

Relationship between Organizational and Information System Users' Satisfaction Variables: A Literature Review

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Abstract

Information systems are widely used to store data and information systematically organized and easily accessible so strategic decisions can be made by management. Its usage is increasingly maximized especially after the outbreak of COVID-19 pandemic. Previous researchers were focused on the empirical studies of numerous factors i.e., the technological and individual factors which affect the information system's success. However, there are several factors which are related to the organizational which may affect information system users' satisfaction. The literature review in this paper analysed studies related to the organizational and information system users' satisfaction variables that were published between 2018 and 2023 from several electronic databases. The study found that the organizational culture was the most studied variable associated with information system users' satisfaction. Other than that, there was a prevalence of quantitative studies. This paper will conclude with the theoretical and practical implications of the results, as well as suggestions for future research directions.

Keywords: Organizational (Organizational Climate, Organizational Culture and Organizational Health), Information System Success, Information System Users' Satisfaction

Introduction

Information management system referred to computerized system which data will be process according to certain functions that can produce information for the organization (Hassan & Rahim, 2020). These information systems are expected to enhance the efficiency and productivity of an organization by automating everyday jobs (Aboaoga et al., 2020; Al-Kofahi et al., 2020). Besides, a system supported by information technology will give the organization value-added if they design it effectively and efficiently (Ritchi et al., 2020).

However, no matter how effective the information system is designed, if it is not compatible with what the users' need, they will not be interested to implement it (Alhumaid et al., 2023). Besides, their perceptions will decide whether they want or hesitate to use it (Suryanto et al., 2023). Therefore, these systems must fulfil users' needs while providing a positive user's experience at the same time (Al-Hunaiyyan et al., 2021). Because of this,

researchers recommended numerous models and theories from the perspective of information system (Aldholay et al., 2020).

These models and theories have been developed to understand the dimensions that can clarify a person's acceptance and use behavior with regards to technology (Assegaff et al., 2017; Daghour et al., 2018; Vijai, 2018; Davarpanah & Mohamed, 2020). Delone and McLean updated Information Systems Success Model (D&M ISSM) in 2003 replaced the dimensions of benefits to individuals and organizations into the net benefits that can influence users' intention to use and satisfaction (Delone & McLean, 2003). User satisfaction is the user's attitude which is a subjective criterion measuring how the user feels about using the information system. It is associated with the user responses to information systems that include system availability, robustness, task completion, productivity and efficiency (Delone & McLean, 2003; M Romi, 2013).

Martins et al (2019) remarked that users' satisfaction can maintain the use of the system by focusing on the users' understanding to use it. In line with Salam & Farooq (2020) and Alsmadi (2020) findings that the users' satisfaction of web-based collaborative learning information system users is a strong predictor and has a positive effect on net benefits. In addition, Hsiao et al (2020) have used system quality to review users' satisfaction towards the newly designed system and found that 87.2% (102/117) users were satisfied with the quality. While, Johnsen & Haddeland (2021) reported that users are satisfied with the quality of the system and subsequently improve the effectiveness of the system. Al Mulhem's study (2020) shows that the quality of the system has a positive and significant effect on users' satisfaction.

Even though the three quality factors; (1) system quality, (2) service quality and (3) information quality have a positive influence on the user satisfaction (Masrek & Gaskin, 2016); as stated by DeLone & McLean (2016); individual, organizations and environmental are also the influenced factors of the use of information systems in an organization. The demand for specific approach to assess the benefits of information system investments are acknowledged and it is lacking of universally accepted framework to evaluate the information system success (Roslina et al., 2022) especially in the dimensions of users' satisfaction. The same as reported by Al-Hunaiyyan et al (2021), there is still the need for continuous information system evaluation and a broad research scope to develop innovative information system with intelligent functions for novel activities.

Many organizations failed in using the information systems because of their ignorant of the importance of human resources, organizational and environmental factors (Rapina et al., 2020). In short, the organization is also one of the factors that affect the use of the system (Almaiah et al., 2020). Though AlBar & Hoque (2019) stated that there is no significant effect between organizational culture on the use of cloud computing; Al Mulhem (2020) on the other hand found that there is a strong relationship between organizational factors; (1) top management support and (2) change management towards the e-learning system users' satisfaction.

Mardiana et al (2018) have studied the impact of organizational culture on the success of information systems used in Indonesia information technology companies. Her findings showed that conducive organizational culture can make the implementation of information systems successful. Simultaneously proving that organizational culture has influence the success of the information system is another study which the organizational culture has a positive and significant relationship with the successful implementation of the Accounting Information Management System (MAIS) (Choiriah & Sudibyo, 2020). This show that the organization should be considered extremely important towards information system users'

satisfaction and the success of information systems. Therefore, it is important to understand how the organization aspects affected the construct of information system users' satisfaction.

As a result, this study examines organizational studies that focused on information system users' satisfaction variables because they are crucial in gaining an understanding of these influences (Al-Kofahi et al., 2020). To achieve this goal, a set of organizational variables was selected: (1) organizational climate; (2) organizational culture; and (3) organizational health. Organizational climate is an organizational feature that refers to the working experiences (Schneider et al., 2013). An organization is heterogeneous because it tends to have several climates (Kohl et al., 2013; Schneider et al., 2013). According to Jones & Jones (2013), organizational culture is a blend of values and norms that determine the interactions between the organization's members and even outsiders of the organization. Therefore, it forms and controls the behaviour in the organization and influences how people reacts to certain situations.

Organizational health refers to the need to react to constant changes and the capacity to give an effective response to external demands (Bennis, 2002). An organization is healthy when it can effectively adapt to external demands while promoting the incorporation of its members (Fernandes et al., 2011). The literature review in this paper aimed to analyse the organizational variables associated with the information systems users' satisfaction. This study is valuable for future research developments in this area because it integrates different organizational variables related to information systems users' satisfaction rather than focusing on the more commonly used individual variables.

Methodology

Researchers conducted review studies using SCOPUS, ProQuest and ScienceDirect of articles published between January 2018 and January 2023. The keywords used were organizational, organizational climate, organizational culture, organizational health, information system users' satisfaction and information system success. The search period occurred between February 2023 - Mac 2023. In the selected databases, the month and year of the time limit were entered when possible (ProQuest). When this was not possible (SCOPUS and ScienceDirect), only the defined years (i.e., 2017 - 2023) were entered in the respective search fields. The keyword information system users' satisfaction and information system success were used in all searches and combined with the keywords related to each of the chosen organizational variables (e.g., organizational climate; organizational culture). The following inclusion criteria were defined: (1) empirical paper; (2) publication in a peer-reviewed journal between 2018 and 2023; (3) information system success and information system users' satisfaction related with the specified organizational variables; (4) inclusion of the above-mentioned keywords; and (5) English as the language of publication. If the studies failed to meet these criteria, they were excluded from the review. The selection process was divided into four stages; (1) the articles were analysed concerning the inclusion criteria, (2) the papers were assessed in terms of title and abstract, (3) the full text was examined and (4) the search for identical papers was performed. For excluded papers, explanations for the decisions were documented. A database was created with Microsoft Excel to document the main characteristics of each study: (1) allocation of the study to the respective organizational concept; (2) year of publication; (3) author(s); (4) methodology employed (i.e., quantitative, qualitative, or mixed); (5) type of instruments administered; and (6) synthesis of the main results.

Results

In all, 351 articles were included in the literature review. After evaluation, 306 were excluded, of which 303 did not meet the inclusion criteria and three referred to repeated documents. Many papers were rejected because the full text of the studies were not available or duplicates. Therefore, 45 documents composed the final sample in this review. In Table 1, a summary for the sample of studies is presented.

Table 1

Summary for the Sample of Studies (N = 45)

Analyzed characteristics	Obtained results
Publication flow (per year)	
Highest number of studies	2020 (n = 12; 26.7%)
Fewest number of studies	2019 (n = 4; 8.9%)
Methodological approach	
Quantitative	28 (62.2%)
Qualitative	10 (22.2%)
Mixed	7 (15.6%)
Type of instruments used	
Self-report questionnaire	33 (73.3%)
Interview	9 (20.0%)
Document analysis	9 (20.0%)

Note: The number of instruments used exceeded the total number of studies (N = 45) because some studies employed more than one type of instrument.

A synthesis of the main findings of each study and data related to the methodological aspects, namely the methodological approach used (i.e., quantitative, qualitative, or mixed), the number of participants, the names of the authors, and the year of publication, are summarized in Table 2.

Table 2

Synthesis of the Key Findings of the Sample of Studies (N = 45)

Source	N	Methodology	Main results
Organizational Climate			
(Khasawneh et al., 2023)	375	Quantitative	User satisfaction and top-level management support are substantially associated with the use of digital marketing platforms.
(Akrong et al., 2022)	555	Mixed	The organizational climate (training & learning, teamwork & support and role clarity) was statistically significant in determining the success of a tax ERP system. Training & learning and teamwork & support had a positive impact on user satisfaction.
(Butt et al., 2022)	404	Quantitative	Institutional factors (institutional support, administrative support, instructional support and technical support) positively impact students' performance mediated the user satisfaction.
(Kitsios & Kapetaneas, 2022)	87	Qualitative	Organizational determinants (management support, user involvement, processes, individual characteristics, social factors and organizational learning culture) of systems' acceptance.
(Ahmad et al., 2021)	5	Qualitative	Climate of services is related to users' satisfaction that proposed in the Technology, Organization and Environment (TOE) and Socio Technical System (STS) to support the IT Hardware Support Services (ITHS) Model elements.
(Alipour et al., 2021)	573	Quantitative	The organizational (relative value of cloud computing adoption, top management support, resource adequacy and benefits of cloud computing adoption) has a strong effect on the adoption of cloud computing from users' perspective.
(Bekele & Anbessa, 2021)	20	Qualitative	Lack of organizational supports for logistics management information system performance affect users.
(Buabbas et al., 2021)	55	Mixed	Lack of interest in and little experience with using the system were behind the general dissatisfaction of most users.
(Alipour et al., 2019)	550	Quantitative	Social influence and top managers' support had the most substantial influence on the users' intention to accept the system.
Organizational Culture			

Source	N	Methodology	Main results
(Alismail, 2023)	219	Quantitative	There is a strong association between perceived behavioural control, subjective norm and users' satisfaction.
(Hendricks & Mwapwele, 2023)	24	Qualitative	Environment, and users' trust are the main challenges affecting e-commerce adoption.
(Ariyanto et al., 2022)	94	Quantitative	Trust in government organizations do not has an effect on user satisfaction. Users' satisfaction has a significant effect on net benefits, as well as significant effect on the sustainability of the SIS.
(Haruna et al., 2021)		Qualitative	A model of integration of system quality, service quality, information quality together with the dimension of trust that may provide a bigger picture to explain users' satisfaction.
(Jiao et al., 2021)	300	Quantitative	The relationship between individuals' psychological needs and Zhihu system affordances is identified.
(Sausi et al., 2021)	442	Quantitative	Trust in the system had a significant positive impact on users' satisfaction.
(Aboaoga et al., 2020)	30	Quantitative	Highly positive correlation between institutional information culture (awareness, attitude, perceived need) and the information system success (user satisfaction).
(Afthanorhan et al., 2020)	353	Quantitative	Behavioural intentions are greatly influenced by the quality factors that affect users' satisfaction of the information system.
(Bain et al., 2020)	230	Mixed	Organisation Fit (Organisational culture and Leadership support) revealed that active participation of the senior leaders, involvement of the staff and end users of the digital dictation system (DDS) with an atmosphere of motivation and encouragement led to successful implementation.
(Chen et al., 2020)		Quantitative	Users' personal factors have no direct influence on users' satisfaction.
(Ghanem et al., 2020)	200	Quantitative	Trust directly affects users' satisfaction, and it completely mediates the effect of the information system qualities (system, information, and service quality) on users' satisfaction.
(Marzal et al., 2020)	401	Mixed	User participation, building trust in new applications through data migration process, and changing the culture through a limited

Source	N	Methodology	Main results
			set of applications indicate that the ADDIE is an effective model in recreating academic information systems to increase users' satisfaction.
(Mellikeche et al., 2020)	2407	Quantitative	Users' satisfaction indicators were lower among the physician subgroup than the nursing subgroup for the continuance intention at HIBA and the social norm HSL.
(Salam & Farooq, 2020)	120	Quantitative	Sociability quality (the extent to which a CSCL environment is perceived to be able to facilitate the emergence of a sound social space with attributes as trust and belonging, a strong sense of community, and good working relationships) has a direct positive impact on the system users' satisfaction.
(Ho et al., 2019)	200	Quantitative	Users' satisfaction affected perceived usefulness, perceived ease of use, and perceived enjoyment. Furthermore, perceived usefulness, perceived ease of use, and perceived enjoyment influenced behavioural attitude and intention to use the system.
(Rachmawati et al., 2019)	75	Quantitative	There is no evidence of environmental uncertainty, organizational culture towards e-learning. However, e-learning affects user satisfaction and influences student academic performance.
(Ifinedo, 2018)	197	Quantitative	There is no statistical significance for the relationships between attitude and subjective norm in relation to users' intention to use HIS. Rather, facilitating organizational conditions was the only variable that explained sampled users' intention to use the system at work.
(Nadri et al., 2018)	202	Quantitative	There is no significant relationship between social influence processes (subjective norm, voluntariness, and image) and users' behavioural intention to use the system.
(Tabibi et al., 2018)	400	Quantitative	The influence of process/ result-oriented culture on user satisfaction was demonstrated.
Organizational health			
(Almuqrin et al., 2023)	3738	Quantitative	Organizations with larger budgets tend to be perceived (having a greater commitment environmentally, culturally, socially, economically, with administrative

Source	N	Methodology	Main results
			sustainability practices). User's satisfaction was related to all dimensions of organizational sustainability, robust direct relationship linking satisfaction with desirable outcomes like organizational commitment.
(Dubale et al., 2023)	403	Quantitative	Electronic medical record (EMR) system and Health Management Information System (HMIS) training were associated with EMR users' satisfaction.
(Alzghaibi & Hutchings, 2022)	351	Mixed	Low levels of satisfaction were recorded for organizational factors (user involvement, training and support).
(Ebnehoseini et al., 2022)	18	Qualitative	The organization (data quality, environment, and equipment contamination) and lack of sufficient preparation in responding are some of the health information system challenges.
(Li et al., 2022)	47	Qualitative	The models for current approaches identified the people, resources, organizational aspects, workflow, and areas for improvement; while models of the HIE approach identified system requirements, functions, and processes that may be shared with software developers and other stakeholders for future development.
(Lutfi et al., 2022)	428	Quantitative	The influence of performance expectancy (PE), effort expectancy (EE) and facilitating conditions (FC), on intention toward m-learning use but did not support the significant influence of social influence (SI). Users' satisfaction was found to be positively and significantly influence m-learning-system usage, with system, information, and service quality.
(Zhai et al., 2022)	406	Mixed	Effective collaboration, clear communication of organizational missions to staff and support from the top management is needed to enhance system usability and users' experience.
(Ndlovu et al., 2022)	32	Mixed	Organizational readiness could compromise and further enhance system user acceptance.
(Rokhman et al., 2022)	427	Quantitative	Users' satisfaction depends on the improvement of the teacher's capability, students' capability and social impact.

Source	N	Methodology	Main results
(Dewi et al., 2021)	292	Quantitative	The transformational leadership has no effect on the use of Information Management and Documentation Officer (PPID) software. The satisfaction of PPID system users effected the net benefits (PPID system performance.
(Amlung et al., 2020)	13	Qualitative	The engagement of leadership and end-users are required during Health information technology (HIT) selection and thorough people implementation preparation, processes, and technology.
(Cahyono & Suryani, 2020)	103	Quantitative	Organizational factors (Service Control (SC) and internal control (IC)) were positively and significantly correlated to the Net Benefit with Users' Satisfaction (US) has on a positive and significant effect.
(Koh & Kan, 2020)	634	Quantitative	Students were generally satisfied with the learning management system (LMS) when it comes to the interaction quality.
(Oliveira et al., 2020)	18	Qualitative	Users are not satisfied with the organizational infrastructure due to the lack of computers and low internet connectivity, as well as with the incipient training for the use of the information system and the lack of technological skills among human resources.
(Wildevuur et al., 2019)	12	Qualitative	Organisational adjustments (development of new ICT services and a viable financial model) need to be made to enable the partnership through ICT,
(Fadhel et al., 2018)	266	Quantitative	Management support influenced users' satisfaction and played a vital role in the success of YHEMIS.
(Fadhel, et al., 2018)	191	Quantitative	Organizational support has a positive influence on the Terengganu Police Contingent employees' satisfaction.

Note. For each study, we presented the author(s), year of publication, and methodology employed. However, because some of the studies had similar results, the main results were aggregated for those situations.

In regards to the research related to the defined organizational and users' satisfaction variables, it was found that organizational culture construct the most frequently studied variable (n = 19; 42.2%), followed by organizational health (n = 17; 37.8%) and organizational climate (n = 9; 20.0%). A synthesis of the main findings of each study and data related to the methodological aspects, namely the methodological approach used (i.e., quantitative,

qualitative, or mixed), the number of participants, the names of the authors, and the year of publication are summarized in Table 2.

Discussion

The present review examined studies addressed the relationship between organizational (organizational climate; organizational culture and organizational health) and users' satisfaction that were published between 2018 to 2023. Most of the studies were published in 2020 ($n = 12$; 26.7%). The studies have been made regarding what makes an information system successful in aspect users' satisfaction. Several studies show results that organizational (organizational climate; organizational culture and organizational health) has a strong effect on users. In general, organizations need to ensure the designed information system is compatible with what the users' needs and can create the interest to implement it.

The review shows that the organizational climate, culture and organizational health has a critical relationship with system users' satisfaction within an organization. These factors contribute to users' satisfaction such as: (i) organizational climate refers to the usual psychological, mood and overall situation within an organization including leadership, communication styles, employee attitudes and the perceived support for innovation and transformation, (ii) organizational health encompasses the resilience, ability of an organization to adapt to change, the efficiency of its operations and employee morale and (iii) organizational culture shapes the values, norms and behaviors within an organization. A conducive organizational culture can make the implementation of information systems successful (Mardiana et al., 2018). Although many studies have showed there is a positive impact between organizational culture and system users' satisfaction, AlBar & Hoque, (2019) in his study had proved that there is no significant effect between organizational culture on the use of cloud computing.

The extent of information systems literature has focused on identifying crucial activities in the role and support of top management, organizational culture, importance of competence, internal communication, communication with end-users and managing system as well as evaluating these topics and creating a short and a long-term plan on how to work with these activities are essential to succeed in the information systems. Managements are a powerful source of influence shaping the post-adoption attitudes and behaviours of users and the success of the system. Besides, organizations face significant challenges in capturing their return of investments value from information systems. Al Mulhem, (2020) found that there is a strong relationship between organizational factors, namely top management support and changed management, with the satisfaction of e-learning systems users.

In this review also has found that the biggest portion of the studies employed a quantitative methodology, $n=33$ (73.3%) likely because the results of the quantitative approach considered to be generalized and is applicable to a wide range of similar conditions and populations (Lodico et al., 2010). Besides, survey method is one of the methods that is widely used for social sciences studies (Ary et al., 2018).

Conclusion

In summary, we can conclude that information system users' satisfaction not only affected by variables related to the technology quality such as information quality, system quality and service quality, as reported in past studies (Al Mulhem, 2020; Johnsen & Haddeland, 2021; Al-Hunaiyyan et al., 2021), it is also affected by organizational variables. This emphasizes the importance of the context in which how the organization works within

its relationships with system users' satisfaction. The present literature review possesses some limitations. The analysed timeline could have been extended because other organizational variables (e.g., organizational citizenship behaviours) have been assessed along with the system users' satisfaction. This would allow a distinct comparison between those organization and other organization variables that affect system users' satisfaction. Future reviews could focus on work attitudes and the individual variables related to users' satisfaction to update past works. In addition, researchers could develop theoretical models that address the effect of organizational variables, and work attitudes on system users' satisfaction, which could lead to the development of an integrative model.

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