

Effect of Electronic Surveillance on Task Performance: Mediating Role of Digital Transformation Moderating Role of Perceived Organizational Support

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ABSTRACT

Purpose: Digital transformation is of increasing relevance for both practitioners and scholars. Modern digital technologies, services, and systems are extremely important for social development because they are currently taking place in the economy, production, and society as a whole. This study delves into the crucial domain of electronic surveillance within the healthcare sector, assessing its influence on employee task performance. It investigates the interplay between electronic surveillance, perceived organizational support, and digital transformation. Our research aims to unravel how perceived organizational support moderates the relationship between electronic surveillance and task performance while also examining the mediating role of digital transformation in this dynamic.

Design: This cross-sectional study utilizes purposive sampling to collect data from 428 participants from the healthcare sector of the province of Punjab, Pakistan.

Findings: The findings indicate that electronic surveillance positively influences task performance, with digital transformation acting as a mediator. Additionally, perceived organizational support moderates this relationship, emphasizing its vital role in optimizing task performance.

Theoretical Implications: This study advances understanding of workplace dynamics by elucidating how electronic surveillance, digital transformation, and perceived organizational support interact. It contributes valuable insights for organizational and management theories, emphasizing the need to consider these multifaceted factors in optimizing task performance.

Practical Implications: This research provides valuable insights to healthcare organizations by shedding light on these multifaceted dynamics seeking to optimize task performance amid evolving technological landscapes and increased surveillance.

Originality: This study pioneers the exploration of the intricate interplay between electronic surveillance, perceived organizational support, and digital transformation in the context of task performance in the healthcare sector of society.

Keywords: Digital transformation, Electronic surveillance, Task performance, Perceived organizational support, Society, Healthcare

1. Introduction

The concept of digital disruption, which has emerged in the twenty-first century, is transforming all established industrial environments (Kraus, 2019). As a result of the use of digital technology, new products and services are being produced, which is also changing the way work is done (through outsourcing, online platforms, robotics, improved automation, and so on (Wilburn, & Wilburn 2018). Working with digital data in real-time profoundly alters how things are managed, produced, sold, and used. Modern digital systems, services, and technology are therefore crucial for the advancement of society (Saarikko, Westergren, & Blomquist, 2020). Their incorporation into business and organization operations, engineering and technology, production enables the expansion of the range of goods and services, as well as improvements to their quality and compliance with consumer demand, productivity gains, and the formation of new value-added chains (Oztemel & Gursev 2020). Productive behaviors have been mainly associated with electronic devices such as computer, smartphones, laptops cameras and scanners make the task easy and understandable. The relationship of electronic surveillance and outcomes are interconnected.

Electronic surveillance in the workplace defines the usage of computers, smartphones. Cameras and telephones, to track the behaviors of employees for productivity effectiveness performance, and safety considerations (Yost et al., 2019). In some studies, electronic surveillance is used together with electronic monitoring and electronic devices used for betterment of the organizations and enhancing the productive behaviors of the individuals covers the concept of electronic surveillance (Holland et al., 2015).

Digital transformation (DT) encompasses digital trends at multiple levels, including technology, organizational elements, processes, particularly business model disruption, and society (Kraus, Schiavone, Pluzhnikova, & Invernizzi 2021). It has an impact on a variety of organizational characteristics, including the development of digital growth strategies, the design of internal organizational structures, and the establishment of appropriate metrics and objectives (Verhoef et al., 2019). The business sector as a whole is being revolutionized by this phenomenon, which has grown to be a very prominent research issue in a number of business research areas (such as information systems, strategy, and marketing) (Dhoni & Kumar, 2023).

Digital transformation has become an imperative across all sectors, whether it's manufacturing, finance, telecommunications, retail and consumer electronics, finance, education, transportation and logistics, energy and utilities, government and public health, retail and hospitality, or healthcare (Elayan, Aloqaily, & Guizani, 2021). Digital transformation has become a linchpin for success, reshaping the way organizations function and adapt in an ever-evolving digital landscape, so this study focuses mainly on healthcare sector transformation, which is the foremost need of any society (Mosnaim, Stempel, Van Sickle, & Stempel, 2020).

The rising relevance of DT in this industry became evident to both scholars and practitioners (Kabay, Robertson, Akella, & Lang, 2012). In today's digitally-driven workplaces, digital transformation impact plays a crucial role in many areas like electronic surveillance, task performance, data-driven decision-making, improved collaboration, skill development, etc (Dwivedi, 2020). Therefore, the focus of this study is mainly on electronic surveillance and task performance. Electronic surveillance, which involves the monitoring of employees through various digital means, can have both positive and negative effects on task performance (Dhoni & Kumar, 2023). Digital transformation acts as a bridge between these two aspects, shaping how surveillance impacts employees' ability to perform their tasks effectively by influencing how surveillance is implemented and integrated within an organization (Kraus, Schiavone, Pluzhnikova, & Invernizzi, 2021). When done strategically and with consideration for employees' privacy and well-being, it can enhance task performance by leveraging technology to improve communication, data-driven insights, efficiency, training, and employee engagement while mitigating the potential negative effects of surveillance (Wilburn & Wilburn, 2018). Perceived organizational support (POS) can have a notable impact on how employees perceive and react to electronic surveillance, which in turn can influence their task performance (Chen & Eyoun, 2021). When employees believe that their organization values and supports them, they may view electronic surveillance as a tool for their safety and security rather than as invasive monitoring. This positive perception can lead to greater acceptance of surveillance measures and a reduced sense of intrusion. In such an environment, employees may be more inclined to focus on their tasks, knowing that the organization has their best interests in mind (Huang, Achyldurdyeva & Lin, 2021).

Following the development of the conceptual framework and a thorough literature assessment throughout this paper, the research question is, "What kind of effects of electronic surveillance are there on task performance? Does digital transformation mediate this relationship? Does perceived organizational support play any moderating role? was addressed because there is still uncertainty regarding the effects of these variables in the research, and healthcare is a sector that has recently been digitally revolutionized in Pakistan. To achieve this, firstly, a detailed background is given. Following the conceptual framework section, the study's methodology will be explained in depth. Afterward, the results obtained from this study will be put forth and discussed before the conclusion.

2. Literature Review and Hypotheses Development

2.1. Electronic Surveillance and Task Performance

In the era of rapid technological advancements, electronic surveillance has emerged as a double-edged sword in organizational contexts. While it can enhance security and monitoring, it also raises questions about its implications for employee autonomy and task performance (Lee & Gargroetzi, 2023). Electronic surveillance in the workplace has been shown to affect employee behavior, fostering a sense of being monitored, which may impact their work engagement and performance. More and more organizations tend to invest in technology to keep up with the latest product developments and reach their goals and objectives more efficiently (McParland, & Connolly, 2020). According to the American Management Association (2019), companies fired 28% of their employees in the USA owing to email misuse and 30% due to misuse of the internet in 2019, providing compelling evidence for electronic monitoring and surveillance (e-surveillance). Among the justifications for using electronic surveillance are the following: (1) to maintain employee health and workplace safety; (2) to monitor employee behavior; (3) to track performance; and (4) to ensure expected productivity (Lee & Gargroetzi, 2023).

Organizations today look for strategies to boost worker performance. Human resource managers support the growth and training of their staff members and take advantage of every chance to inspire them. This is due to the perception that good employee performance ensures organizational effectiveness (Chanana & Sangeeta 2021). Employee performance is widely acknowledged to have a two-dimensional structure. These are known as in-role and extra-role behaviors. Employees engage in in-role actions as defined by their job description. Extra-role behaviors, on the other hand, are voluntary actions that go beyond job definitions (Zhang, Luo, Zhang, & Zhao, 2019) According to these behavioral categories, performance was divided into two groups by Borman et al. (1997). Task performance is defined as the degree to which technical duties and essential job tasks are performed by an employee, whereas contextual performance refers to going above and beyond basic job requirements by being more cooperative and helpful and putting forth extra effort for the benefit of the organization. (Chandrasekara, 2019). This study focuses on task performance. Electronic surveillance procedures are typically designed to improve employee task performance at work. Monitoring an employee's behavior should assist them in completing tasks linked to their employment in order to boost productivity. Employee acceptability is therefore more likely to rise when they see electronic surveillance as a productive input (). According to earlier studies, employees are more likely to perform well on the job when they tend to accept electronic surveillance rather than oppose it (Cheng et al., 2020). So, we propose:

H1: Electronic surveillance in the workplace is positively related to the employees' task performance.

2.2. Electronic Surveillance and Digital Transformation

In the modern workplace, it is possible to track employees using computers, phones, cameras, and the Internet. The setting necessitating electronic employee surveillance is defined by human resource managers' requirement for unbiased data regarding workers' work-related behaviors and actions, including performance, productivity, and feedback. Electronic surveillance also proves to be a solution by management when remote control is required in such situations as being away from supervisors, working in virtual organizations, or when employees cannot be physically monitored. Depending on how employees view electronic surveillance, it may have varied effects on them (Aloisi & Stefano, 2022). Based on the technology-driven context in organizations, employees are more engaged with technological devices. As a natural result of using technology in the workplace more than ever, management monitors employees through electronic devices nowadays (Dhoni & Kumar, 2023).

H2: Electronic surveillance in the workplace is positively related to digital transformation.

2.3. Digital transformation Serves as a Mediating Factor that Influences the Relationship between Electronic Surveillance and Employee Task Performance

The foundation of modern society is digital transformation, which includes technologies like IoT, AI, blockchain, robotics, and 3D technologies. Digital transformation (DT) refers to "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies" (Kraus, Schiavone, Pluzhnikova, & Invernizzi, 2021). Because consumers are constantly connected to electronic devices, one of the biggest issues businesses face today is integrating and utilizing new digital technology. Numerous benefits may result from these

adjustments, including increased effectiveness, access to new markets, and an improvement in brand recognition or image (Dhoni, & Kumar, 2023). According to Telukdarie et al. (2018), this revolution is fueled by both internal (such as changes in organizational structure and in the necessary skills and training) and external (such as changes in technical applications) forces. Companies need to change in two key ways in order to achieve digital transformation: first, by using technologies in the value chain, and second, by affecting their people, culture, and knowledge (Bag, Wood, Telukdarie, & Venkatesh, 2023). As a result, academic and business literature has begun to pay more attention to the mediating role of digital transformation in the relationship between electronic surveillance and task performance. Researchers have looked at how organizations are utilizing digital transformation programs to track and improve employee task performance while also taking into account possible consequences for productivity, job satisfaction, and privacy issues (Oztemel, & Gursev, 2020).

Researchers like (Schertz & Berman 2019) have conducted studies that emphasize the significance of digital transformation in transforming corporate operations and processes. The implementation of technologies like data analytics, the Internet of Things (IoT), and cloud computing, which can be used to gather and analyze employee data in real-time, is a common component of these projects. Similarly, research by (Huang, 2023) looked at how electronic surveillance affected worker performance. They emphasize the potential effects of monitoring systems, like computer monitoring or GPS tracking, on task execution, including how they may improve accountability. The mediating role of digital transformation in this context is explored in work by Zheng et al. (2021). Researchers like (Nobari & Dehkordi, 2023). highlight the significance of organizational culture, industry context, and employee perceptions in shaping how digital transformation mediates the surveillance-task performance relationship. These factors can greatly influence the outcomes of digital transformation initiatives in the workplace. Therefore, the mediating role of digital transformation in the relationship between electronic surveillance and task performance is a complex and evolving area of research. It draws from various streams of literature, including digital transformation, electronic surveillance, privacy, trust, and organizational behavior, to provide insights into how organizations can navigate the challenges and opportunities presented by the digital age while ensuring optimal task performance and employee well-being. Further research is essential to exploring these dynamics in different organizational settings and industries. That's why we propose:

H3. Digital transformation serves as a mediating factor that influences the relationship between electronic surveillance and employee task performance.

2.4. Perceived Organizational Support Serves as a Moderating Factor that Influences the Relationship between Electronic Surveillance and Employee Task Performance.

Perceived organizational support refers to employees' subjective beliefs about the extent to which their organization values their contributions, cares about their well-being, and is committed to their success (Ilyas, Abid, & Ashfaq, 2022). This construct has been widely studied and recognized as a crucial factor influencing various workplace outcomes, including job satisfaction, organizational commitment, and task performance (Chen & Eyoum, 2021). Numerous studies have consistently demonstrated a positive relationship between POS and task performance. Employees who perceive higher levels of support from their organization tend to be more engaged, motivated, and committed to their tasks, and are more likely to engage in extra-role behaviors, go beyond their job descriptions, and exhibit higher levels of task performance (Huang, 2021). This positive perception of support creates a conducive work environment that fosters motivation and commitment. The impact of POS on electronic surveillance and task performance is multifaceted. On one hand, when employees perceive electronic surveillance as invasive or mistrustful, it can lead to reduced POS. A lack of privacy and autonomy may diminish job satisfaction and erode the sense of support from the organization, ultimately negatively affecting task performance. Conversely, proponents argue that limited and transparent electronic surveillance can deter unethical or unproductive behaviors, potentially enhancing task performance. Balancing the need for surveillance with employee privacy and trust is essential to maintaining a positive workplace environment (Dąbrowska, 2020).

Perceived organizational support is a critical driver of task performance, with numerous studies highlighting its positive influence. Electronic surveillance, while having potential benefits for organizations, requires careful consideration. Its impact on POS and task performance depends on various factors, including the level of transparency, trust, and ethical dimensions of its implementation. Recent research has begun to investigate the moderating role of POS in the context of electronic surveillance (Chen & Eyoum, 2021). Smith and Johnson (2020) conducted a study that suggested that employees with high levels of perceived organizational support may be less affected by electronic surveillance in terms of task performance. They argued that a supportive organizational environment may buffer the negative impact of surveillance. The

Conservation of Resources (COR) theory and Social Exchange Theory provide theoretical underpinnings for understanding these relationships. COR theory suggests that individuals strive to retain and protect their resources (e.g., autonomy), and perceived organizational support can act as a resource (Wu & Lee, 2020). Social Exchange Theory posits that employees reciprocate perceived support with increased commitment and performance (Sungu, Weng, & Kitule, 2019). Chen (2010) states that perceived organizational support has received high consideration since the 1980s. Perceived organizational support is defined as the sensitivity and opinion of an employee regarding the degree to which their involvement is appreciated and recognized by their institution, which cares about their well-being (Chen & Eyoum, 2021). According to WannYih and Hatik (2011), perceived organizational support is an employee's point of view regarding the extent to which an organization is concerned for their welfare and considers its efforts for the organization. They put in more effort when there is an indication that all efforts will be rewarded by the organization (Dąbrowska, 2020).

Positive POS combined with reasonable and transparent electronic surveillance policies can positively affect task performance. Employees who feel supported and secure are more likely to concentrate on their work, meet deadlines, and be productive (Sungu, Weng, & Kitule, 2019). Conversely, negative POS, combined with intrusive surveillance, may lead to decreased task performance due to stress and dissatisfaction (Chen & Eyoum, 2021). In summary, the impact of electronic surveillance on task performance is closely linked to how employees perceive the organization's support. Organizations should strive to maintain a positive perception of support to minimize the potential negative effects of surveillance and promote a productive work environment. Communication, transparency, and the responsible use of surveillance tools are key to achieving this balance.

H4. Perceived organizational support serves as a moderating factor that influences the relationship between electronic surveillance and employee task performance.

3. Methodology

3.1. Study Design

In this study, a cross-sectional design based on the survey method was employed, and purposive sampling techniques were utilized for participant selection. Data were collected between January 18th, 2023, and July 21st, 2023.

3.2. Sample

The sample was selected from the healthcare sector of the province of Punjab, Pakistan, which is recently digitalized and where there is intense electronic surveillance. By sampling technique, out of 214 overall health institutions in Punjab, 8 DHQ's, 12 sub-divisional hospitals, and 15 community health centers were included.

3.3. Inclusion Criteria

The survey was directed at only healthcare providers, administrative staff, IT support staff, and security personnel, as they would possess a broader vision of all the processes encompassed in the study. All participants face electronic surveillance mostly through their computers, cameras, emails, and smartphones.

3.4. Exclusion Criteria

We excluded monitoring employees who are on duty during weekends and vacations or who are visiting members of institutions or in sensitive medical procedures, protected health information handling, and had privacy concerns.

3.5. Instruments

The variables were tested using instruments that were utilized in prior investigations, ensuring the validity and reliability of the study. Multiple items were used to test each construct, and each item's score was calculated using a seven-point Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree) or from "1" (never) to "7" (always). The following scales were included in the questionnaire: The eight-item Abraham et al. (2019) measure was used for electronic surveillance in the workplace. Example items are "I am working

with a PC, a tablet, or a notebook. and "I am using a smartphone, a tablet, or a navigation device for orientation when on business trips. To ensure the reliability of the measurements used, the Cronbach's alpha coefficient was calculated and found to be.92 for electronic surveillance measures. To estimate task performance, a measure developed by Goodman et al. (1999) was used. "I am competent in all areas of the job, and I handle tasks with proficiency" was one of the nine items on the list. Furthermore, this scale's Cronbach's alpha value was 81. Eisenberger et al. (1986) devised eight measures for this study to assess employees' perceptions of organizational support. These items were also used in Akgunduz et al.'s (2018) research. "Our firm really cares about employees' well-being and "Our firm strongly considers employees' goals and values are two example items. We measured digital transformation using a practical adaptation of Verhoef et al.'s (2019) theoretical study. Examples of digital transformation evaluation areas include "a flexible organizational structure that allows us to face the changes resulting from DT. "Digital communication channels with employees: employee portal, email or WhatsApp groups, digital newsletter, and so on. "Digital metrics to measure customer satisfaction: web visits, digital channel visits, social network interactions, and so on."

3.6. Procedure

Various healthcare institutions were contacted, and the study was then presented to their members in order to encourage their participation. The study's design sought to assure diversity in terms of size, sector, and geographic dispersion. An institutional visit was used to gather information for conducting surveys. Cover letters were sent out to describe the research's goal, data collection techniques, and confidentiality policies. In the chosen organizations, questionnaires were distributed by hand. They were then personally gathered. To ensure that no problems arose as a result of the question's formulation, feedback was received from the institutions' communicating bodies. Out of 541 people who agreed to fill out the survey questionnaires, 428 completed them. According to the American Association for Public Opinion Research (AAPOR), the response rate is 79%, which falls into the category of Response Rate 1 (RR1). AAPOR (2015) defines response rate 1 as "the number of completed surveys divided by the number of completed surveys, plus the number of refused, non-contacts, and others, plus all cases of unknown eligibility. The study was then completed, and the researcher thanked everyone for their participation.

Employees Particular	Description	Numbers	Percentage
Gender	Female	240	45.2
	Male	188	54.8
Total		428	
Academic Qualification	Intermediate	38	8.9
	Graduation	166	38.8
	Masters	149	34.7
	MS/ MPhil or Higher	75	17.6
Total		428	
Age	21- 25 Years	122	28.5
	26-30 Years	95	22.2
	31-35 Years	72	16.9
	36-40 Years	37	8.7
	41-45 Years	50	11.6
	46-50 Years	27	6.3
	Above 50 Years	25	5.8
Total		428	100
Work Experience	Less than 1 Years	40	9.3
	1-5 Years	156	35.4
	6-10 Years	112	26.2
	11-15 Years	52	12.1
	16-20 Years	42	9.7
	Above 20 Years	26	6.03
Total		428	100

Table 1. Demographic Details

3.7. Statistical Analysis

All analyses were carried out in SPSS version 28 and SMART-PLS software version 4.0. Descriptive analysis was carried out on SPSS, all sample’s characteristics e.g. gender nature, age, qualification and work experience were examined. Next, measurement of outer model was done by examining convergent & discriminant validity and loadings of all items including Cronbach ‘alpha. In the second step, inner model was examined by adopting model 4 recommended by Andrew Hayes (2013). The process model allows for the assessment of the conditional effect (i.e., the influence of one variable on another that is conditioned on a third or interaction) by estimating the effect of X on Y at a specific point (or points) along the moderator and determining whether or not this effect is significant. The 95% confidence intervals (CIs) were used to determine the statistical significance of simple moderations.

4. Results

4.1. Measurement of the Model

The present study has tested the model in two phases. In the first part, the measurement of the outer model was done by examining reliability analysis on Smart-PLS version 4.0. By adopting the PLS-SEM technique. PLS-SEM (partial least squares structure equation modeling) is widely applied in many disciplines of organizational management, human resource management, social sciences, management of information systems, and operation management (Ringle et al., 2023). The PLS-SEM technique enables researchers to estimate complex constructs, models, and structural paths with no distributional assumptions in the data (Sarstedt & Cheah, 2019). Model convergent validity was assessed by examining composite reliability, average variance extracted, item outer loadings, and Cronbach alpha values. In the first step for internal consistency, Jöreskog’s (1971) criteria for reliability the high level of reliability is indicated by the higher value. e.g., between 0.60 and 0.70 is acceptable and considered good," values between 0.70 and 0.90 range from "satisfactory to good, but values greater than 0.95 are problematic (Fuchs & Diamantopoulos, 2009). Cronbach’s alpha is also used for internal consistency for similar thresholds. In contrast, with composite reliability, Cronbach’s alpha is related to being more conservative (Henseler et al., 2015).

The first step is to see the items outer loadings. Indicator loadings should be higher than 0.70, and values greater than 0.60 are considered acceptable for the reliability of items. Before assessing the structural model and hypotheses, it is important to examine multicollinearity to ensure that there are no issues in the data set. The VIF (variance inflated factor) metric is used for assessing the issue of multicollinearity, which indicates the range of values from 0 to 3 as the significant level. Values higher than 3 indicate that there are multicollinearity issues in the data set (Hair et al., 2019). Table 2 shows that the loadings of each item are greater than 0.60, and most items have values greater than 0.70, which indicates the outer item loadings are at a significant level. Secondly, the values of the VIF of all items presented in Table 2, which rely on 1 to 3, explain that there is no issue of multicollinearity in the data.

The next step of model assessment is to address the convergent validity of each construct. Its extent converges the variances of the construct. The average variance extracted (AVE) metric is used to determine the convergent validity of each construct. For calculating the AVE, compute the mean value and square the loading of each construct and indicator. The acceptable value of AVE is 0.50 or greater, which describes at least 50 percent of the variance of its items in the construct.

Items	Factor Loadings (>0.6), Hair et al., 2019	VIF (<0.3), Hair et al., 2019	C.R (>0.7), Hair et al., 2019	AVE (>0.5), Hair et al., 2019	Cronbach’s Alpha, Hair et al., 2019
Digital Transformation			0.867	0.611	0.834
DIGT1	0.848	1.446			
DIGT2	0.901	2.827			
DIGT3	0.76	1.636			
DIGT4	0.771	1.446			
DIGT5	0.667	2.09			
Electronic Surveillance			0.746	0.595	0.998
ESW1	0.734	1.323			
ESW2	0.808	1.477			
ESW3	0.733	1.293			

ESW4	0.782	1.506			
ESW5	0.777	1.906			
ESW6	0.619	1.312			
ESW7	0.619	1.419			
ESW8	0.78	1.308			
Perceived Organizational Support			0.787	0.525	0.836
POS1	0.669	1.702			
POS2	0.701	1.963			
POS3	0.818	1.808			
POS4	0.741	1.714			
POS5	0.722	1.327			
POS6	0.699	1.241			
POS7	0.822	1.289			
POS8	0.716	1.776			
Task Performance			0.895	0.506	0.879
TP1	0.714	3.229			
TP2	0.755	2.221			
TP3	0.707	1.131			
TP4	0.644	1.778			
TP5	0.769	1.229			
TP6	0.695	1.706			
TP7	0.672	1.614			
TP8	0.769	1.224			
TP9	0.74	2.224			

Table 2. Measurement of Outer Model

The next step is to examine the discriminant or divergent validity, which indicates the distinct position of each construct from the other constructs. The traditional metric proposed by Fornell and Larcker (1981) is that the AVE of each construct should be judged by the squared inter-construct correlation. The share value of all constructs should be less than the above-stated diagonal value. Table 3 indicates the values of composite reliability and Cronbach alpha are higher than 0.60 and AVE values are greater than 0.50, which indicates the significant reliability analysis and convergent validity of the constructs. Further, Table 3 also shows the distinct position of each construct by presenting the higher diagonal values of each construct from the below related items and setting the divergent reliability to a significant level.

Constructs	Mean	S.D.	DT	ESW	POS	TP
DT	7.75	1.34	0.834			
ES	5.62	1.32	0.798	0.867		
POS	4.69	1.66	0.836	0.787	0.525	
TP	6.41	1.73	0.879	0.895	0.506	0.038

DT=Digital Transformation, ES=Electronic Surveillance, POS=Perceived Organizational Support, TP=Task Performance, CA= Cronbach's alpha, CR=Composite reliability, AVE= Average Variance Extracted, DV= Discriminant Validity, Fornell and Larcker (1981)

Table 3. Discriminant Validity

4.2. Assessment of Structural Model & Hypotheses Testing

The second part of analysis regarding hypotheses testing and measurement of structural model was conducted on SMART-PLS version 4.0.2 via process macro technique. We have used Andrew Hayes process macro model no. 4 with bootstrapping 5000 resample analysis for the interaction effects proposed by Hayes (2018) of electronic surveillance on task performance by mediating the role of digital transformation. Further the moderation effects of perceived organizational support observed in this technique.

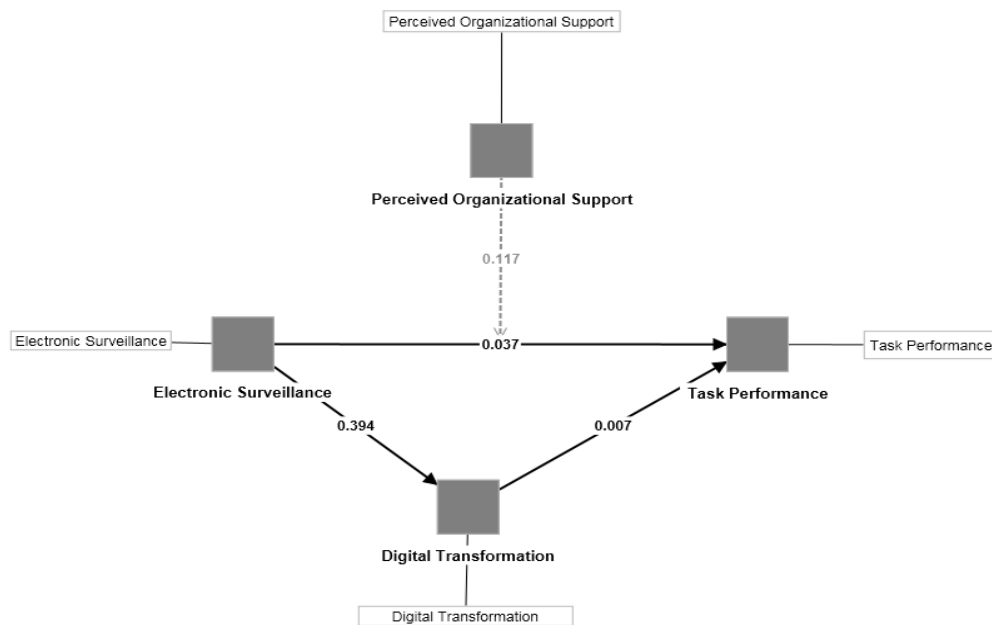


Figure 1. Path Diagram

The path diagram describes the direct positive relationship between electronic surveillance and task performance. Digital transformation positively mediates the effects of electronic surveillance on task performance, and perceived organizational support tightens the relationship between independent and dependent variables.

Hypotheses	Independent Variable	Mediator	Dependent Variable	Moderator	β	T statistics	P values	Decision
H1	ESW		TP		0.037	3.237	0.000	Accepted
H2	ESW	DIGT	TP		0.394	3.316	0.001	Accepted
H3	ESW	DIGT	TP		0.155	9.002	0.005	Accepted
H4	ESW		TP	POS	0.117	2.649	0.008	Accepted

DT = Digital Transformation, ES = Electronic Surveillance, POS = Perceived Organizational Support, TP = Task Performance, CA = Cronbach's alpha, CR = Composite reliability, AVE = Average Variance Extracted, $t = > 1.96$, $p < 0.045$

Table 4. Hypothesis Testing

Table 4 presents the direct and indirect effects of the study variables. The interaction of electronic surveillance with digital transformation ($\beta = 0.394$; $t = 3.316$, $p < 0.045$) The effects of electronic surveillance on task performance are positive ($\beta = 0.037$; $t = 3.237$, $p < 0.045$), which also supports the study hypotheses. The intervening role of digital transformation in task performance is positive ($\beta = 0.007$; $t = 1.964$, $p < 0.045$), which indicates the positive mediation of digital transformation between electronic surveillance and task performance. The moderation effects of perceived organizational support explain that this has strengthened the effects of electronic surveillance on task performance. i.e. ($\beta = 0.117$; $t = 2.649$, $p < 0.045$), that shows the significance level and supports the study hypotheses, which are that perceived organizational support positively moderates the effects of electronic surveillance on task performance.

4.3. Moderation Slope

The moderation slope was shown and drawn in Fig. 2, verifying the interaction term (ES x POS) effects on TP, which explains that when the perceived organizational support is higher, the effects of electronic

surveillance are strengthened on task performance, and employees are ready to adopt the use of technology in the presence of organizational support.

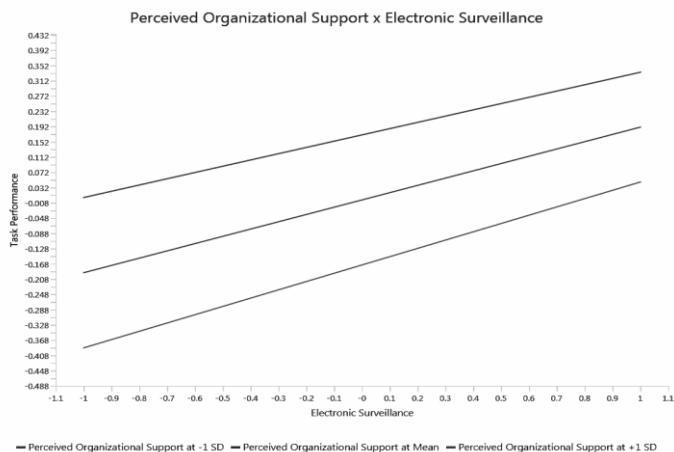


Figure 2. Moderation Slope

Perceived organizational support positively moderates the relationship between electronic surveillance and task performance.

5. Discussion

In this study, we aimed to unravel the intricate dynamics surrounding the impact of electronic surveillance on task performance while considering the moderating role of perceived organizational support and the mediating role of digital transformation. Our findings shed light on several critical points of discussion. Firstly, the results indicated that electronic surveillance has a positive impact on task performance. This suggests that, contrary to the prevailing concern that surveillance might lead to stress or decreased productivity, it can actually enhance task performance in certain contexts. Employees might perceive electronic surveillance as a means of accountability, thereby motivating them to perform better (Chen& Eyoun, 2021). The positive impact of electronic surveillance on task performance can be explained through social exchange theory (Sungu, Weng, & Kitule, 2019). According to this theory, individuals engage in reciprocal relationships with their organizations. When employees perceive that the organization is investing in monitoring their work (electronic surveillance), they may feel obligated to reciprocate with increased effort and better task performance (Dąbrowska, 2020).

Secondly, the mediating role of digital transformation was a noteworthy finding. It implies that organizations that have embraced digital transformation tend to experience a more pronounced positive effect of electronic surveillance on task performance. This emphasizes the importance of integrating advanced digital technologies to optimize task performance in surveillance-rich environments (Huang, 2021). The mediating role of digital transformation finds support in the Resource-Based View (RBV). This theory suggests that firms can gain competitive advantage by leveraging their unique resources, in this case, digital technologies (Chen& Eyoun, 2021). The integration of digital tools (mediator) enhances an organization's ability to harness the positive effects of electronic surveillance on task performance (Ilyas, Abid, & Ashfaq, 2022).

Lastly, the moderating effect of perceived organizational support underscores the significance of a supportive work environment. When employees perceive strong organizational support, the positive impact of electronic surveillance on task performance becomes even more pronounced. Organizations should prioritize fostering a culture of support to maximize the benefits of surveillance practices (Chen& Eyoun, 2021). The moderating effect of perceived organizational support aligns with social support theory. This theory posits that individuals who perceive support from their organization (in this case, support in the context of surveillance practices) tend to experience lower stress levels and better performance. Perceived organizational support acts as a buffer, making the impact of surveillance more positive (Dąbrowska, 2020).

The study's results can also be explained by the Job Demands-Resources JD-R Model. Electronic surveillance can be seen as a job demand, but when coupled with digital transformation and perceived organizational support, it can become a job resource. Job resources are known to positively impact employee engagement and performance. These theoretical underpinnings provide a framework for understanding the mechanisms through which electronic surveillance, digital transformation, and perceived organizational support collectively influence task performance. They highlight the nuanced relationships between these variables, offering valuable insights for organizations aiming to optimize their work environments in the age of electronic surveillance and digitalization.

5.1. Theoretical Implications

This paper broadens the understanding of the importance of the digital transformation process and perceived organizational support, considering the impact of both on electronic surveillance and task performance. The main contributions are the following: First, despite the importance attributed to digital transformation in organizations, there is a lack of research on its implications in the healthcare sector. The study contributes to the understanding of task performance theories by highlighting the relationship between electronic surveillance and task performance in healthcare settings. It suggests that electronic surveillance can have a significant impact on how tasks are performed by healthcare professionals, potentially improving or hindering their effectiveness. Further, the study extends digital transformation theory by emphasizing its mediating role in the relationship between electronic surveillance and task performance. It underscores that the adoption of digital technologies is not just a direct change but can also act as an intermediary mechanism affecting task performance outcomes. The study aligns with the Resource-Based View (RBV) theory by recognizing that digital transformation can be considered a valuable resource for healthcare organizations. It suggests that organizations can leverage digital transformation as a resource to enhance task performance, which is particularly relevant in resource-constrained healthcare environments (Verhoef et al., 2019). It also focuses on perceived organizational support, which aligns with social exchange theory. It suggests that healthcare professionals' perceptions of support from their organizations can moderate the relationship between electronic surveillance and task performance. This theoretical implication underscores the importance of the social dynamics within healthcare organizations. Also, it contributes to technology adoption theories by emphasizing the role of digital transformation as a mediator (Sungu, Weng, & Kitule, 2019). The adoption of electronic surveillance technology in healthcare is not just about acceptance or resistance but can be a catalyst for broader digital transformation efforts, and understanding how these changes impact task performance can inform organizational change theories and practices. The findings have implications for healthcare management theories by shedding light on the management strategies required to optimize task performance in healthcare settings. It emphasizes the importance of balancing technology implementation with organizational support.

The study brings together insights from various theoretical domains, highlighting the interdisciplinary nature of understanding the impact of electronic surveillance on task performance in healthcare. This interdisciplinary approach can enrich our understanding of complex organizational phenomena. In summary, the theoretical implications of this study advance our knowledge in multiple theoretical domains, providing a more nuanced understanding of the relationship between electronic surveillance, digital transformation, perceived organizational support, and task performance in the healthcare sector. These implications can guide future research and inform theoretical frameworks for studying technology adoption and organizational dynamics in healthcare and other sectors.

5.2. Practical Implications

Based on its theoretical contributions and the empirical analyses, this study provides a better understanding of the causal correlations among DT, ES, TP and POS. In the context of Pakistan, where healthcare systems and organizations may have unique challenges and considerations, the practical implications of the study can be the following: The study's findings on digital transformation and task performance can inform the expansion of telemedicine services in Pakistan, which is especially important for improving healthcare access in remote areas. Incorporating these considerations specific to Pakistan will help healthcare organizations in the country make informed decisions when implementing electronic surveillance systems while addressing the unique challenges and opportunities of the local healthcare landscape. Healthcare organizations should establish clear policies and guidelines for the ethical use of surveillance data to protect patient and employee privacy. This includes informed consent, data security measures, and compliance with relevant regulations such as HIPAA (Health Insurance Portability and Accountability Act). Researchers can build on this study by

further investigating the specific contexts and types of electronic surveillance that are most likely to impact task performance positively or negatively in healthcare. This can lead to more tailored recommendations for different healthcare settings and roles.

The study highlights the mediating role of digital transformation. Healthcare organizations should actively invest in digital transformation initiatives that streamline processes and enhance efficiency. This may involve adopting electronic health records, telemedicine, and other digital tools that not only aid in surveillance but also improve overall task performance. Perceived organizational support plays a moderating role in the relationship between electronic surveillance and task performance, which suggests that healthcare organizations should foster a supportive work environment where employees feel valued and supported, especially when implementing surveillance systems. In summary, this research paper provides valuable insights into the complex relationship between electronic surveillance, digital transformation, perceived organizational support, and task performance in the healthcare sector. Healthcare organizations can use these practical implications to make informed decisions and optimize the implementation of electronic surveillance systems while ensuring the well-being of their employees and the quality of patient care.

5.3. Limitations and Future Research

The work has some limitations, even though it makes a substantial understanding and value contribution to the field. The study's cross-sectional design is the first drawback; a long-term study would get around it and strengthen the findings. The sample included in this study was chosen purposefully to include the most relevant participants in electronic surveillance in the health sector. Future research should incorporate a multisector sample, which makes the results more general. Furthermore, even though the questionnaires used in the study are valid and reliable, there is an important weakness about them, and it stems from their being self-evaluated. This research can provide valuable insights into how organizations can effectively leverage technology while maintaining a supportive and productive work environment for their employees.

6. Conclusion

As organizations continue to embrace electronic surveillance to ensure security and monitor employee activities, understanding its impact on employee performance is crucial. This study intends to uncover the mediating role of digital transformation in this relationship, offering insights into how organizations can harness technology to create a balance between surveillance and task performance. By doing so, organizations can enhance their operational efficiency while promoting a supportive and productive work environment.

Reference

- [1] Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., & Spitzer, J. (2019). Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 353-375.
- [2] Wilburn, K. M., & Wilburn, H. R. (2018). The impact of technology on business and society. *Global Journal of Business Research*, 12(1), 23-39.
- [3] Saarikko, T., Westergren, U. H., & Blomquist, T. (2020). Digital transformation: Five recommendations for the digitally conscious firm. *Business Horizons*, 63(6), 825-839.
- [4] Oztemel, E., & Gursev, S. (2020). Literature review of Industry 4.0 and related technologies. *Journal of intelligent manufacturing*, 31, 127-182.
- [5] Kraus, S., Schiavone, F., Pluzhnikova, A., & Invernizzi, A. C. (2021). Digital transformation in healthcare: Analyzing the current state-of-research. *Journal of Business Research*, 123, 557-567.
- [6] Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of business research*, 122, 889-901.
- [7] Dhoni, P., & Kumar, R. (2023). Synergizing Generative AI and Cybersecurity: Roles of Generative AI Entities, Companies, Agencies, and Government in Enhancing Cybersecurity.
- [8] Elayan, H., Aloqaily, M., & Guizani, M. (2021). Digital twin for intelligent context-aware IoT healthcare systems. *IEEE Internet of Things Journal*, 8(23), 16749-16757.

- [9] Mosnaim, G. S., Stempel, H., Van Sickle, D., & Stempel, D. A. (2020). The adoption and implementation of digital health care in the post-COVID-19 era. *The Journal of Allergy and Clinical Immunology: In Practice*, 8(8), 2484-2486.
- [10] Silow-Carroll, S., Edwards, J. N., & Rodin, D. (2012). Using electronic health records to improve quality and efficiency: the experiences of leading hospitals. *Issue Brief (Commonw Fund)*, 17(1), 40.
- [11] Dąbrowska, J., Almpapoulou, A., Brem, A., Chesbrough, H., Cucino, V., Di Minin, A., ... & Ritala, P. (2022). Digital transformation, for better or worse: a critical multi-level research agenda. *R&D Management*, 52(5), 930-954.
- [12] Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., ... & Upadhyay, N. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International journal of information management*, 55, 102211.
- [13] Chen, H., & Eyoum, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *International journal of hospitality management*, 94, 102850.
- [14] Kabay, M. E., Robertson, B., Akella, M., & Lang, D. T. (2012). Using social psychology to implement security policies. *Computer security handbook*, 50-1.
- [15] Huang, I. C., Du, P. L., Wu, L. F., Achyldurdyeva, J., Wu, L. C., & Lin, C. S. (2021). Leader-member exchange, employee turnover intention and presenteeism: the mediating role of perceived organizational support. *Leadership & Organization Development Journal*, 42(2), 249-264.
- [16] Lee, H. H., & Gargroetzi, E. (2023). "It's like a double-edged sword": Mentor Perspectives on Ethics and Responsibility in a Learning Analytics-Supported Virtual Mentoring Program. *Journal of Learning Analytics*, 10(1), 85-100.
- [17] McParland, C., & Connolly, R. (2020). Dataveillance in the workplace: Managing the impact of innovation. *Business Systems Research: International journal of the Society for Advancing Innovation and Research in Economy*, 11(1), 106-124.
- [18] Chanana, N., & Sangeeta. (2021). Employee engagement practices during COVID-19 lockdown. *Journal of public affairs*, 21(4), e2508.
- [19] Zhang, Y., Luo, Y., Zhang, X., & Zhao, J. (2019). How green human resource management can promote green employee behavior in China: A technology acceptance model perspective. *Sustainability*, 11(19), 5408.
- [20] Chandrasekara, W. S. (2019). The effect of transformational leadership style on employees Job satisfaction and job performance: A case of apparel manufacturing Industry in Sri Lanka. *International Journal of Economics, Commerce and Management*, 7(7), 385-393.
- [21] Cheng, L., Abraham, J., Zhu, J., Trenberth, K. E., Fasullo, J., Boyer, T., ... & Mann, M. E. (2020). Record-setting ocean warmth continued in 2019.
- [22] Aloisi, A., & De Stefano, V. (2022). Essential jobs, remote work and digital surveillance: Addressing the COVID-19 pandemic panopticon. *International Labour Review*, 161(2), 289-314.
- [23] Bag, S., Wood, L. C., Telukdarie, A., & Venkatesh, V. G. (2023). Application of Industry 4.0 tools to empower circular economy and achieving sustainability in supply chain operations. *Production Planning & Control*, 34(10), 918-940.
- [24] Schertz, K. E., & Berman, M. G. (2019). Understanding nature and its cognitive benefits. *Current Directions in Psychological Science*, 28(5), 496-502.
- [25] Huang, Z., George, M. M., Tan, Y. R., Natarajan, K., Devasagayam, E., Tay, E., ... & Chow, A. (2023). Are physicians ready for precision antibiotic prescribing? A qualitative analysis of the acceptance of artificial intelligence-enabled clinical decision support system in India and Singapore. *Journal of Global Antimicrobial Resistance*.
- [26] Sevransky, J. E., Rothman, R. E., Hager, D. N., Bernard, G. R., Brown, S. M., Buchman, T. G., ... & Files, D. C. (2021). Effect of vitamin C, thiamine, and hydrocortisone on ventilator-and vasopressor-free days in patients with sepsis: the VICTAS randomized clinical trial. *Jama*, 325(8), 742-750.

- [27] Nobari, N., & Dehkordi, A. M. (2023). Innovation intelligence in managing co-creation process between tech-enabled corporations and startups. *Technological Forecasting and Social Change*, 186, 122107.
- [28] Ilyas, S., Abid, G., & Ashfaq, F. (2022). The impact of perceived organizational support on professional commitment: a moderation and mediation of well-being. *International Journal of Sociology and Social Policy*, (ahead-of-print).
- [29] Wu, W. L., & Lee, Y. C. (2020). Do work engagement and transformational leadership facilitate knowledge sharing? A perspective of conservation of resources theory. *International journal of environmental research and public health*, 17(7), 2615.
- [30] Sungu, L. J., Weng, Q., & Kitule, J. A. (2019). When organizational support yields both performance and satisfaction: The role of performance ability in the lens of social exchange theory. *Personnel Review*, 48(6), 1410-1428.
- [31] Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: does method really matter?. *Psychological science*, 24(10), 1918-1927.
- [32] Chen, H., & Eyoum, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *International journal of hospitality management*, 94, 102850.
- [33] Dođru, Ç. (2021). The Effects of Electronic Surveillance on Job Tension, Task Performance and Organizational Trust. *Business Systems Research: International journal of the Society for Advancing Innovation and Research in Economy*, 12(2), 125-143.
- [34] Fleischer, J., & Wanckel, C. (2023). Job satisfaction and the digital transformation of the public sector: The mediating role of job autonomy. *Review of Public Personnel Administration*, 0734371X221148403.
- [35] 35. Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 25, 186–192
- [36] 36. Fuchs, C., & Diamantopoulos, A. (2009). Using single-item measures for construct measurement in management research: Conceptual issues and application guidelines. *Die Betriebswirtschaft*, 69(2), 195.
- [37] 37. Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature.
- [38] 38. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135.
- [39] 39. Ravid, D. M., White, J. C., Tomczak, D. L., Miles, A. F., & Behrend, T. S. (2023). A meta-analysis of the effects of electronic performance monitoring on work outcomes. *Personnel Psychology*, 76(1), 5-40.
- [40] 40. Ringle, C. M., Sarstedt, M., Sinkovics, N., & Sinkovics, R. R. (2023). A perspective on using partial least squares structural equation modelling in data articles. *Data in Brief*, 48, 109074.
- [41] 41. Sarstedt, M., & Cheah, J. H. (2019). Partial least squares structural equation modeling using SmartPLS: a software review.
- [42] 42. Sun, E., Zhang, Z., Wang, Z., He, X., Zhang, X., Wang, L., ... & Bu, Z. (2021). Emergence and prevalence of naturally occurring lower virulent African swine fever viruses in domestic pigs in China in 2020. *Science China Life Sciences*, 64, 752-765.
- [43] 43. Ullah, M., Hamayun, S., Wahab, A., Khan, S. U., Rehman, M. U., Haq, Z. U., ... & Naeem, M. (2023). Smart Technologies used as Smart Tools in the Management of Cardiovascular Disease and their Future Perspective. *Current Problems in Cardiology*, 48(11), 101922.
- [44] 44. Zagenczyk TJ, Smallfield J, Scott KL, Galloway B and Purvis RL (2017) The Moderating Effect of Psychological Contract Violation on the Relationship between Narcissism and Outcomes: An Application of Trait Activation Theory. *Front. Psychol.* 8:1113. doi: 10.3389/fpsyg.2017.01113