

**Digital workplace and employee engagement: A sociological study on the
Impact of information system on management strategies**

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Abstract

The research study presented in this paper aims at examining the effects of information systems on management actions in relation to digitally-enabled organisations and employees' participation. With current organizations seeking to adopt technology in managing their operations, information systems have emerged as critical in defining managerial strategies and proactively engage employees. This work aims at exploring managerial tactics in relation to digital working environments and explores sociological factors that define employees' engagement with a particular emphasis on information systems and the organization. The study employs a survey and interviews with respondents obtained from the different employment sectors. From this study, it is concluded that not only have remarkable improvements been seen in communication and cooperation difficulties through integrating information systems, but employee inclusion and motivation are also supported through them. Also, there are drawbacks as follows; and technology stress which might be as a result of the over-usage of various technologies. The paper concludes with recommendations to management to come up with ways and means to use information systems for change toward achieving positive outcomes that make work productive as well as creative in the digital environment.

Keywords - Digital Workplace, Employee Engagement, Information Systems, Management Strategies, Organizational Dynamics, Sociological Impact

Introduction

Advanced technology has caused accelerated changes in the nature of the modern workplace resulting in the creation of digital workplace that relies on complex information systems in performing multiple organizational tasks. As the world of work has become intertwined and interdependent, digital technologies and media – or at least the increasing use of technology – have emerged as fundamental structures in organizations facilitating communication, supporting processes, and improving the ability to collaborate. These tools redefine

conventional work settings and bear tremendous impact on the management practices in a way of engaging the employees as well as organizational behavior systems.

Engagement at the workplace is another important consideration, since, engaged employees are likely to be productive, creative and loyal to their organisations. However, the reviewed case of the digital workplace raises several sociological aspects which influence the engagement process and implementation. Information systems have a critically important function of acting as a connecting link between an employee and his or her job, as well as with other people within the organization and the objectives defined by the organization. The use of ICT in teaching and learning process can increase the level of participation through increasing feeling of belonging, availing more information and constant feedback. However, shifting to digital systems means by doing so is accompanied by issues such as, digital fatigue, missing boundary between work and life, stressing from technology.

To this end, this study aims at investigating the; Antecedent of information systems on one hand and the sociological aspects of management strategies in digital workplaces. Through exploring the relationship between information technology and work processes, this research seeks to contribute towards understanding of what strategies can be used to interactively enhance organizations' information systems to support staff engagement. To achieve the research objective, the study adopts a survey research method together with interviews and questionnaires as the instruments that collect both qualitative and quantitative data on the impacts and consequences of digital environments of workplaces to the employees' engagement.

Finally, this research provides an understanding of digital transformation in the organizational context, specifically proposing theories and strategies on how managers ought to adopt information systems to sustain an efficient but healthy workplace.

Literature review

The development of Information technology in the last decade has brought drastic changes to organizations' environments by changing the ways organizations engage and manage workforce. Previous studies between the years of 2017 to 2022 have analyzed the effects of digital workplaces and the adoption of information systems on employee health, productivity and organizational performance.

A myriad of research has demonstrated the complementary effect that exists between digital workplace tools and workforce engagement. Holland et al., (2019) appreciated other integrated digital media as effective tools that enhance engagement when they enhance identification with others and organizational goals. In addition, other authors Gilson et al. (2020) note that, when properly conducted, digital work environments positively affect the satisfaction and motivation of workers thanks to the flexibility and availability of tools. However, the study also cautions the use of technology in learning pointing out that it could lead to the development of the following disadvantages: digital exhaustion.

Scholars in this period have established that information systems are transforming managerial work through increased use of quantitative data and increased openness. Hess et al. (2017) discuss how information systems improve the decision making of the managers and provides real-time feedback and performance measurement. Pereira & Romero (2018) are of the similar opinion that application of the information systems in the management processes enhances flexibility since managers are able to respond to changes in employees' productivity and organizational requirements. However, similar to a few other authors, Zhao et al. (2021) warn that while information systems can deliver the most crucial insights to managers, they also contribute to a culture of surveillance that reduces the trust and freedom of employees.

The nature of changes in workplaces due to the continuation of using information technology is of significant sociological concern especially in terms of employees' interaction with their work and fellow workers. The works of authors Mazmanian D., Orme B., Norman S., and Darvil R., Wang and Liu present the reader with an investigation of the exacting interpenetration of the work-related digital structure, spheres of everyday life, and their effects on employees' perceptions of work-life balance. They characterise such shifts as leading to what Mazmanian et al refer to as the digital intensification which makes personal time disappear, lead to stress and job dissatisfaction.

On the other hand, Richter and Klopfer (2021) offer some research that suggests that digital workplaces developed correctly can strengthen the pattern of social interaction among the employees through always-on communication and networks. Based on these studies, it can be concluded that the effects of sociological nature of digital workplaces depend greatly on how the information technologies are used as well as the level of fit between the technology supports and the employees.

However, it will be useful here to also discuss what the literature tells about the costs of digital workplace adoption, essential in relation to employee well-being and digital overload. This is what Tarafdar et al. (2019) refer to as technostress; the expectation to engage with technology and the expectation to be always connected. In addition, Leclercq-Vandelannoitte & Isaac (2020) Also added that the use of technology results in a decreased level of job satisfaction and organizational commitment. These papers indicate that digital workplaces are helpful in cases of communication and collaboration but they impose a need for management to counter the negative impacts of increased technological usage while at work.

Recent works also suggest the directions that may be taken by the new-generation digital workplaces which may guide future research. In a similar manner, Ramalingam et al. (2022) put emphasis on the role of artificial intelligence, machine learning, and their impact on the possibility of individual approach as far as the management of the digital workplace is concerned. Further, O'Reilly et al. (2022) further look at how digital workplaces are being adapted for hybrid work arrangements which allows people to work both from home and the office in a flexible manner.

Thus, the literature retrieved in the period from 2017 to 2022 demonstrates the profound changes introducing digital workplaces and information systems bring to management practices and employees. That is why digital workplaces are beneficial but also bring some difficulties which need to be solved. If these and other related barriers are well handled and current technology trends well embraced, organizations can foster digital workplace environments that enhance employees' levels of engagement, performance, and health. This specific review provides the platform for further research into how organizations can enhance their digital workplaces for a work-life balance while at the same time achieving optimum working conditions.

Objectives of the study

- To examine the impact of information systems on employee engagement in digital workplaces.
- To analyze the influence of digital workplace environments on management strategies.
- To identify sociological factors affecting employee engagement within digital workplaces.

Hypothesis of the study

H0 (Null Hypothesis): There is no significant impact of information systems on employee engagement in digital workplaces.

H1 (Alternative Hypothesis): Information systems have a significant positive impact on employee engagement in digital workplaces.

Research methodology

This research uses both quantitative and qualitative research to analyze the effects of information systems to engagements of employees in digital workplaces. The quantitative part is a self-completion questionnaire given to employees from different sectors of the economy; the idea is to gather information about their practices and attitudes toward digital stimuli that engage them or not. The survey questionnaires contain validated subscales that quantify engagement of the employees and efficiency of the information systems. Regarding the qualitative part, interviews are used to discuss certain sociological factors that affect engagement and specific management approaches used in the participant’s organization. Findings from both methods shall be analyzed using statistical test and thematic analysis so that results from both methods are as close as possible especially results regarding to the research question of the relationship between information systems and levels of employee engagement. This approach helps to record not only numerical data answering questions posed by the research objectives, but also narrative data reflecting people’s experiences.

Data analysis and discussion

Table 1 – Descriptive statistics

Variable	Category	Frequency (n)	Percentage (%)	Mean	Standard Deviation (SD)
Age	18-25	25	14.3	34.5	8.7
	26-35	65	37.1		
	36-45	55	31.4		
	46-55	20	11.4		
	56 and above	10	5.7		

Variable	Category	Frequency (n)	Percentage (%)	Mean	Standard Deviation (SD)
Gender	Male	90	51.4		
	Female	85	48.6		
Education Level	High School	10	5.7		
	Bachelor's Degree	100	57.1		
	Master's Degree	50	28.6		
	Doctorate	15	8.6		
Years of Experience	Less than 1 year	30	17.1	5.4	3.2
	1-3 years	50	28.6		
	4-6 years	40	22.9		
	7-10 years	35	20.0		
	More than 10 years	20	11.4		
Job Role	Entry Level	40	22.9		
	Mid-Level	85	48.6		
	Senior Level	50	28.6		

In order to have a better understanding of the workforce's demographic makeup, Table 1 displays descriptive data for a sample of 175 workers. If we look at the age distribution of our workers, we see that 31.4% are between the ages of 36 and 45, and that 37.1% are between the ages of 26 and 35. With just 5.7% of workers being 56 or older, it's clear that the staff is quite youthful. This bodes well for possible advancement chances within the organisation.

The gender distribution is rather even, with men making up just over half of the workforce (51.4%) and women just under half (48.6%). Potentially, a more diversified workforce that is more open to new ideas and viewpoints could result from this gender parity. There is a solid base of knowledge and abilities that may improve organisational performance among the workforce's highly educated members; 57.1% have a bachelor's degree and 28.6% have a master's degree.

The majority of workers have been with the company for one to three years, with 28.6% having that amount of experience, and 20.0% having seven to ten years. This bodes well for mentoring possibilities and the passing of wisdom from one generation to the next, as it shows that there is a balance between younger and more seasoned workers. The standard deviation of 3.2 years from the mean of 5.4 years shows that there is a wide range of experience levels in the workforce.

In conclusion, looking at the job roles reveals that over half of the workers, 48.6%, are in mid-level jobs, while 22.9% are entry-level and 28.6% are senior-level. This distribution reveals a well organised company that prioritises employee growth and development, providing several chances for people to rise in their current positions. The organisation is well-positioned for future development and adaptation, according to the descriptive statistics, which show a staff that is young, educated, and balanced with varied levels of experience.

Table 2 – Correlation analysis

Variable 1	Variable 2	Pearson Correlation (r)	Sample Size (n)	p-value	Significance
Information Systems	Employee Engagement	0.67	175	0.000	Significant

An examination of the relationship between IT infrastructure and participation in virtual workplaces by workers is detailed in Table 2. Employee engagement tends to grow in tandem with the efficacy or utilisation of information systems, according to the moderate to strong positive association shown by the Pearson correlation coefficient (r) of 0.67. This correlation lends credence to the idea that engaged workers are the result of well-designed and executed information systems.

There is a statistically significant association since the p-value is 0.000, which is significantly lower than the significance level of 0.05. Consequently, we may accept the alternative hypothesis, which states that information systems significantly increase employee engagement, and reject the null hypothesis. This study lends credence to the idea that digital workplaces with strong information systems have more engaged employees because such platforms allow for more effective communication, collaboration, and resource availability.

Discussion

It is clear from this study's results that information systems have a significant effect on employee engagement in virtual workplaces. An important association between information system utilisation and employee engagement is shown by the moderate to high positive correlation ($r = 0.67$), which means that information systems are crucial in making workers feel more connected to their job and the company.

Employees may feel more connected to the company and content in their jobs if well-designed information systems provide for quick and easy access to information and resources. Even if there is less opportunity for face-to-face communication in today's digital workplaces, dependable information solutions may help workers feel more connected to their teams and supported while they work. This lines up with other studies that have shown how technology may help overcome communication obstacles and boost cooperation amongst geographically dispersed teams, creating a more interesting and fulfilling workplace.

Organisations should prioritise investments in strong, easy-to-use information systems if they want to increase employee engagement, according to these results. The ever-changing digital workplace and the changing demands of workers need solutions that can adapt. In order to make the most of these technologies, organisations should consider investing in training programs that teach staff how to use them effectively.

While the research does show some good effects, it should be noted that information systems are not the only factor. Various variables, including company culture, leadership style, and employees' personal circumstances (such as their level of work satisfaction and their aspirations for future advancement), may impact engagement. To further understand the entire impact of information systems on engagement levels, more study might investigate the ways in which various systems interact with one another.

It is also difficult to draw causal inferences from this research since it is cross-sectional. Whether information systems directly induce more involvement is unknown, despite the finding of a substantial positive association. How engagement varies over time in reaction to changes in information systems might be better understood with the help of longitudinal research.

Ultimately, the research highlights how crucial information systems are for encouraging employee participation in virtual workplaces. As part of their larger engagement activities, organisations should strategically employ such systems. Technology is a great tool, but it has to be incorporated within a supportive organisational framework.

Conclusion

This paper also aimed to analyse the effect of information systems on engagement of employees within digital environments and discovered a positive relationship between the two factors. The results indicate that managerial support for information systems leads to increased employee involvement, which may be explained by improving the coordination and resources within online workspaces. This relationship underscores that solid and easy to use technology should be adopted by these organizations in order to improve the workforce's interest and productivity.

From the ability to facilitate communication and offer the means to obtain the necessary tools, information systems seem to alleviate some of the issues expressed in digital workplaces, including the feelings of isolation and lack of direct supervision. Employees that know how to operate these systems are likely to feel that they belong at the organization and are supported in their positions to increase engagement. This finding is in line with past studies showing that technology is an active player in workplace engagement as organisations advance in their digital and dual-centered work arrangements.

Nevertheless, this research also reveals that information systems are not the only things responsible for employees' engagement. Organizational culture and leadership as well as personality characteristics also play a major role to efficiency of engagement. Hence, employee engagement would need to be viewed as a comprehensive practice where technologically driven solutions need to be complemented with sentiments of leadership support and positive organizational culture.

Another research avenue could include escalating involvement with information systems and its long run effects or effects from the emerging dynamics of digital workplaces. One limitation of the current study is that the design used had a cross-sectional element, which restricted insights about how information systems impact employee engagement temporally or in dissimilar settings. Perhaps, further research investigating the relations between these systems and other aspects of organizational and team environment, including team cohesiveness and leadership, might offer a more holistic understanding of employee engagement in the context of the increasing digitalisation of the work environment.

Overall, this study finds that when utilized as part of a well thought through corporate strategy, information systems hold considerable potential for boosting levels of employee engagement. Managers should therefore pay attention to the outlined systems as they form part of total Engagement initiatives, emphasizing that it cannot be only a technological issue for it to work, other supportive organizational practices have to come in as well.

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