 exhibited that SEs' still hesitate to use the IT tools for decision making activities. The possible reason for that they feel that the information obtained through IT tools are less reliable and there are authenticity and security issues along with such information. Sajjad, Humayoun, and Ziaullah (2010) also supported that IT security threats while using IT may adversely affect the functioning of SEs'. Apart from reliability and security concerns, most of the SEs' still believe that decision making using IT tools are cost and time efficient.

Conclusion

The study was conducted to measure the usage of IT tools for decision making activities by SEs'. The research findings show that the usage of computer by SEs' is very limited in decision making activities. On Average, only 16% managers use computers in decision making activities. 95 % managers have access to internet but their major usage is limited to email and web surfing. The study found that majority of SEs' using IT might lead them to confront security issues. This is also consistent by the study of Getman, Danilyan, Dzeban, Kalinovsky, and Hetman (2020) where they observed the information security issues in modern societies and concluded that these security concerns are associated with personal behaviors which might leads towards stressful situations.

Although, most of the organizations are equipped with latest IT equipments but their usage is very limited. As per study of Klochkova, Ledneva, Sadovnikova, Darda, and Oveshnikova (2019)

digital education and ability to use IT tools enhance the skills and capabilities of the employees. This also applies to this study, as most of the SEs' use clerical software's such as Word processing and spread sheets in their routine activities because they don't have formal IT related education. As a result, the use of sophisticated software's which may help them in decision making is very rare. For example, only 3 % manager's use Research based Software's (SPSS, MINI TAB etc.). This might support the findings of (Lowry et al., 2016) and (Davison, Vogel, Harris, & Jones, 2000) that the developing world must avoid what has become the cult of IT.

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