Original Research Paper

The Impact of Emerging Technologies on Workplace Privacy Case Study-Electronic Monitoring

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Abstract: Due to the COVID-19 epidemic pandemic, the Internet invades our life aspects and activities, the way we work or shop has changed, the educational system has changed, and the social structure and many other things in our lives have changed. In this research work, we analyze three hypotheses regarding electronic monitoring during the COVID-19 pandemic. The first hypothesis is the relationship between Electronic Monitoring and safety, the second is the relationship between Electronic Monitoring and privacy, and the third is related to acceptance of electronic monitoring in the workplace. For that, we have surveyed the COVID-19 pandemic to measure the effects of new technologies-in particular-electronic monitoring on productivity, creativity, and the effect of social networks in increasing the acceptance of electronic monitoring in the workplace. Our results show that the attitudes toward electronic monitoring have not changed over the years and a higher percentage of employees who were polled do not accept being monitored at the workplace, which means the introduction of new technologies in our life has not changed the opinion of people about electronic monitoring.

Keywords: Electronic Monitoring, Employee's Privacy, Employee's Productivity, Psychological Reactance Theory, Protection Motivation Theory

Introduction

The introduction of new technologies like computer systems, mobile phones, smart devices, and wireless devices in our lives has changed the lifestyle in the house, and at work and has changed the habits and behavior of people everywhere.

New technologies have a negative and positive impact on the environment in which they are used. Social networks, mobile phones, and the digital revolution, in general, have introduced a new way to work, to communicate, and a new information exchange style. A huge amount of data is available at any time, ready to process, exchange, or analyze. People become aware of anything that may happen in any location in the world. With the development of Internet technologies-in particular, during the COVID-19 epidemic-people can work from home, can communicate, and hear about any events that happen in faraway countries, and the spread of information is becoming very fast. All these possibilities have improved people's lives, but at the same time they put him under control, any movement, any word, and any communication now it is possible to register and retrieve anytime. Electronic Monitoring (EM) like any technology has a good and bad impact on people's lives at home and work. By electronic monitoring, we mean any kind of electronic surveillance like video monitoring, phone, emails, internet usage, social network monitoring, vehicle tracking, face recognition, etc.

Nowadays, the need for electronic monitoring is booming on a global scale to boost employees' productivity. But there's more to electronic monitoring than simply the technological aspects. In this research paper, we will study the impact of electronic monitoring in the workplace on privacy from the employees' point of view. In developing countries, electronic monitoring has added a sensation of safety and security anywhere. People are aware of their duties and responsibilities towards society, work, family, and because of that EM is becoming a lifestyle. In the countries under development, people feel depreciation if they are monitored. In some other countries, electronic monitoring is a necessity due to different factors like lifestyle, low income, social and personal problems, low educational level, and high level of unemployment. All these factors together stimulate people with a low income, low culture, and complex social life to theft, and fraud justified by life difficulties. At the workplace, some misbehavior like using

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organizational resources for personal use, spending part of the time solving personal problems, arriving late, or leaving the workplace early is considered a kind of theft. All these factors make electronic monitoring a necessity in the workplace. The idea behind our work is to study the effects of using new technologies in the workspace, in particular electronic monitoring. We will study the positive side of electronic monitoring from the employees' point of view, where people feel safe and secure when they are monitored. Here is a debate between what the organization owner wants from monitoring his employees and what the employees think about EM. The employee's motivation is that EM limits the possibility of innovation and creativity because innovation and creativity need freedom. That means the employee must be free to think, to move in work, and have creativity. Employers are motivated in that they want to protect their interests and they want to increase employees' performance. The organization owners are motivated by improving the productivity of their employees, spending more time on developing new ideas than controlling the workflow.

The business manager has the role of minimizing the dark effects of introducing new technologies in the workplace and optimizing their benefits. For that, he should take decisions about business activities like EM, email control, the use of company resources for private business, and their effects on the employees' privacy, security, productivity, commitment, employee affiliation to the company, and how to use their personal information like education, age, salary.

We assume that monitoring the workplace will reduce the violation accidents and theft operations to the minimum rate and make the employee feel safe and secure. On the other hand, electronic monitoring may threaten his privacy.

Research questions:

1. Does the acceptance of electronic monitoring vary given age, gender, educational level, and occupation?
2. Does there exist a relationship between electronic monitoring and safety and security?
3. Do social networks affect the acceptance of EM in the workplace?

Theoretical Background

Electronic monitoring has different dimensions with predictable psychological effects. Some of the research in the same context concludes that EM was associated with a decrease in employee performance and more negative attitudes (Griffith, 1993; Smith *et al*., 1992; Zweig and Webster, 2003). There has been little research that examines how electronic monitoring invades the employee's privacy or if it contributes to creating a safe

climate in the organization. Privacy invasion is described as the loss of control of personal information. Considering that today's work environment is extended from the organization building and devices to a cloud environment in which employees answer company e-mails and calls from their devices that may contain personal information, this form of work may invade the employee's privacy.

Our work is based on two important theories in the field of social sciences. They are:

- Protection Motivation Theory (PMT): This suggests that employees try to protect their sensitive information. For that, he will adjust his behavior to avoid what he deems a threat to his privacy, the situation that makes him feel uncomfortable in the workplace (Rogers, 1975). PMT states that the individual is protecting his privacy in two steps. The first step is evaluating the threat effects and the second step is to decide how to react to this threat (Sun *et al*., 2020)
- Psychological Reactance Theory (PRT): That suggests that employees may engage in counterproductive behavior if they believe their freedom is threatened (Jensen and Raver, 2012). The theory proposed by (Brehm and Cole, 1966), states that freedom of behavior is an important, beneficial and pervasive aspect of people's lives. When that freedom is threatened, they become motivated to restore it (Brehm and Cole, 1966). Rosenberg and Siegel (2018), the PRT components are explained, are the presence of freedom, elimination or threat of freedom, arousal of reactance, restoration of freedom

This research work is conducted to answer the research questions. For that, we have searched the Internet for similar work that answers our questions. From the point of view of employees or organization owners, most of the work found was concentrated on studying the relationship between electronic monitoring at the workplace and productivity from the employees' point of view, considering only the dark side of electronic monitoring. In this study, we are interested in studying the positive side of new technologies and, in particular, electronic monitoring.

Materials and Methods

Most of the previous work on electronic monitoring, in particular, and employee surveillance in general find divergence between employees' and employers' points of view about electronic monitoring. The employees were motivated that EM violated their privacy and limited the possibility of innovation and creativity because creativity

needs freedom. The employee must be free to think, move, work, and have creativity. The employers were motivated by protecting their work interests and increasing employees' performance and productivity. In our work, we are interested in studying the effect of the introduction of new technologies and social networks in our life in reducing the gap between employees' points of view and employers. Our work is based on Roger's theory PMT (Protection Motivation Theory) and PRT theory (Psychological Reactance Theory). In this research work we have conducted deductive research to test our hypothesis, we have surveyed the acceptance of EM from the employees' point of view, and we have collected a quantitative data by distributing an electronic questionnaire sent randomly to 200 persons of different age categories, different educational level to find the acceptance degree with the variation in the age, education, occupation, we have received only 138 answers. After collecting data, our data is analyzed statistically using SPSS (Statistical Package for the Social Science) considering the Chi-Square test (Ugoni and Walker, 1995), to quantify our results and to find the relationship between the acceptance of EM and our research hypothesis, then we have compared our results with similar work performed 12 years ago (Al-Rjoub *et al*., 2008). Our hypothesis is: Does EM increase the feeling of safety and security in the workplace? Does the use of social networks have reduced the gap between employees' and employers' points of view?

Related Works

The vast use and availability of new technologies have created new work models that differ from the traditional work models. The introduction of big data and cloud technologies in the workplace affects each individual at the workplace. These new technologies give the possibility to be innovative in time, place, and workspace (Morgan, 2014). These changes in how we work, when we work, and where we work may have dark and light sides to both the employees and the company. Joyce *et al*. (2018), the effects of using new technologies are studied in the work on the employee's private life. Due to the use of mobile devices, people suffer from technology addiction. That means people are connected to the Internet all the time, which causes poor sleep, physical problems, anxiety, and depression. Due to this problem, the employee is always active and can answer all e-mails, perform some tasks or complete a job even if he is out of office hours. This study presents some of the negative effects of the new technologies on employee life and proposes. Some methods use new technologies to increase productivity and improve employee lifestyle, like data analysis, data tracking, using new technologies to promote healthier behavior (like sorting e-mails, categories, scheduling appointments), to encourage the

production flow and reduce social pressure and make the work environment better.

Prasad (2018), is presented 10 ways the technology has changed the business workplace to make it easier and more efficient from the way of communication to the methods of solution to the operational methods to the management cost. New technologies make the business more secure and fully organized, increasing collaboration, improving the efficiency of employees, and enabling remote working. Due to mobile and cloud technologies that enable Internet-based services, the workplace becoming interconnected, and people can reach work at any time, any place not only away from the physical workplace. So, cloud technologies broke down barriers within and among organizations. Holland *et al*. (2015), and Peter's et al studied the effect of cultural values like individualism and collectivism on the acceptance and use of electronic monitoring in the workplace. The results show that EM is less used when the organization is directly controlled by the owner and more used when the organization is indirectly controlled. The former study highlight the positive side of electronic monitoring like higher productivity, engagement, and commitment, and the dark side like loss of social cohesion, loss of work motivation, and loss of information and knowledge transfer.

Holland *et al*. (2012), research performed about the EM in the workplace resulted in 50% of employees being opposed to e-mail monitoring, 60% were against telephone monitoring and 56% were opposed to video surveillance. That means while employers try to protect their companies, employees need to maintain their privacy. Martin *et al*. (2016), and Martin and Gimmer found that higher-level surveillance is associated with counterproductive work behavior. Jackson *et al*. (2017), Jackson states that employers must find a good balance between electronic monitoring benefits and the cost of invading the employees' privacy. Kızıloğlu (2018), the relationship between workplace monitoring and job monitoring is studied from the point of view of an employee. The results show that the relationship between the two variables is very weak and there is no significant relationship between them. However, a study conducted in 2005 by (Townsend, 2005) shows that there is a debate between the employee point of view about EM's negative effects on morale, performance, and job satisfaction and the organization owner's point of view which is favorable for EM to increased employee performance and productivity. In this research work, we are interested in studying the effect of introducing new technologies and the Internet on all our life aspects in reducing the gap between employee and organization owners' points of view. For that, we have distributed about 200 electronic questionnaires to different people of different ages and occupation categories to study the effect of electronic

monitoring on their privacy and feeling safe in the workplace. Our results will be presented and analyzed in the next section. Coultrup and Patrick's (2012), four hypotheses are tested electronic monitoring and its psychological effects. The first hypothesis states that there is a positive correlation between knowing the organization's policy for monitoring and employees' trust in the organization. The results do not support this hypothesis, where all the results show that there is a negative relationship between electronic monitoring and employees' trust, where a major part of employees feel that electronic monitoring should not be done at all. The second hypothesis states that e-mail and Internet usage is private and should not be monitored by the organization. The results show that there is partial support for this hypothesis. The third hypothesis states that there is a good acceptance for electronic monitoring in the presence of prior knowledge that E-mails are monitored. The results do not support this hypothesis and most employees still feel that electronic monitoring invades their privacy. The fourth hypothesis states that the organization has the right to monitor Internet activities and usage if the major part of the employee's work is done on the Internet. The results partially support this hypothesis. Some of the employees feel that the organization does not have the right to control/monitor Internet usage. The participants in this study were full-time faculty and administrative staff at the University of Sandhill of North Carolina during the academic year 2006-2007. Oyedeji and Okafor (2019), the relationship between electronic monitoring is examined and work performance using Bank XYZ branches in Ilbadan. The results show that 81.1% of the participants in the study had a positive perception of the use of electronic monitoring, 75.6% view that the use of electronic monitoring increases works performance, 46.5% agree that electronic monitoring creates suspicion in the workplace, the results show that there is a positive relationship between electronic monitoring and employee performance, 55.9% of the respondent said that EM invades their privacy while, 44.1% said that EM did not invade their privacy, 55% were favorable to inform employees that they are monitored and 44.9% said that is not necessary the employee know that they are monitored.

The new technology adds new work facilities that reflect on productivity and performance. For example, improving the communication between employers and employees, allowing employees to interact with the global market, time management is optimized, employee productivity is improved, flexible communication, teamwork is more easy and effective, less time is wasted, and information is accessed only by the right persons, that means technology shapes the organization's culture and influence how employees interact with the physical workplace but in some cases at the cost of employees privacy (Dukes, 2019). Technological advancements that enable employers to gain more employees' performance have generated significant privacy issues for employees. Electronic monitoring impacts the relationship between the employee and employer, as the employee knows that his performance is monitored and can be used to assess his work and can be reflected negatively in his productivity, performance, and trust in his employers (McParland and Connolly, 2019). In the research presented in (Martin *et al.*, 2016), about electronic monitoring from the employee's point of view, the results of a study done in 2017 by the American Management Association found that 78% of companies monitor Internet usage, phone, e-mails, and employee activities during working hours. That has increased over the past 20 years (1997) to about 35%. As a result of the study, 25% of employers have fired employees for misuse of the Internet, 25% had terminated employees for e-mail misuse and 6% had fired employees for misuse of office phones. Martin *et al.* (2016). Research conducted in Australia has shown that attitudes towards surveillance at the workplace play an important role in determining whether surveillance systems result in counterproductive work behavior. In addition, from the employee's point of view, surveillance at the workplace can negatively influence employee stress levels, which can be manifested through absenteeism, lateness, and lack of productivity. All previous works clearly show the presence of a gap between what employers want from electronic monitoring that is increasing productivity and what the employee thinks about electronic monitoring that is invading his privacy by collecting and managing his sensitive information. Holland *et al.* (2015), argue that the lack of trust between the employee and his organization can harm employees' behavior, actions, or willingness to share their information in the workplace.

Results and Discussion

Demographic Frequency Distribution

The sample size is 138 and was distributed randomly. Table 1 presents the distribution of the sample given the gender. Table 2 presents the distribution of our sample given the age. Table 3, presents the distribution of samples given the educational level and Table 4, represents the distribution of samples given the occupation.

The Acceptance of Electronic Monitoring

To view the acceptance of people for electronic monitoring and its effects on productivity and freedom, we have asked the following questions:

1. Do you accept being monitored all day and for all your activities?
2. If you are not monitored at work, do you like to be monitored to increase your productivity?

3. If you are monitored at work, do you think that monitoring will limit your productivity?
4. Do you think that electronic monitoring violates your privacy at work?
5. Do you think that electronic monitoring limits innovation at work?
6. Do you think that the introduction of social networks has increased the acceptance rate of electronic monitoring?

Table 5 represents the frequency of answers obtained from the previous 6 questions, considering that Yes indicates the acceptance of electronic monitoring and No indicates the rejection.

From Table 5, we can find that there is a convergence between the opinions of people that favor EM and those with the opposite opinion. That is clear in answers to question 3, where 54.3% think that EM limits productivity and 45.7% think the opposite. From question 6, 52.2% think that social networking has increased the acceptance of EM (who agree with our hypothesis) and 47.8 think that social networks do not affect accepting EM. From Table 5, it is clear that 91.3% of our sample do not like to be monitored all day long. In addition, 73.9% think that EM will limit freedom at work and 63% think that EM limits innovation and creativity in the workplace and 73.9% think that EM does not increase employee productivity.

The Relationship between Productivity and EM and Gender

Table 6 shows the distribution of the answers to the following question according to gender:

Question: If you are not monitored at work, would you like to be monitored to increase your productivity?

Table 6 shows that 45.6% of our sample think that EM limits productivity, 52% of them were female and 48% of them were male. Also, from Table 6, it is clear that the number of females that think the EM increases productivity is equal to those who think the opposite. That means the acceptance of EM does not relate to gender.

The Relationship between EM, Productivity, and Age

Table 7 shows that most of the studied sample was from age (20-30) years and most of them think that EM does not limit productivity (56.0%). The opinions of people between the age of 40-50 were distributed equally between favoring and opposing electronic monitoring. That means, there is no relationship between EM, productivity, and age.

The Relationship between EM, Innovation, Creativity, and Educational Level

Table 8 shows the distribution of answers to the following question given the educational level:

Question: Do you think that electronic monitoring limits innovation in the workplace?

Answer's analysis: Yes, means accepted and No means rejected.

From Table 8, we can note that the distribution of people that think that EM limits innovation and creativity from those who think the opposite among people with a Ph.D. degree is equal, which is equal to (11.7%) of the total of people that think that EM does not limit innovation and creativity at workplace. However, 69.5% of our sample were people with a BS degree, and 37.5% of them think that the EM limits creativity and innovation in the workplace. We can conclude that there is a divergence in opinions about EM and creativity given the educational level.

The Relationship between EM, Innovation, Creativity, and Occupation

From Table 9, we can conclude that 63% of people in our sample think that EM does not limit innovation and creativity, (31.03%) of them were doctors and a small percentage were teachers and faculty staff.

Testing the Second Hypothesis: EM in Workplace Help in Feeling Safety

Table 10 shows the frequency of people that feel safe in the workplace where they are monitored. Results are obtained by answering the following question:

Question: Do you feel safe when you are in a location monitored electronically, in particular your workplace? We classify the answers to this question as a favor (yes) and (no) for the opposite opinion, then we find the relationship of these answers given the age and occupation in Table (11 and 12)

From Table 10, we can conclude that there is a convergence between the results about the people that feel secure or not when they are monitored.

The Relationship between EM, Safety, and Age

The Relationship between EM, Safety and Occupation

From Tables 11 and 12 we can conclude that 56.0% of people between 20-30 do not feel safe when they are monitored, from a total of 54.3% of all our samples. Also, there is no relationship between EM safety and occupation.

Electronic Monitoring and Privacy Issue

Most previous works affirm that EM violates the employee's privacy. Our results show that 41.3% of our sample think that EM does not violate privacy and 58.7% think the opposite (Table 13).

The Relationship of EM, Privacy, and Gender

From Table 14, 41.3% of our sample think that EM does not violate privacy, distributed given the gender as 36.8% female, and 63.1% male. However, 56.0% think that EM violates privacy. From Table 14, we can see that the males that accept EM in the workplace are equal to the percentage of males that do not accept EM. We can conclude that the acceptance of EM and privacy are not related to gen, age, or occupation.

The Relationship between EM and Privacy and Age

From Table 15, it is clear that 54.3% of our sample were at the age of 20-30. The opinions distributed show a convergence between those that agree with EM at the workplace and those that disagree; 48.0% of them think EM does not violate privacy, and 52.0% think EM violates privacy.

From Fig. 1, it is clear that the category of people from 30-40 years old think that electronic monitoring violates privacy.

The Relationship Between EM, Privacy, and Occupation

Table 16 shows the percentage of people that either agrees or disagree with EM in the workplace distributed according to the occupation.

Testing the Third Hypothesis: The Effect of Social Networks in Increasing the Acceptance of EM

Table 17 shows that 52.2% of our sample think that social networks have increased the acceptance of EM in the workplace and 47.8% are the opposite.

The Relationship of our Hypothesis with the Gender

From Table18, we can conclude that 59.1% of people that think that social networks have no role in EM acceptance were female and 40.9 were male.

The Relationship of our Hypothesis and the Age

From Table 19, 52.2% of people think that social networks have no role in increasing the acceptance of EM, 37.5% of them were from 20-30 years, 25% were from 30-40 years, 12.5% were from age 40-50 years old and 20.8% were over 50 years old.

From Fig. 2, it is clear that the category that does not accept electronic monitoring is between 30-40 years old.

We have compared our work with that performed in 2008 by Kızıloğlu (2018). The main points that were in common between the two types of research show that electronic monitoring increases productivity. Does electronic monitoring increase creativity? The results show that the introduction of EM at the workplace does not increase productivity due to the convergence in the results obtained in 2020 with that obtained in 2008. The percentage obtained in our work in 2020 was higher than that obtained in 2008 by Al-Rjoub, Table 20.

Another comparison factor: Does electronic monitoring increase creativity, or not? The result obtained by Kızıloğlu (2018), gives an equal percentage between those that believe that electronic monitoring increases creativity and those that think the opposite. However, in our work, the percentage of people that think that EM does not increase creativity is higher than for those people that think the opposite Table 21.

Morgan (2014), similar work to our work conducted in bank branches of XYZ scattered across Ibadan Metropolis, which is the capital city of Oyo State, a large city in West Africa, the bank under study has the highest rate of Automated Teller Machine (ATM) and Internet banking users in Nigeria, the sample size used in the study were 135, we compare our results with the results obtained in their work about the effect of EM on privacy, productivity, Table 22.

Table 1: The distribution of sample given the gender

	Frequency	Percent
Female	66	47.8%
Male	72	52.2%
total	138	100%

Table 2: The distribution of sample given the age

Category (year)	Frequency	Percent
20-30	75	54.3%
30-40	18	13.0%
40-50	18	13.0%
Over 50	27	19.7%
Total	138	100%

Table 3: The distribution of the sample given the educational level

Degree	Frequency	Percent
Ph.D. degree	12	8.7%
Master degree	24	17.4%
BS degree	96	69.6%
High school certificate	6	4.3%
Total	138	100%

Table 4: The distribution of sample given the occupation

Occupation	Frequency	Percent
Doctor	48	34.8%
Nurse	9	6.5%
Faculty member	9	6.5%
Teacher	3	2.2%
Manager	12	8.7%
Governmental employee	15	10.9%
Other	42	30.4%
Total	138	100%

Table 5: The acceptance of electronic monitoring

Question	Yes		No		Total	
	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %
1	12	8.7	126	91.3	138	100%
2	36	26.1	102	73.9	138	100%
3	75	54.3	63	45.7	138	100%
4	102	73.9	36	26.1	138	100%
5	87	63.0	51	37.0	138	100%
6	72	52.2	66	47.8	138	100%

Table 6: The relationship between EM, productivity and gender

	Female	Male	Total	Percentage %
yes	33	30	63	45.6
No	33	42	75	54.4
Total	66	72	138	100.0

Table 7: Relationship between EM, productivity and age

	20-30 years	30-40 years	40-50 years	Over 50 years	Total	Percentage %
No	42	3	9	9	63	36.9
Yes	33	15	9	18	75	63.1
Total	75	18	18	27	138	100.0

Table 8: Relationship between EM, creativity and educational level

	Ph.D. degree	Master degree	BS degree	High school certificate	Total
yes	6	9	36	0	51
No	6	15	60	6	87
Total	12	24	96	6	138

Table 9: The relationship between EM, innovation and creativity and occupation

	Doctor	Nurse	Faculty staff	Teacher	Manager	Governmental employee	Other	Total
yes	21	3	6	0	3	3	15	51
No	27	6	3	3	9	12	27	87
Total	48	9	9	3	12	15	42	138

Table 10: The electronic monitoring help in feeling safe in the workplace

	Frequency	Percentage
No	66	47.8%
Yes	72	52.2%
total	138	100%

Table 11: The relationship between EM, safety and age

	20-30 years		30-40 years		40-50 years		Over 50 years		Total
	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	
yes	33	44.0	9	50.0	12	66.6	12	44.4	66
No	42	56.0	9	50.0	6	33.4	15	55.6	72
Total	75	54.3	18	13.0	18	13.0	27	19.5	138

Table 12: Relationship between EM, safety, and age

	Doctor	Nurse	Faculty staff	Teacher	Manager	Governmental employee	Other	Total
yes	24	6	6	0	3	6	21	66
No	24	3	3	3	9	9	21	72
Total	48	9	9	3	12	15	42	138

Table 13: The frequency of favorite and opposite to EM and its relationship with privacy

	Frequency	Percentage
No	57	41.3%
Yes	81	58.7%
Total	138	100%

Table 14: The relationship between gender, privacy, and EM

	Female		Male			
	Frequency	Percentage %	Frequency	Percentage %	Total	Percentage %
Yes	45	68.1	36	50.0	81	58.7
No	21	31.9	36	50.0	57	41.3
Total	66	100.0	72	100.0	138	100.0

Table 15: The relationship between EM, privacy and age

	20-30 years		30-40 years		40-50 years		Over 50 years		
	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	Total
Yes	39	52.0	15	71.4	9	60.0	18	66.6	81
No	36	48.0	6	28.6	6	40.0	9	33.4	57
Total	75	100.0	21	100.0	15	100.0	27	100.0	138

Table 16: The relationship between EM, privacy and occupation

	Doctor	Nurse	Faculty staff	Teacher	Manager	Governmental employee	Other	Total	Percentage
Yes	24	6	3	3	6	6	30	81	58.6
No	24	3	6	0	6	9	12	57	41.4
Total	48	9	9	3	12	15	42	138	100.0

Table 17: The frequency of acceptance of EM, concerning the social networks

	Frequency	Percent
No	66	47.8%
Yes	72	52.2%
Total	138	100%

Table 18: The relationship between social networks and the acceptance of EM

	Female		Male		
	Frequency	Percentage	Frequency	Percentage	Total
Yes	27	37.5%	45	62.5	72
No	39	59.1%	27	40.9%	66
Total	66	72	138		

Table 19: The relationship between social network, acceptance of EM and Age

	20-30 years		30-40 years		40-50 years		Over 50 years			
	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %	Total	Percentage %
Yes	48	64	3	14.2	6	40	12	44.4	66	47.8
No	27	36	18	85.8	9	60	15	55.6	72	52.2
Total	75	100	21	100.0	15	100	27	100.0	138	100.0

Table 20: Does electronic monitoring increase productivity

	Our work 2020	Kızıloğlu (2018) (2008)
No	54.3%	47.1%
Yes	45.7%	41.1%
Impartial	-	11.8%

Table 21: Does EM increase creativity

	Our work 2020	Kızıloğlu (2018) 2008
No	63.0%	41.2%
Yes	37.0%	41.1%
Impartial	-	17.7%

Table 22: Comparison between our work (2020) and that performed in Nigeria in May 2019

	Positive		Negative	
	Our work/Jordan	2020 West Africa Morgan (2014)	Our work/Jordan	2020 West Africa Morgan (2014) Nigeria 2019
Perception about EM	8.7%	81.1%	91.3%	7.9%
EM limit privacy	73.9%	55.9%	26.1%	44.1%
EM limit productivity	45.7%	75.6%	54.3%	24.4%
The employees must know that they are monitored	50%	79.5%	50%	20.5%
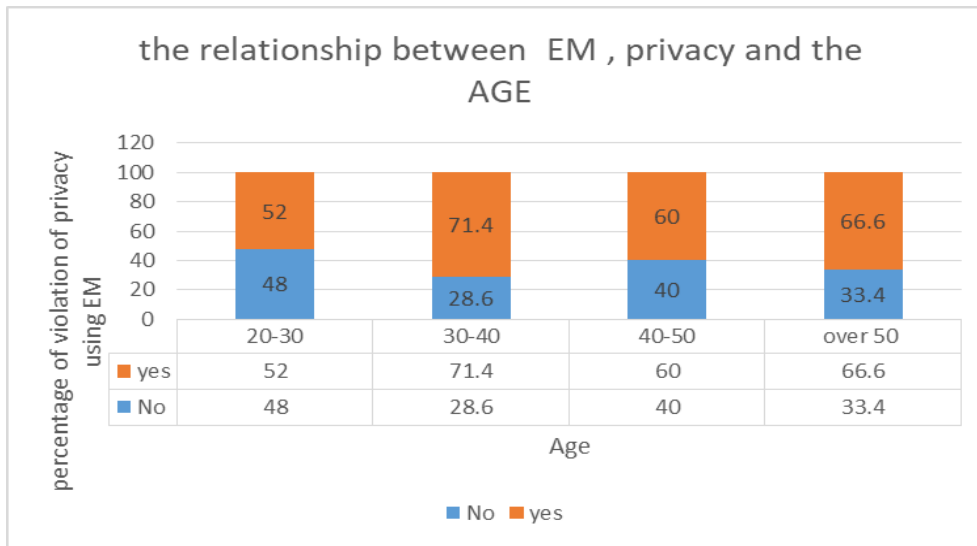
Fig. 1: Relationship of privacy, EM, and age
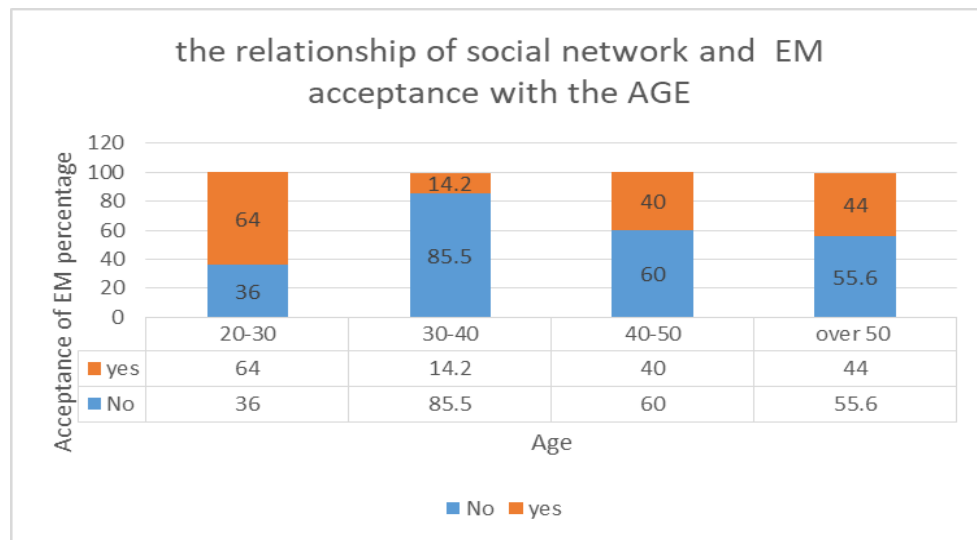
Fig. 2: The relationship between social network and acceptance of EM with the age

From Table 22, we can conclude that people in our country (Jordan) do not accept EM. However, the perception of EM in Nigeria is positive with a high percentage of 81.1%. In both types of research, people feel that EM limits privacy, but the opinion about increased productivity is different in the two types of research.

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PRT Theory and its Relationship with EM

In the relationship between PRT theory and electronic monitoring, our results show that 88% of people believe that if the employee feels that his freedom is threatened, he tries to restore it and in this context, 67% of our sample believe that the electronic monitoring at the workplace violates privacy. However, only 36% think that working online using video conferencing may violate the privacy of the location where they work. 81% of people think that EM has a positive effect on the workplace but they do not want to be monitored at work.

Conclusion and Future Works

In this study we have tested three hypotheses about EM in the new technology era -COVID-19 epidemic period-, our results show that 52.2% of people think that social networks have increased the acceptance of EM. The acceptance of EM is not related to gender or age. However, there is a divergence in opinions about EM given the educational level, where it is noted that the percentage of people that accept being monitored at work is equal to that opposing being monitored among Ph.D. degree holders. These percentages vary between people holding a BS. Degree. Our idea behind this study is to test if people feel safe and secure at work if they are monitored. Our results show that 56.0% of people between 20-30 years do not feel safe when they are monitored and there is no relationship between feeling safety and occupation. In addition, 58.7% of people think that EM violates their privacy, considering that the relationship between EM and privacy does not depend on gender, age, or occupation. We have compared our recent work with another similar work done in 2008. The comparison results about EM and privacy indicate that the opinion of people has not changed over the years and a higher percentage of people think that EM does not increase productivity and creativity. Another comparison was done with similar work conducted in Nigeria in 2019. The results show that the acceptance of EM in Nigeria is higher than in Jordan.

Our future work is to study the role of human resource departments in the security and privacy of employees when they are monitored at the workplace or in online mode. Case study online teaching during COVID-19 epidemic.

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Author's Contributions

Arwa Zabian: Paper writing and formatting, results analysis and data collection.

Sami Qawasmeh: Paper idea, editing, reviewing.

Ethics

This study was a field research in which information was collected by distributing a questionnaire in which all matters related to privacy are explained, and there is no part in this study that contradicts the ethics of research or information gathering.

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