IEEE Access
Multidisciplinary ⋮ Rapid Review ⋮ Open Access Journal

Received 17 June 2023, accepted 14 July 2023, date of publication 20 July 2023, date of current version 27 July 2023.

Digital Object Identifier 10.1109/ACCESS.2023.3297447

RESEARCH ARTICLE

Assessing the Benefits of ChatGPT for Business: An Empirical Study on Organizational Performance

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This work involved human subjects or animals in its research. Approval of all ethical and experimental procedures and protocols was granted by the Institutional Review Board of Hoseo University.

ABSTRACT Companies strive to cultivate an innovative and creative organizational culture that bolsters organizational performance. In this context, businesses have started introducing ChatGPT to their users. For this investigation, the DeLone and McLean's Information Systems Success model (D&M IS) was employed. This study explored the factors that influence user satisfaction and benefits related to the three quality components of ChatGPT: system quality, information quality, and service quality. It also examined whether these components positively impact organizational performance. A total of 361 questionnaires from actual businesses were collected and analyzed using structural equation modeling. The survey revealed that the system quality, information quality, and service quality of ChatGPT have favorable impacts on user satisfaction and benefits. Among these, service quality exerted the most significant impact. However, the moderating effect of a flexible organizational culture was not evident. Our study contributes to the knowledge base regarding how the system, information, and service quality of ChatGPT influence productivity within an organization. As the ChatGPT system is still in its nascent stage, it currently does not have a substantial impact on the flexible organizational culture. However, as it evolves and reaches a specific and higher level in the future, it may play a significant role in enhancing long-term organizational performance.

INDEX TERMS ChatGPT, D&M IS, organizational performance, system quality, information quality, service quality, satisfaction, benefit, flexible organizational culture.

I. INTRODUCTION

OpenAI developed ChatGPT, a conversational, generative artificial intelligence. Released on November 30, 2022, it exceeded 100 million monthly users within just two months, according to a report by UBS, a Swiss financial group. This rapid growth starkly contrasts with other internet services like Instagram, SNS, and TikTok, each of which took 30 months to reach the same milestone [1], [2]. The main function of ChatGPT is to generate text responses to inputs with a high degree of human-like writing quality. In recent years, ChatGPT has been utilized in various sectors including customer service, marketing, tourism, academia, medical and legal services, and media [3]. Through ChatGPT, office workers can easily access answers to questions in the financial industry. Using the input prompt, users can freely receive desired answers in real time through the chat window, thus reducing waiting times. In the tourism sector, ChatGPT has driven innovation by serving as an information source for tourists seeking travel information. Despite early-stage deficiencies, its real-time response and easy access to information present significant advantages for users. It also offers appealing deployment, requiring little financial investment or effort.

The benefits of implementing ChatGPT in organizations are manifold [4], [5], [6]. It allows for efficient management of manpower and time due to its capabilities for simple searches and report creation [7]. Although there are currently

The associate editor coordinating the review of this manuscript and approving it for publication was Justin Zhang.

knowledge search services such as Google and Naver, ChatGPT's search ability provides the advantage of more specific and real-time applications. However, much of the research on ChatGPT has primarily focused on technological and ethical implications and learning factors. As AI language-based ChatGPT is deployed within an organization, it is crucial to identify its impact on organizational performance and members' expectations.

The advantages of ChatGPT's system can be broadly divided into three areas based on its organization and usage rate. First, system quality favorably impacts user satisfaction and is reflected in the system's overall performance. Second, reliability influences the user interface and directly affects user satisfaction. Lastly, the provision of accurate and appropriate solutions, coupled with immediate responses from service quality, positively influences satisfaction and benefits, and enhances performance as a work tool.

ChatGPT embodies characteristics of a typical information system (IS), making it suitable for application to the IS success model, thoroughly validated in the academic community. This model presents the ultimate evaluation result through the mediation of users and user satisfaction. As organizational changes are happening rapidly, many organizations are beginning to utilize ChatGPT information services. Organizations with a flexibility-oriented culture tend to be creative, innovative, risk-takers, growth-oriented, and adaptable. These organizations are more sensitive to developments in IS skills and can play a significant role in achieving high expectations and goals for organizational members.

Despite the positive impacts of ChatGPT, as it is still in its nascent stage, the respondents and results used in this study do not represent all ChatGPT users in enterprises. Future research needs to further improve the quality of ChatGPT and compare it with companies that provide high-quality services.

The purpose of this study is to apply the ISS model to ChatGPT to investigate whether IS has a positive effect on organizational performance. Thus far, the discussion has centered around the benefits of ChatGPT, such as its large user base and ability to deliver desired answers through input prompts. However, the effects of employing ChatGPT on business performance have not been adequately studied. In order to examine ChatGPT's benefits from multiple angles and contribute to the body of knowledge, quantitative research on the impact of user satisfaction and benefits on organizational performance was carried out using the IS model. This is a unique initiative to research the organizational performance elements of user happiness and advantages for the quality effect of ChatGPT.

The rest of this paper is divided into the following sections. Section II explores how the three ChatGPT features affect benefits and satisfaction, reviewing previous studies on ChatGPT's influences on organizational performance. Section III describes the ChatGPT research model and proposes some hypotheses. Section IV discusses the methodology of the study model, and Section V reports the findings. Section VI discusses these findings, and the subsequent sections describe the theoretical and practical contributions, summary, and limitations. Finally, Section VIII provides a conclusion.

II. LITERATURE REVIEW

A. ChatGPT

ChatGPT is an intelligent chat machine developed. It is trained by OpenAI to follow the prompt's instructions and provide detailed responses [8]. Another assertion stated by ChatGPT is that messaging applications and websites may be used to facilitate interactions or conversation with actual people. Numerous NLP functions are incorporated into it, including code debugging, question answering, narrative building, logical analysis, and machine translation, among others [9]. ChatGPT allows character-based interaction without the time and space constraints [10]. Among them, ChatGPT 's main task is to provide information by meeting users' information search needs [11], [12]. ChatGPT has amassed close to 1 million members [3], both businesses and consumers and uses them for countless text tasks. Since it uses Reinforcement learning from Human Feedback (RLHF) to swiftly and effectively explore a variety of NLP domains, including code development and multimodal generation, ChatGPT has gained a lot of attention recently. Another reason is that ChatGPT, like conversational interfaces, allows users to interact more efficiently than the default large-scale language model through conversational chats, which resemble multi-turn prompts. Previous research by ChatGPT included case studies in various fields, including law [13], medicine [14], [15], and finance [16]. Additionally, mathematical features [17] were searchable in both publicly available and hand-crafted datasets, and there was a survey of graduate-level mathematics and average mathematics scores. OpenAI also cites the problem of disinformation. Another important discussion is the ethical issue of using ChatGPT. According to Jabotinsky and Sarel [18]. On the Use of Academic Writing and Test Integrity [19]. Guo et al. [19] conducted linguistic analysis and human assessment of the texts of Chat-GPT on human experts using a suggested corpus known as the Human ChatGPT Comparison Corpus and found that the ChatGPT replies were narrowly focused on the questioned subject. Among the studies on ChatGPT, examining the performance of companies can be said to be the technical aspect of ChatGPT, and the interactive system of voice and ChatGPT programming was examined [20], [21]. Related to the adoption of ChatGPT in customer service, such as how ChatGPT adoption can improve consumer purchase intention [22], usefulness [23], influence on customer satisfaction [11], [24] and customer preference (human vs. ChatGPT service).

B. D&M IS SUCCESS MODEL

DeLone and McLean [25] analyzed the results of previous studies and classified IS success (ISS) indicators into six categories. This is the first study in which IS researchers gave priority to the selection of IS success measurement indicators, making an important contribution. First, think about the

hardware processing power of the system (System Quality). Information quality, which includes timeliness and accuracy, is the second factor. Third, how frequently the IS is utilized Fourth, user satisfaction, which describes how intellectually IS personnel respond. Individual Impact, the fifth area, looks at how management information systems (MIS) influence user behavior. Sixth, Organizational Effect, the effect of MIS on the entire organization. divided by impact). DeLone and McLean's IS success model (IS Success Model) is one of the typical IS. The basic success factors of success are system quality and information quality. As a model to evaluate the impact and the impact at the organizational level, the IT investment evaluation indicators are largely divided into individual and corporate performance through the quality of IS and provided information, the degree of use of IS user groups, and satisfaction at use Satisfaction. It is classified into each stage up to the impact This model presents the characteristics of the system side and the ultimate evaluation result through the medium of the important construct concepts, Use, and User Satisfaction. Therefore, ChatGPT 's system quality, information quality, and service quality lead to the ultimate performance of the company through user satisfaction and benefits. The fact that 200 million people signed up within two months of introduction proves that many people around the world are experiencing the real performance. As a result, this study's report will discuss ChatGPT's effectiveness using a model that has received strong academic support.

C. FLEXIBLE ORGANIZATION CULTURE

Businesses with strong flexibility-oriented cultures are more likely to prioritize innovation, change, risk-taking, growth, and adaptability to both internal and external settings, according to Khazanchi et al. [26]. Such businesses invest in unique products or services and seek external help. They thrive and compete in extremely dynamic environments [27], [28]. Prior literature suggests that a flexibility-oriented culture is suitable for idealistic, forward-looking companies [29], [30]. These types of businesses tend to be creative and innovative. They are sensitive to technological advancements in IS [31] and recognize its importance in supporting business operations and strategy [32]. This flexible culture can significantly aid in setting high standards for organizational members and achieving strategic goals [33], [34].

III. RESEARCH MODEL AND HYPOTHESES

Figure 1 show the research model. This study posits that system quality, information quality, service quality affect satisfaction and benefits. It postulates that satisfaction and benefits influence organization performance. Also, this paper investigates the moderating role of flexibility-oriented culture on the effects of satisfaction and benefits influence organization performance.

A. SYSTEM QUALITY

In our research, system quality reflects the reliability, ease of use, response time, and availability of ChatGPT systems

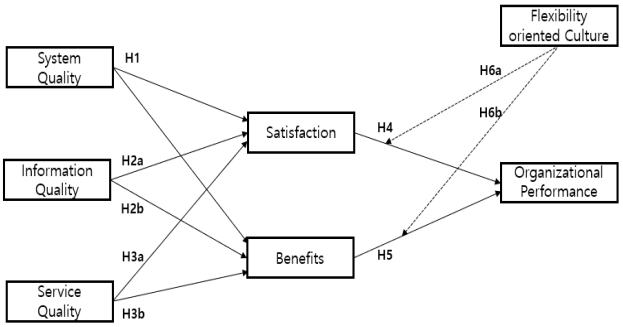

FIGURE 1. Research model.

[35], [36]. It is also reflected in the overall performance of the website's ChatGPT system and can be measured by the superiority of the quality perceived by members as they work in the organization. Furthermore, system quality helps organizations improve performance and increase knowledge. Recently, the convenience and superiority of ChatGPT system quality have been particularly valued [35], [37]. Numerous studies have demonstrated the positive impact of system quality on user satisfaction [35], [38], [39], [40], [41]. The use of knowledge and information provided through ChatGPT strongly influences the level of job performance [42]. Lin [43] indicated that ChatGPT is an effective medium for members to achieve their goals [44]. Thus, this paper proposes the following hypotheses:

H1a. System quality positively influences satisfaction.

H1b. System quality positively influences benefits

B. INFORMATION QUALITY

There is a strong correlation between information quality and member satisfaction in an organization. Many studies have found a reliable relationship between information quality and user satisfaction. Prior studies have also shown that ChatGPT is crucial for user satisfaction, which is directly tied to the user interface [35], [45]. ChatGPT suggested that several attributes, including accuracy, timeliness, completeness, and relevance, should be used to measure the quality of information [46]. All of these variables influence user satisfaction and goal attainment. Access to accurate, current, timely, and reliable information significantly impacts improved user satisfaction and job performance [47], [48]. Additionally, prior research has highlighted the importance of ChatGPT information quality as a crucial component of a successful work tool [49], [50], [51]. Users spend significant time and effort using ChatGPT services to gather information that enhances their careers and helps them achieve their goals. Therefore, the data provided by ChatGPT systems should be both current and comprehensive [47]. If users encounter unreliable or inaccurate information, they may become dissatisfied with the ChatGPT service. As such, we propose the following hypotheses:

H2a. Information Quality positively influences satisfaction.

H2b. Information Quality positively influences benefits.

C. SERVICE QUALITY

Service quality has been identified as a significant determinant of user satisfaction. Service quality is characterized by its ability to meet user requirements, which is reflected in its reliability, assurance, responsiveness, and superior interface. A previous study in the domain of Marketing and Consumer Behavior Research explored the relationship between service quality and satisfaction [38]. Additionally, the revised D&M IS success model suggests that high service quality allows users to respond to an information system with overall satisfaction and meet their needs efficiently [35], [41], [52]. Consequently, if a ChatGPT is effectively built for comprehension, users may enhance their satisfaction by receiving prompt and correct responses, signifying high service quality. The immediate, accurate, and relevant solutions provided by ChatGPT assist users in finding information and achieving their goals. Hence, the following hypotheses are proposed:

H3a. Service quality positively influences satisfaction.

H3b. Service quality positively influences benefits.

D. SATISFACTION

Bell and Tang [53] examined the performance of websites in relation to consumer satisfaction, considering B2C e-commerce as a competitive marketing channel [53]. Although prior studies did not assess the impact of ChatGPT satisfaction on organizational performance, consumer satisfaction with website design, financial security information, and product merchandising (including product offerings and information) was found to significantly influence online purchasing satisfaction in a B2C e-commerce survey conducted by Szymanski and Hise [54]. Additionally, an empirical study on an online apparel retailer discovered that readily available information, transaction capabilities, and response time were significant predictors of shopper satisfaction [55]. This evidence implies that customer satisfaction can influence an organization's long-term performance. Numerous quality parameters have been identified as significant predictors of customer satisfaction in prior research. Therefore, satisfaction with the three distinct quality elements of ChatGPT would potentially enhance organizational performance. Thus, the following hypothesis is proposed:

H4. Satisfaction influences positively Organizational Performance

E. BENEFITS

In general, an AI software known as ChatGPT is designed to engage in automatic conversation with individuals via text messages or chat [56]. Currently, this system provides effective services to customers in various sectors such as telecommunications, marketing, and service sales [57], [58], [59]. It helps customers access services conveniently, especially in banks, which are exemplary financial institutions and constitute a significant proportion of service sales. The benefits of a well-functioning ChatGPT system are closely associated with a bank's performance. Specifically, the use of ChatGPT can be described as a knowledge process and is conducive to knowledge augmentation [60]. Based on the above information, it can be inferred that the benefits and usage of ChatGPT contribute to enhanced organizational performance [61], [62], [63]. Therefore, the following hypothesis is proposed:

H5. Benefits influence positively organizational performance.

F. FLEXIBILITY-ORIENTED CULTURE

The concept of corporate culture governs how individuals perceive, understand, and appropriately respond to their surroundings. It can also be described as a collection of shared values and norms that guide an organization's goals and procedures [28], [64]. For the past decade, prior research on organizational culture has been recognized across various research domains and has been acknowledged as a crucial factor in developing and implementing organizational strategy [27], [43], [65], [66]. Among the various types of organizational cultures, a flexible organizational culture can be regarded as a framework [67]. According to previous studies, a flexible organizational culture stimulates creativity, facilitates change, and promotes performance growth [26], [27]. In a highly dynamic economy, businesses with a strong culture of flexibility utilize both internal and external resources to grow and gain an advantage, enabling ChatGPT to achieve high business systems, quality of service, and information [27], [28], [33], [34]. When an organization exhibits flexibility, its members are more likely to develop creative methods by fostering an environment conducive to values such as creativity, development, and innovation. It can be inferred that innovative organizations have a high rate of new system usage, present a strategic vision, and achieve high benefits and satisfaction [31], [32]. Based on the above analysis, and considering that the core of organizational performance relies on organizational culture, this paper proposes the following hypothesis to identify the interactive effect of a flexibility-oriented culture on performance:

H6a. Flexibility-oriented culture positively moderates the relationship between satisfaction and Organizational Performance

H6b. Flexibility-oriented culture positively moderates the relationship between benefits and Organizational Performance

IV. RESEARCH METHODOLOGY

A. INSTRUMENT DEVELOPMENT

Every measurement used in this study is based on measurements that have already been verified. items were changed to better fit the desired ChatGPT context. The Appendix contains a list of the survey items. Each construct-related item is scored on a 7-point Likert scale, with 1 being the strongest agreement and 7 being the strongest disagreement. Professors

of MIS majors assessed the instruments to find issues with grammar, content, and comprehension before performing this survey. The questionnaire was changed somewhat in response to the feedback and then used in a pilot test with 361 office workers who used GPT. The reliability of each questionnaire was assessed using Cronbach's alpha formula. If the reliability was greater than or equal to 0.70, Cronbach's alpha was deemed to be acceptable. Because each construct's Cronbach's alpha value was more than. 05, the primary inquiry was done.

B. DATA COLLECTION

The use of ChatGPT is not currently widespread, so data was collected through Drama & Company, a commercial online survey company with a panel of 4 million in Korea. The panel was provided with a link to a pre-screened online survey, allowing each member to respond. The survey was designed in a way that preselected participants could answer the questionnaire, overcoming the attention limitations of the survey response process. Purposive sampling was used, a type of non-probability sampling in which the researcher's judgment is used to select which individuals of the population to include in the study. A total of 361 questionnaires were sent out from April 5, 2023, to April 10, 2023, and a response rate of 100% was achieved. The research model assessed seven components: ChatGPT benefits, flexibility-oriented culture, information quality, organizational performance, satisfaction, service quality, and system quality. Respondents could proceed to the next question on the following page only after completing each item on the previous page. The survey included 361 respondents, all of whom were selected for the final analysis. The respondents were predominantly male (75.9%) with a smaller proportion of females (24.1%). The majority of the respondents were between the ages of 26 and 44 (71.8%), with over a third (24.3%) over the age of 44. Regarding occupation type, most respondents worked in the information and communication sector (26.1%), followed by other types of work (18.6%). Given that the majority of respondents were office workers using ChatGPT services, the frequency of ChatGPT use was not investigated. Respondent demographic information is provided in Table 1.

In terms of research findings, the theoretical framework for this study's use of partial least squares (PLS) was examined using SmartPLS. Compared to other covariance-based SEM techniques such as LISREL and AMOS, the PLS approach has fewer restrictions on sample size and residual distribution. Consequently, this study employed PLS to handle complex models and formative structures.

V. EMPIRICAL RESULTS

A. MEASUREMENT MODEL

Confirmatory factor analysis was used to verify the measuring scale's accuracy, convergent validity, discriminant validity, and common method bias. Composite reliability (CR) and average variance extraction (AVE) values were assessed to determine reliability. If CR and Cronbach's alpha values are greater than 0.70 and AVE values are greater than 0.50, reliability is deemed satisfactory [68]. For reflective structures, convergent validity is acceptable if factor loadings exceed 0.70 [69]. As shown in Table 2, all items showed a load of 0.70 or more, confirming convergence validity.

TABLE 1. Demographic information of the respondents.

Demographics	Item	Subjects	
		Frequency	Percentage (%)
Gender	Male	274	75.9
	Female	87	24.1
Age(years)	< 25	14	3.9
	25-34	123	34.1
	35-44	136	37.7
	> 44	88	24.3
Industry	Information communication	94	26.1
	Manufacturing	73	20.2
	Service industry	68	18.8
	Education	21	5.8
	Distribution business	20	5.5
	Construction	8	2.2
	Law firm	6	1.7
	Medical profession	4	1.1
	Other industries	67	18.6

The two things made a significant contribution to each build's formative component for each construct. The shared variances amongst factors were then contrasted with the AVE values of individual components to assess the discriminant validity of the reflective constructs. The diagonal held the square root of the AVE values for the constructions, as stated in Table 2. There was evidence of discriminant validity because all of the AVE values were higher than those of the off-diagonal elements in the corresponding rows and columns.

B. STRUCTURAL MODEL

Structural models and hypothesis testing Analyzes were performed to test hypothesized relationships. Among the structures of this study. Bootstrap Resampling method (5000 resamples) to determine significance. Paths within the study model. The analysis result is It is shown in Figure 2.

The results displayed in Figure 2 and Table 4 support most of the proposed hypotheses, specifically H1, H2a, H2b, H3a, and H3b, with system quality, information quality, and service quality showing significant positive impacts. Notably, service quality exhibited a strong positive correlation with satisfaction ($\beta = 0.451$, $p<0.001$). As hypothesized, both satisfaction and benefits were significantly related to organizational performance, thus supporting H4 ($\beta = 0.262$, $p < 0.001$) and H5 ($\beta = 0.269$, $p < 0.001$). However, the

TABLE 2. Reliability and validity indices.

Construct	Item	Mean	SD	Loading	Construct reliability	AVE	Cronbach's alpha
Benefits	BNT 1	5.579	1.191	0.867	0.919	0.791	0.868
	BNT 2	5.690	1.118	0.911			
	BNT 3	5.460	1.229	0.890			
Flexible Oriented Culture	FCU 1	4.632	1.694	0.904	0.919	0.791	0.868
	FCU 2	4.842	1.658	0.865			
	FCU 3	4.277`	1.773	0.899			
Information Quality	INQ 1	5.125	1.297	0.888	0.886	0.722	0.816
	INQ 2	4.097	1.566	0.798			
	INQ 3	4.349	1.474	0.858			
Organizational Performance	OGP 1	4.870	1.303	0.881	0.926	0.806	0.879
	OGP 2	4.665	1.449	0.914			
	OGP 3	4.698	1.507	0.898			
Satisfaction	SAT1	5.155	1.282	0.899	0.921	0.795	0.871
	SAT2	5.141	1.287	0.910			
	SAT3	5.152	1.338	0.865			
Service Quality	SEQ 1	4.842	1.360	0.854	0.867	0.685	0.772
	SEQ 2	5.288	1.160	0.790			
	SEQ 3	4.911	1.386	0.835			
System Quality	SYQ 1	5.150	1.207	0.920	0.956	0.880	0.932
	SYQ 2	5.150	1.276	0.956			
	SYQ 3	5.130	1.271	0.937			

TABLE 3. Discriminant validity.

Construct	1	2	3	4	5	6	7
1. System Quality	0.938						
2. Information Quality	0.550	0.850					
3. Service Quality	0.663	0.630	0.827				
4. Satisfaction	0.673	0.643	0.757	0.892			
5. Benefits	0.543	0.490	0.594	0.687	0.890		
6. Organizational Performance	0.465	0.490	0.514	0.540	0.518	0.898	
7. Flexible-Oriented Culture	0.196	0.358	0.281	0.265	0.191	0.482	0.889

correlation between satisfaction and organizational performance wasn't significant ($\beta = -0.003$, $p > 0.05$), and similarly, there was no significant correlation between strengths and organizational performance ($\beta = 0.049$, $p > 0.05$) or a flexible organizational culture. Therefore, hypotheses H6a and H6b were not supported.

The results of the analysis suggest that these three quality attributes significantly shape both satisfaction and benefits, corroborating our predictions. The three quality attributes explained 65.4% of satisfaction and 40.4% of benefit. In other words, the proposed overall research model accounted for 46.1% of the variance among users.

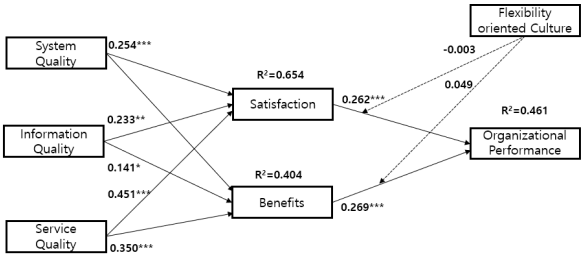

FIGURE 2. Results of structural model test.

TABLE 4. The hypotheses testing results.

H	Effect	Cause	Coefficient	T-Value	Hypothesis
H1a	System Quality	Satisfaction	0.255	4.566	Accepted
H1b	System Quality	Benefits	0.235	3.376	Accepted
H2a	Information Quality	Satisfaction	0.221	5.387	Accepted
H2b	Information Quality	Benefits	0.139	2.224	Accepted
H3a	Service Quality	Satisfaction	0.449	8.762	Accepted
H3b	Service Quality	Benefits	0.351	6.079	Accepted
H4	Satisfaction	Organizational Performance	0.263	4.403	Accepted
H5	Benefits	Organizational Performance	0.267	4.654	Accepted
H6a	Flexible-Oriented Culture * Benefits	Organizational Performance	0.047	0.769	Rejected
H6b	Flexible-Oriented Culture * Satisfaction	Organizational Performance	0.001	0.056	Rejected

In conclusion, the three quality attributes were demonstrated to significantly enhance satisfaction and benefits, which in turn significantly improve organizational performance within the context of ChatGPT. Organizational performance is significantly influenced when members cultivate benefits and satisfaction from the quality of ChatGPT.

VI. DISCUSSION

The study concentrated on the organizational performance of ChatGPT based on the IS model [35], and the key findings of the analysis are detailed below.

First, the analysis showed that system quality positively impacts both satisfaction and benefits, which aligns with previous studies [35], [37]. The system quality of ChatGPT

reflects the overall performance of the system and aids organizations in enhancing performance and knowledge growth. The positive impact of system quality on user satisfaction was confirmed through ChatGPT.

Second, information quality was found to have a positive effect on both satisfaction and benefits. This outcome is consistent with previous research [35], [45], [70] which suggested that information quality affects user interface and directly influences user satisfaction. ChatGPT, as an effective work tool, motivates users by providing sufficiently informative and up-to-date data [49], [50], [51]. When ChatGPT provides accurate and updated information, users tend to feel more satisfied and make quicker, more accurate decisions [36].

Third, service quality had a positive impact on both satisfaction and benefits. Remarkably, service quality was found to be the strongest predictor of satisfaction ($\beta = 0.451$). These findings confirm that service quality is a major determinant of satisfaction, as indicated in previous research [71]. Service quality is defined by its capacity to meet users' needs and to be a functional work tool that can yield positive results in the future [38], [41], [48], [72], [73]. Therefore, it is inferred that if ChatGPT provides users with prompt, accurate, and appropriate solutions, it can enhance both satisfaction and benefits.

Fourth, benefits and satisfaction were found to positively impact organizational performance. While previous studies did not directly explore the relationship between ChatGPT satisfaction and organizational performance, it can be inferred from existing information that satisfaction with AI software offerings is high [54]. Marketing research also showed that quicker consumer responses via AI software and shorter transaction times yield excellent outcomes, as customer satisfaction significantly influences sales rates [55]. This suggests that organizational performance is enhanced when members are satisfied with the three quality components of ChatGPT. Presently, performance in various sectors like telecommunications, marketing, and service sales is directly linked with benefits for both customers and members. Specifically, the use of ChatGPT at work aids in knowledge accumulation and application, which leads to the conclusion that the benefits and use of ChatGPT improve organizational performance [62], [63].

Lastly, in terms of a flexibility-oriented culture, there was no significant correlation found between satisfaction and organizational performance. Previous studies suggested that companies with a flexibility-oriented culture can achieve growth and a competitive advantage in a volatile environment, leading to high quality of service and better informality through the use of ChatGPT in business systems [27], [28]. However, the level of user satisfaction with business applications due to the use of ChatGPT does not meet expectations. Yet, given that system quality significantly affects benefits, and its impact on organizational performance in a flexibility-valued culture is consistent with previous results that benefits play a crucial role in organizational performance [33], [34], there is more scope for quality improvement beyond simply utilizing ChatGPT. In other words, the higher the system quality of ChatGPT, the higher the performance.

VII. IMPLICATION

A. THEORETICAL IMPLICATIONS

This research makes several significant contributions to the understanding of ChatGPT quality and usage, along with providing an IS-related theoretical framework and exploring the benefits of ChatGPT from various perspectives.

First, the study is novel in that it quantitatively investigates the influence of user satisfaction and benefits on organizational performance using the IS model of [35]. This provides a clearer insight into the current research area represented by the application of ChatGPT technology. Previous studies on the function of ISs mainly concentrated on simple search and response tasks and customer satisfaction. However, ChatGPT's wide range of knowledge applications exemplify the generation of new information, thereby bolstering the IS model.

Secondly, this paper empirically demonstrates that ChatGPT benefits and satisfaction play a crucial role in enhancing organizational performance. These findings address the fact that the business environment is dynamic and rapidly evolving, where not only leaders but also the systems used for work are of utmost importance. Previous studies suggested that customer satisfaction and benefits improve sales and performance, whereas this study emphasizes the benefits and satisfaction of organization members, with outcomes related to organizational performance linked to member motivation. Thus, a significant contribution of this research is highlighting how the introduction of ISs into businesses increases work speed, accuracy, and knowledge, and how success is driven substantially by extrinsic motivation.

Thirdly, even though companies have reported benefits and satisfaction from using ChatGPT, uncertainties still exist regarding the moderating role that satisfaction plays in boosting performance within adaptive organizational cultures. The notion of organizational flexibility indicates that member benefits and satisfaction levels with the organization's IS are distinct from those in other organizations.

Finally, to enhance the understanding of organizational performance and behavior, this study includes a survey of all office workers and explores companies employing diverse methods. This approach is unlike previous research, which focused solely on banking or educational institutions. Thus, the study adds breadth and depth to the understanding of ChatGPT use and organizational performance across a variety of industries and contexts.

B. PRACTICAL IMPLICATIONS

Considering that the implementation of ChatGPT in businesses significantly benefits both user and organizational performance, the findings of this study can serve as a valuable reference and guidelines. They can act as new motivational drivers for enhancing organizational perfor-

mance. Our research reveals that the information quality, system quality, and service quality of ChatGPT can influence its benefits and satisfaction, thus promoting its continued use. Therefore, within enterprises, users must pay close attention to these three quality aspects and their impact on organizational performance.

Firstly, system quality acts as a critical determinant of user convenience and satisfaction, having the most significant influence on satisfaction. Therefore, companies should strive to provide superior system quality to users. To enhance organizational performance, corporate managers need to implement a stable and fast system that users can utilize while performing their tasks.

Secondly, the quality of information also heavily influences user convenience and satisfaction, necessitating the provision of accurate, reliable, and timely information. Immediate responses and precise information that cater to users' needs will play a crucial role in business performance. Existing ISs, such as ChatBots, provide generic responses and have been predominantly studied from the customer's viewpoint in banking and service industries. However, we defined the role of the IS by focusing exclusively on the needs and demands of our customers.

Thirdly, service quality is a significant factor determining user benefit and satisfaction and heavily influences benefits. The service quality of ChatGPT directly impacts organizational performance as it helps in increasing knowledge and improving the capacity for successful work. This suggests that businesses should offer updates to enhance the ChatGPT system's quality. Moreover, companies should aim to deliver ChatGPT-based services to users by providing necessary systems for each department. These results highlight users' concerns and expectations for service quality, which significantly influence users' benefits from ChatGPT services. Additionally, service providers should minimize errors by developing on various platforms like Android and iOS for mobiles, and Windows for computers [34]. As users' system quality demands high standards and changes over time [74], companies need to acquire and update knowledge related to system quality services.

Enterprise managers should encourage developers to create effective interfaces that can deliver precise and appropriate solutions, meeting user needs in their work. In various business environments, while the system can be customized to customers' needs, it can assist users in enhancing their knowledge and improving their self-learning capabilities when performing tasks. Given the nature of ISs, users are encouraged to search for and find answers independently and apply them to their work. If the system quality is improved and the three qualities are well-constructed, users will use it more, and work performance will increase as their knowledge improves.

Lastly, the relationship between ChatGPT's strengths and organizational performance remains unaffected by a flexible organizational culture. As the introduction of ChatGPT is still in its infancy and the technology is evolving, the impact on satisfaction and benefits might be insignificant due to the nature of the flexible organizational culture. Our results indicate that the three qualities of ChatGPT positively influence satisfaction and benefits, hence, we can expect more users in the future. Corporate managers have the potential to increase system quality because it affects organizational performance. The satisfaction and benefits of users who experience superior system quality can significantly impact performance as the self-learning function improves. Users can gain insights from using the ChatGPT system and devise future improvements.

VIII. CONCLUSION

A. SUMMARY

The aim of this study is to apply the ISS model to ChatGPT to investigate if the IS positively impacts organizational performance. In this study, a survey was conducted among employees of companies that use ChatGPT, and the PLS-SEM method was utilized for empirical analysis. The system quality, information quality, and service quality of ChatGPT were found to positively influence user satisfaction and benefits, with service quality exerting a particularly significant effect on this advantage. Consequently, service quality, by meeting user requirements and demonstrating reliability, forms the basis for influencing the achievement of organizational goals. Furthermore, a flexible organizational culture showed a positive impact on innovative organizations and fast-changing companies. However, there was no moderating effect observed between satisfaction, benefits, and organizational performance. This suggests that the use of ChatGPT is not limited to any specific context and that further improvement of the system quality is necessary to significantly influence performance.

B. RESEARCH LIMITATIONS

The findings of the study imply that corporate managers need to focus on enhancing the quality of ChatGPT to promote corporate innovation and creative organizational performance. The factors influencing the system quality, information quality, and service quality of a company's ChatGPT service need to be identified. The study discusses the potential for more extensive future implementation of ChatGPT's technology in companies. Despite adhering to a rigorous research process, this study has certain limitations. Firstly, the findings are based on a relatively small number of companies currently using ChatGPT, and given its nascent stage of adoption, the respondents and results may not be generalized and do not represent all enterprise-level ChatGPT users. Additionally, data were collected using a self-report survey method. Given the risk of same-method bias, future studies might consider other types of approaches, such as qualitative research, to improve respondent quality. Secondly, future studies could investigate the influence of ChatGPT usage on organizational performance through education and training programs, rather than focusing solely on quality, service, and information quality. This could potentially involve the application of

motivation theory. Lastly, although our primary focus was on the notion that ChatGPT's quality drives organizational performance through benefit and satisfaction, the consistency of the IS must be ensured. The frequency of usage has been explored, but given the early stages of ChatGPT adoption, further quantitative research is necessary. This quantitatively analyzed study will serve as a critical precursor that underpins the future continuity of ChatGPT's IS.

APPENDIX

TABLE 5. List of constructs and items.

	System Quality (Wixom & Todd, 2005)
SYQ1	In terms of system quality, I highly rate the ChatGPT system
SYQ2	Overall, the ChatGPT system is of high quality
SYQ3	Overall, I would like to give high marks to the quality of the ChatGPT system
SYQ4	In terms of system quality, we rate the ChatGPT system very highly
	Information Quality (Teo et al., 2008)
INQ1	ChatGPT provides enough information
INQ2	The information provided by ChatGPT is up-to-date
INQ3	The information provided by ChatGPT is reliable
	Service Quality (Roca et al., 2006)
SEQ1	ChatGPT provides a solution that is accurate and suitable for my needs
SEQ2	ChatGPT provides instant response
SEQ3	ChatGPT has a great interface to convey my needs
	Satisfaction (Teo et al., 2008)
SAT1	ChatGPT lived up to my expectations
SAT2	ChatGPT efficiently met my needs (e.g. retrieving **information, and conducting transactions)**
SAT3	I am happy with ChatGPT's support
SAT4	Overall I am happy with ChatGPT
	Benefits (Al-Emran et al., 2020)
BNT1	It has helped me to increase my knowledge and increase my knowledge successfully using ChatGPT
BNT2	ChatGPT is a very effective training tool and has helped me improve my work skills
BNT3	ChatGPT helps you achieve your goals
	Organizational performance (Choi et al., 2023)
OGP1	Compared to when we didn't use ChatGPT, our organization is more successful
OGP2	Our organization is growing faster than without ChatGPT
OGP3	Our organization is more innovative than it was when we didn't use ChatGPT

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