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Evaluating the Influence of AI-Integrated Cloud Computing Services on Individual and Organizational Performance Metrics

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Abstract

Artificial Intelligence (AI)-integrated Cloud computing services are transforming how individuals and organizations operate by enhancing performance, collaboration, and access to digital resources. This research investigates the effects of these services on individual efficiency, skill development, and satisfaction, as well as on organizational processes, cost management, and data governance. Semi-structured interviews with professionals across diverse sectors provided insights into both practical benefits and challenges of implementation. Results indicate that AI-driven Cloud solutions improve task efficiency, facilitate interdepartmental and cross-organizational collaboration, and support the development of individual competencies. Organizations benefit from optimized workflows, reduced operational costs, and improved data security, while societal impacts include enhanced digital equity, resilience, and innovation potential through secure and efficient management of large-scale data. Despite these advantages, privacy concerns, environmental considerations, and organizational readiness remain significant factors that influence adoption outcomes. The findings contribute to the understanding of AI-integrated Cloud computing adoption, highlighting the interplay between technology, human factors, and organizational practices. The study offers practical guidance for organizations and individuals seeking to leverage AI-driven Cloud services effectively while addressing associated risks, and extends theoretical perspectives on the adoption and performance implications of emerging information technologies.

Keywords

AI-Integrated Cloud Computing, Individual Performance, Organizational Performance, Digital Innovation, Privacy and Data Sovereignty, Societal Impact

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1. Introduction

Cloud computing has transformed the way organizations and individuals access, store, and process data. It provides on-demand access to computing resources, including servers, storage, applications, and networking, without the need for managing physical infrastructure. By offering scalable and flexible solutions, cloud computing allows organizations to enhance operational efficiency, reduce IT costs, and support innovation (Loukis et al., 2019; Mell & Grance, 2011). Since its emergence in the early 2000s, cloud computing has become integral to digital strategies across multiple sectors, including entertainment, education, healthcare, and business operations (Donat et al., 2025). Its deployment supported remote work, virtual collaboration, and operational continuity during periods of disruption, most visibly during the COVID-19 pandemic, when organizations and educational institutions depended on cloud-based platforms to sustain core activities and service delivery

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(Crawford et al., 2020; Dwivedi et al., 2020; Venkatesh, 2020; Waheed et al., 2021).

Figure 1. Conceptual overview of cloud computing and service delivery models (adapted from Mell and Grance (2011).

Cloud computing is commonly delivered through three primary models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). IaaS provides fundamental computing resources, allowing clients to deploy and manage operating systems and applications. PaaS adds a platform layer for application development and deployment, while SaaS delivers fully managed software accessible via the internet, eliminating the need for local infrastructure management (Armbrust et al., 2010; Mell & Grance, 2011). Organizations can adopt these models using four deployment strategies: public, private, community, or hybrid clouds. Public clouds offer shared access to infrastructure and scalability at lower cost, while private clouds provide exclusive infrastructure access, stronger security, and higher control. Community clouds serve groups of organizations with shared requirements, and hybrid clouds combine public and private infrastructures to balance cost, flexibility, and data security (Golightly et al., 2022).

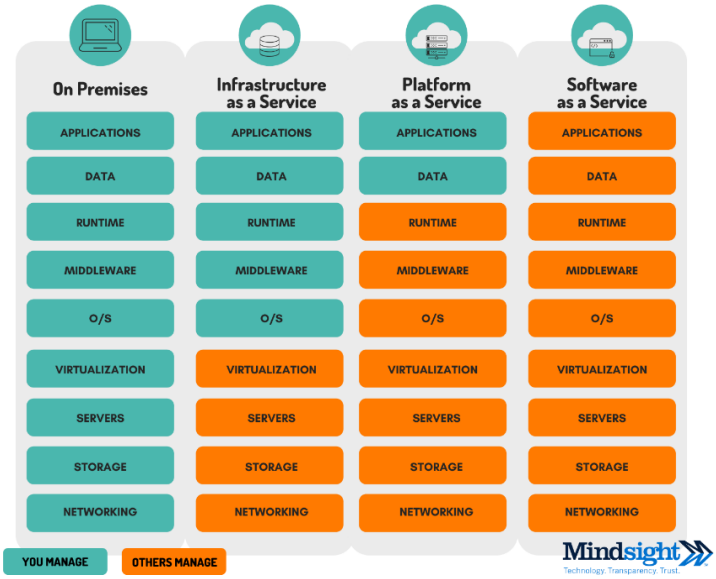

Figure 2. Cloud computing service models and deployment options (adapted from Armbrust et al. (2010).

The adoption of cloud computing has intensified attention to environmental impact and resource efficiency, as large-scale data centers contribute materially to global electricity demand and associated carbon emissions, highlighting the need for energy-efficient system design, workload optimization, and sustainability-oriented governance in cloud deployment (Andrae & Edler, 2015; Koomey, 2011; Masanet et al., 2020). Additionally, security, privacy, and compliance challenges are central concerns for organizations implementing cloud services. Issues such as data breaches, distributed denial-of-service attacks, network reliability, and regulatory compliance must be carefully managed. Firms also need to define service level agreements, select trustworthy cloud service providers, and ensure sufficient network infrastructure to mitigate operational and financial risks (Alsaadi et al., 2020; Diaby & Rad, 2017). The integration of artificial intelligence (AI) with cloud computing introduces new capabilities for automated resource management, predictive analytics, and performance optimization. AI-enhanced cloud platforms support data-driven decision-making and operational efficiency by enabling intelligent workload forecasting, adaptive scaling, and cost-effective resource allocation in cloud environments (Goodarzy et al., 2020; Rashid, 2024). These services enable organizations to process large volumes of data from sources such as the Internet of Things (IoT), improving collaboration, productivity, and resilience while also creating opportunities for cost reduction and competitive advantage. However, AI-integrated cloud services may face latency issues, data privacy concerns, and challenges in governance and connectivity, requiring careful implementation and monitoring (Mohammed Sadeeq et al., 2021). Despite the evident benefits, research remains limited on how AI-integrated cloud services specifically influence individual and organizational performance metrics, including job satisfaction, task completion efficiency, user competence, privacy management, innovation rates, and environmental impact. Examining these effects across sectors provides a holistic understanding of cloud computing as a strategic tool and informs evidence-based adoption strategies, ensuring that both technological and human factors are addressed effectively (Liu et al., 2018; Loukis et al., 2019; Waheed & Leišytė, 2023).

2. Literature Review

Table 1. Literature Review

Study	Research Objective / Question	Theoretical Framework	Methodology	Key Findings
Davis (1989)	To explain user acceptance of information systems	Technology Acceptance Model (TAM)	Quantitative survey; regression analysis	Perceived usefulness and perceived ease of use explain individual intention to use digital systems, forming the methodological basis for user-level cloud and AI adoption studies
Utterback (1971)	To explain organizational adoption of technological innovation	Technology-Organization-Environment (TOE)	Conceptual framework synthesis	Organizational, technological, and environmental conditions jointly shape technology adoption decisions, widely applied in cloud computing research
Barney (1991)	To explain how firm resources create competitive advantage	Resource-Based View (RBV)	Conceptual theory development	Technological capabilities such as cloud and AI act as strategic resources when combined with organizational skills
Oliveira and Martins (2011)	To identify determinants of information systems adoption	TOE framework	Survey; structural equation modeling	TOE variables consistently explain adoption of complex IS, including cloud computing
Low et al. (2011)	To examine cloud computing adoption in organizations	TOE framework	Quantitative survey of firms	Relative advantage, top management support, and competitive pressure significantly influence cloud adoption
Loukis et al. (2017)	To analyze inter-organizational collaboration enabled by cloud computing	Open innovation perspective	CATI survey; correlation analysis	Cloud computing facilitates collaboration and innovation across organizational boundaries
Rodríguez-Espíndola et al. (2022)	To analyze adoption of AI, cloud, and big data in manufacturing	Institutional theory; RBV; TAM	Survey; structural equation modeling	Market pressure, regulatory support, and organizational resilience increase adoption intention
Mariani and Fosso Wamba (2020)	To study the role of AI, cloud, and big data in decision making	Digital transformation framework	Quantitative modeling	AI-cloud integration improves analytical capability and operational performance
Dubey et al. (2021)	To assess digital technologies' impact on operational resilience	Digital capability perspective	Large-scale survey; SEM	Cloud and AI capabilities strengthen resilience and performance
Haslinda et al. (2017)	To examine factors influencing cloud computing usage	TAM extended	Survey; SEM	Trust, usefulness, and organizational support strongly influence employee adoption
Khalil et al. (2016)	To analyze cloud computing's global diffusion	Institutional theory	Conceptual analysis with case evidence	Cloud adoption is shaped by regulatory, economic, and infrastructural conditions

Ali et al. (2020)	To assess cost savings from cloud adoption in public organizations	TOE perspective	Case study analysis	Cloud migration produces efficiency and cost benefits when governance is aligned
Kethu (2020)	To measure AI-cloud impact in banking	Confirmatory factor analysis	Survey; CFA	AI-cloud integration improves service continuity and operational efficiency
Michels et al. (2023)	To examine data sovereignty risks in cloud computing	Legal-institutional framework	Systematic literature review	Cloud adoption requires alignment with legal and data governance requirements
Khalil et al. (2016)	To analyze cloud computing's impact on IT governance	IT governance framework	Systematic literature review; interviews	Cloud adoption alters governance structures and competency requirements
Alashhab et al. (2021)	To study cloud computing dependency during COVID-19	Risk and security perspective	Quantitative survey	Rapid cloud dependence increases exposure to security and governance risks

The body of prior scholarship reviewed in Table 1 provides a clear basis for aligning the research question with the selected variables at both the individual and organizational levels. Research grounded in established information systems theories consistently highlights individual perceptions related to usefulness, ease of use, trust, and competence as central elements shaping engagement with cloud and AI enabled services. These constructs justify the inclusion of variables such as task completion efficiency, user experience with AI enabled cloud applications, individual skill development, and confidence in using intelligent systems. At the organizational level, studies applying the Technology Organization Environment framework and complementary perspectives emphasize conditions related to organizational readiness, managerial support, cost considerations, regulatory context, and competitive pressure as influential elements associated with the adoption and effective use of cloud based technologies. Empirical findings indicate that these organizational conditions are associated with operational efficiency, innovation related outcomes, resilience in response to disruption, and coordination across organizational units. In parallel, governance focused research highlights persistent concerns related to data protection, privacy management, compliance obligations, and dependency on service providers, supporting the inclusion of privacy concerns and control related variables as relevant constraints shaping performance outcomes. Across sectors including manufacturing, education, banking, construction, and public services, prior studies demonstrate that AI enabled cloud services influence work practices, decision processes, and organizational functioning simultaneously, reinforcing the need to examine individual perceptions and organizational conditions within an integrated analytical structure that reflects both performance related benefits and structural limitations (Waheed & Kaur, 2019).

2.1. Hypothesis Development

2.1.1. Individual performance

2.1.2. User proficiency and user experience with AI-integrated cloud services

The implementation of AI integrated cloud services is frequently associated with changes in user proficiency and work related skills. Individuals are more likely to adopt emerging technologies when they perceive improvements in task effectiveness, employability, and long term skill development. Prior research grounded in human capital theory and technology acceptance literature indicates that exposure to cloud based and AI supported systems encourages the acquisition of digital competencies that extend beyond immediate job requirements, contributing to broader professional adaptability and individual performance outcomes (Delone & McLean, 2003; Dwivedi et al., 2021; Venkatesh et al., 2012). In sectors such as construction, AI integrated cloud services have been deployed to enhance supply chain transparency, operational coordination, and data security, directly affecting employees who act as primary system users. These implementations often alter task structures and require targeted training, leading to the development of new digital capabilities linked to cloud and AI technologies. Empirical studies show that such capability development strengthens individual efficiency and decision quality by improving access to real time data and collaborative platforms (Mariani & Fosso Wamba, 2020; Mikalef et al., 2020). Similar patterns are observed in the education sector, where AI integrated cloud services facilitate access to learning resources, digital storage, and educational applications while reducing cost barriers. These systems support skill development among students and educators by enabling continuous access to instructional materials and collaborative tools, independent of location or time constraints. Prior studies demonstrate that cloud based learning environments enhance digital literacy, knowledge sharing, and user engagement, thereby contributing to improved individual outcomes (Alshamaila et al., 2013; Dwivedi et al., 2021). The availability of widely used productivity platforms further strengthens collaborative learning, teamwork, and information sharing, reinforcing user engagement and competence (Waheed et al., 2016). These effects also extend to small and geographically dispersed organizations, where cloud based collaboration improves communication, flexibility, and coordination among employees, suppliers, and customers. Evidence from information systems research suggests that collaboration tools embedded in cloud environments enable faster task

execution and improved interoperability, which positively influences user satisfaction and perceived usefulness (Tallon et al., 2019; Tarafdar et al., 2019). Despite these advantages, the relationship between AI integrated cloud services and individual productivity remains complex. While several studies report gains in efficiency, work satisfaction, and work life balance, others note that security concerns, system complexity, and governance challenges may constrain productivity outcomes. Survey based research indicates that perceived usefulness and ease of use enhance individual engagement, yet these effects are moderated by risk perceptions and organizational support conditions (Dinev et al., 2015). Collectively, these findings support the argument that user proficiency and user experience are key predictors of individual performance.

Hypothesis 1: User proficiency with AI and cloud technologies is positively related to individual performance.

Hypothesis 2: A positive user experience with AI-integrated cloud services is associated with improved individual performance and societal impact.

2.1.3. Privacy concerns with AI-integrated cloud services

Privacy remains a central concern in the adoption and use of AI integrated cloud services. While cloud computing is often presented as a mechanism for improving security and data management, uncertainties surrounding data location, ownership, and access continue to influence user behavior. Research in information privacy and risk perception literature highlights that ambiguity regarding data governance and cross border data flows increases perceived vulnerability among users, thereby reducing trust and system usage (Dinev et al., 2015; Martin, 2018; Smith et al., 2011). The geographical placement of data centers and the legal frameworks governing them may expose sensitive information to external jurisdictional control, raising concerns about confidentiality and sovereignty. These issues are particularly salient in regions where foreign cloud providers dominate the market, prompting debates related to regulatory dependence and strategic autonomy. Studies on digital governance emphasize that such concerns shape individual attitudes toward technology usage and constrain potential performance gains (Martin, 2018; OECD, 2019). At the individual level, heightened uncertainty regarding data protection may reduce system usage intensity, undermining productivity benefits associated with AI integrated cloud services. Although encryption and technical safeguards partially mitigate these risks, they do not fully eliminate concerns related to surveillance, legal access, or misuse of personal data. Empirical evidence suggests that increased privacy concerns negatively affect technology acceptance, engagement, and task performance (Bélanger & Crossler, 2011; Dinev et al., 2015).

Hypothesis 3: Privacy concerns with AI-integrated cloud services are inversely related to individual performance.

2.2. Organizational Performance

2.2.1. Organizational support for AI-integrated cloud services

From an organizational perspective, the transition from on premises infrastructure to AI integrated cloud services introduces substantial managerial and governance challenges. Maintaining internal hardware environments requires continuous investment in configuration, maintenance, and specialized personnel, while cloud adoption redistributes responsibilities across IT and business units. Prior research emphasizes that organizational support mechanisms, including governance structures and managerial commitment, are critical determinants of digital transformation success (Bharadwaj et al., 2013; Weill & Ross, 2004). Effective implementation depends on the alignment between organizational strategy, technological resources, and service management capabilities. Studies grounded in the resource based view indicate that cloud technologies generate performance benefits

only when complemented by appropriate organizational capabilities and governance maturity (Mikalef et al., 2020; Tallon et al., 2019). Cloud adoption influences organizational workflows, decision rights, and control mechanisms, increasing the importance of data governance and risk management. Weak governance structures are frequently associated with security breaches, compliance failures, and operational disruptions. Although cloud providers promote availability and resilience, organizations remain accountable for data protection and continuity planning. Empirical research consistently finds that sustained managerial support and governance alignment are prerequisites for achieving organizational performance gains from AI integrated cloud services (Mariani & Fosso Wamba, 2020).

Hypothesis 4: Strong organizational support for AI-cloud integration positively affects organizational performance.

2.2.2. Level of AI integration in cloud services

The integration of AI capabilities into cloud infrastructures enables advanced data processing, automation, and analytical functions that support organizational performance. Across sectors such as agriculture, telecommunications, banking, and manufacturing, AI enabled cloud platforms facilitate real time monitoring, predictive analysis, and service optimization. These capabilities rely on scalable storage, high computational capacity, and data accessibility inherent to cloud environments (Dwivedi et al., 2021; Wamba et al., 2017). Empirical studies demonstrate that higher levels of AI integration enhance organizations' ability to process complex data, reduce manual intervention, and improve decision quality. As AI integration deepens, organizations can reallocate resources toward higher value activities, leading to efficiency gains and improved service outcomes (Mikalef et al., 2020).

Hypothesis 5: Higher levels of AI integration in cloud services positively influence organizational performance.

2.2.3. Cost of implementing and maintaining AI-integrated cloud services

Cost considerations are frequently cited as a primary motivation for adopting AI integrated cloud services. Cloud models convert capital expenditures into operational expenses, reducing upfront investment and enabling scalable resource utilization. Prior studies show that economies of scale offered by cloud providers are particularly beneficial for small and medium sized organizations with limited IT budgets (Armbrust et al., 2010; Marston et al., 2011). However, empirical evidence also cautions that cost advantages are not automatic. Poor configuration, inappropriate service selection, and insufficient monitoring may lead to escalating operational expenses that negatively affect financial performance. While direct IT cost savings may represent a modest share of overall revenue, cloud enabled innovation and flexibility can indirectly enhance organizational performance when effectively managed (Dubey et al., 2021).

Hypothesis 6: The cost of implementing and maintaining AI-integrated cloud services is inversely related to organizational performance.

2.3. Societal Impact

2.3.1. Resilience

Resilience in AI integrated cloud services extends beyond organizational boundaries and affects societal outcomes related to data sovereignty and service continuity. Cloud based data storage raises concerns regarding ownership, jurisdiction, and control, particularly when managed by external providers. Research on digital sovereignty highlights that reliance on foreign cloud infrastructures may expose societies to legal and political vulnerabilities (OECD, 2019). While resilient cloud architectures support data preservation and continuity of critical services, these benefits depend on governance

arrangements and regulatory oversight. National initiatives aimed at developing trusted cloud ecosystems reflect growing recognition of these challenges. Studies indicate that resilient cloud systems contribute positively to societal stability when sovereignty and governance concerns are addressed (Carvalho & Kazim, 2022).

Hypothesis 7: The resilience of cloud services is positively related to societal impact.

2.3.2. Digital equity

AI integrated cloud services intersect with issues of digital equity by influencing access to digital resources and skills. Persistent disparities in digital infrastructure and competencies continue to shape participation in the digital economy. Prior research shows that cloud based platforms can lower entry barriers by providing affordable access to tools and services, thereby supporting inclusion when combined with supportive institutional policies (Hilbert, 2011; OECD, 2019). Although technology alone cannot eliminate structural inequalities, empirical studies suggest that cloud enabled access to digital resources contributes to skill development and broader participation in economic and educational activities (Dwivedi et al., 2021).

Hypothesis 8: Digital equity with AI-integrated cloud services is positively related to societal impact.

2.3.3. Environmental footprint

The environmental implications of AI integrated cloud services have received increasing scholarly attention. Data centers consume significant energy due to continuous operation and cooling demands, contributing to global carbon emissions. At the same time, cloud computing may reduce environmental impact by consolidating infrastructure, improving utilization efficiency, and reducing reliance on physical hardware (Koomey, 2011). Empirical evidence suggests that cloud migration can lower emissions at the organizational level when compared with inefficient on premises systems. However, the aggregate environmental footprint of large scale cloud infrastructures remains substantial, underscoring the need for coordinated sustainability initiatives among providers and users (OECD, 2019).

Hypothesis 9: Environmental footprint with AI-integrated cloud services is positively related to societal impact.

3. Methodology

To analyze the influence of Artificial Intelligence (AI)-integrated cloud computing services on both organizational and individual performance, qualitative interviews were employed to gather in-depth insights. Originally, 15 interviews were scheduled; however, two participants were unable to participate due to repeated cancellations. Consequently, 13 interviews were conducted, providing sufficient data to assess the proposed hypotheses. Of these, five were held in-person and eight via Microsoft Teams, with all responses recorded systematically using Word. Each interview lasted approximately 45 minutes and occurred between 8:00 a.m. and 7:00 p.m. on weekdays. Semi-structured interview guides directed the discussions, allowing minor adjustments to accommodate prior responses or contextual relevance. Conducting all interviews with a single interviewer ensured consistency in questioning and data collection. The objective was to elicit participants' experiences and perceptions regarding cloud computing and AI integration in both professional and personal contexts, facilitating the evaluation of the hypotheses. Participants were selected based on their hands-on experience with cloud computing within organizational settings and personal use, ensuring informed and relevant contributions. Informed consent was obtained from all participants, and strict ethical standards were maintained throughout the study.

Participants held diverse roles, reflecting a range of interactions with cloud computing technologies:

- FR-1: Interior designer in an architecture firm, Paris.
- FR-2: Business-to-business salesman in an IT services company.
- AR-1: IT consultant for a Big 4 firm.
- AR-2: IT department staff defining organizational IT needs and troubleshooting solutions.
- NE-1: Freelance consultant supporting organizational transformations.
- FR-3: PMO in a large technology group.
- FR-4: IT management staff in a local company.
- FR-5: Export commercial role in an IT company.
- FR-6: Account Manager managing client relations in an IT group.
- FR-7: Sales manager leading a team in an IT company.
- FR-8: PMO in a consulting group.
- FR-9: PMO in a well-known food brand.
- FR-10: IT department staff in a car parts sales company.

Participant identifiers were anonymized using a coding system in which the first two letters indicate nationality (FR for France, AR for Argentina, and NE for the Netherlands), followed by a numerical sequence corresponding to the order of interviews conducted within each country. Table 2 presents the participants' organizational roles and their corresponding anonymized identifiers.

Table 2. Identification and Job Position of Interviewees

ID	Job Position	Description
FR-1	Interior Designer	FR-1 is currently working as a Interior Designer and shared me its experience using AI-integrated Cloud services. She answers clients' needs by proposing them esthetical & useful solutions.
FR-2	B2B Salesman	FR-2 is prospecting, negotiating, and selling solutions adapted to other companies' needs, and ensure that the solution is well Implemented
AR-1	IT Consultant	AR-1 is an IT consultant, trying to lead/give advice about digital transformation to other companies.
AR-2	IT Department	AR-2 is part of the IT Department and defines IT needs for the company, ensuring that all solutions implemented work well and helping for any trouble related to IT.
FR-3	PMO	FR-3 realizes structuration and assist missions for the project manager in IT projects
NE-1	Consultant	NE-1 is a freelance consultant helping companies in their Transformation.
FR-4	IT Management	FR-4 oversees supervising and leading all activities linked to IT in an organization.
FR-5	Responsible commercial Export	FR-5 develops organization's activity worldwide by creating relations with new clients.
FR-6	Account Manager	FR-6 ensures commercial relationship with existing customers.
FR-7	Salesman Manager	FR-7 ensures that the salesman's team works well and sells enough merchandise/services.

The interviews explored perceptions of AI-integrated cloud services, including use cases, benefits, limitations, and effects at both organizational and personal levels. Participants provided detailed

insights into practical applications, challenges, and expectations, contributing to a comprehensive understanding of AI-cloud adoption in varied professional contexts.

4. Results

The interviews provided sufficient data to address the research questions and assess the nine hypotheses derived from the literature review. Participant responses were grouped according to shared themes under the three main variables: Individual Performance, Organizational Performance, and Societal Impact. Each theme is illustrated with representative participant quotes, and the data were organized into tables for clarity.

4.1. Individual Performance

4.1.1. User proficiency and user experience with AI-integrated cloud services

User proficiency and experience are central to individual performance, reflecting the ability to effectively use AI-integrated Cloud services to enhance both current work outcomes and skill development (Tarhini et al., 2017). Participants reported improvements in collaboration, task efficiency, skill development, and innovation.

Table 3. Thematic Analysis of User Proficiency and Experience

Theme	Description	Representative Quotes
Collaboration	Improved teamwork and ease of sharing data	FR-1: "AI-integrated Cloud services use enabled me to easily find my data and share it with colleagues during work projects." FR-8: "Teams collaborate more easily with AI-integrated Cloud services."
Satisfaction	Time saved on routine tasks, increased flexibility	FR-1: "Work with these solutions allows me to focus on meaningful tasks." AR-1: "Facilitates access to information while favoring collaboration."
Efficiency	Faster completion of critical tasks	FR-2: "Saves time by enabling focus on essential tasks." FR-6: "Generative AI tools allow focus on non-automatable tasks."
Entertainment/Facilitation	Daily tasks made easier, life quality improved	NE-1: "Facilitates daily task management and improves life quality." FR-10: "Remote access and automatic backup make personal tasks easier."
Competence Development	Knowledge and skills gained through use	FR-8: "Learning about Cloud Computing helped develop IT competences." NE-1: "Enabled me to become more efficient."
Innovation	Supports creation of new solutions	FR-5: "AI-integrated Cloud services store big data, supporting innovation." AR-2: "Collaboration enabled by AI-Cloud promotes innovative solutions."
Skill Development	Development of hard and soft skills	FR-10: "E-learning tools allowed development of personal skills." AR-1: "Access to technology and online resources helped develop new skills."

4.1.2. Privacy concerns with AI-integrated cloud services

Privacy remains a significant concern, though participants noted mitigations such as selecting French Cloud Service Providers to ensure data sovereignty .

Table 4. Thematic Analysis of Privacy Concerns

Theme	Description	Representative Quotes
Data Sovereignty	Ensuring data remains under national law	FR-5: "We moved to a French CSP to ensure data safety." FR-4: "Choosing a French CSP reduced privacy concerns compared to foreign providers."
Security Awareness	Need for addressing security in adoption	FR-8: "Improvement needed for privacy and security features."

*4.2. **Organizational Performance***

4.2.1. Strong organizational support for AI-integrated cloud services

Organizational support, including change management and IT Service Management, is critical for effective AI-integrated Cloud adoption (Heininger, 2012).

Table 5. Thematic Analysis of Organizational Support

Theme	Description	Representative Quotes
Change Management	Training and awareness programs	FR-3: "Transitioning to Cloud infrastructure can be hard to establish." FR-6: "Awareness and training improve technology efficiency."

4.2.2. Higher levels of AI integration

High AI integration automates routine tasks, enhancing organizational efficiency.

Table 6. Thematic Analysis of AI Integration

Theme	Description	Representative Quotes
Efficiency	Automation of redundant tasks	FR-10: "Highly AI-integrated Cloud services saved time and increased efficiency." FR-2: "Enabled faster delivery of solutions."

4.2.3. Cost of implementation and maintenance

Cloud adoption provides cost-effectiveness by reducing hardware needs and operational inefficiencies (Khalil et al., 2016).

Table 7. Thematic Analysis of Cost

Theme	Description	Representative Quotes
Cost Saving	Reduced IT expenditure and operational costs	FR-2: "Externalization to Cloud reduced infrastructure costs by one-third." AR-2: "Prevented financial losses via automated backup and monitoring." FR-10: "Reduced IT tasks led to workforce optimization."

4.3. Societal Impact

4.3.1. Resilience

AI-integrated Cloud services enhance data safety and organizational resilience ((Khalil et al., 2016).

Table 8.Thematic Analysis of Resilience

Theme	Description	Representative Quotes
Safety	Secure storage of critical data	FR-9: "Data are safer in the Cloud than on-premises." FR-3: "Cloud services enabled privacy protection."

4.3.2. Digital equity

Access to AI-integrated Cloud services contributes to equitable opportunities for skills and information.

Table 9. Thematic Analysis of Digital Equity

Theme	Description	Representative Quotes
Equal Access	Democratization of information and skills	NE-1: "Enables women to access IT skills as men do." AR-2: "Improved global access to information through data storage."

4.3.3. Environmental footprint

The environmental impact of Cloud services is complex, balancing hardware reduction with energy-intensive data centers.

Table 10. Thematic Analysis of Environmental Footprint

Theme	Description	Representative Quotes
Impact Evaluation	Difficult to quantify positive vs negative effects	FR-9: "Cloud storage has an environmental impact despite appearing immaterial." AR-1: "Scalability reduces hardware needs but data center energy use remains significant."

5. Discussion

The findings indicate that AI-integrated Cloud services exert multidimensional effects on individual, organizational, and societal levels. At the individual level, participants highlighted enhanced work satisfaction, improved collaboration, and greater task efficiency, supporting prior research that emphasizes the role of technological proficiency and user experience in improving employee performance (Tarhini et al., 2017). The use of AI-integrated Cloud solutions also facilitates skill development, encompassing both technical competencies and soft skills, which aligns with the notion that digital tools can serve as instruments for personal and professional growth (Venkatesh et al., 2012). The facilitation of entertainment and personal tasks, such as file sharing and multimedia access, suggests that these technologies influence user engagement and acceptance beyond professional contexts, reflecting the broader penetration of digital solutions in daily life. At the organizational level, the results demonstrate that AI-integrated Cloud services necessitate structured change management and IT service governance to optimize adoption and maintain operational efficiency (Heininger, 2012). Organizations benefited from cost reductions, improved data safety, and increased productivity, reinforcing findings in prior studies emphasizing the cost-effectiveness and strategic value of Cloud Computing (Khalil et al., 2016). The data highlight that organizational support and AI integration levels directly influence the effective deployment of these services, as higher AI integration reduces redundant tasks and reallocates human resources to more skilled functions. These

findings suggest that successful adoption depends not only on technological availability but also on managerial policies, employee training, and strategic oversight.

Societal impacts identified include the potential for resilience, digital equity, and innovation. Resilience is strengthened through secure data storage and backup mechanisms, which protect organizational and individual information against disruptions or cyber threats. Digital equity is enhanced as AI-integrated Cloud services democratize access to resources, enabling individuals across genders, professions, and geographies to utilize information and skills previously less accessible (Resta & Laferrière, 2015). The facilitation of inter-departmental and inter-organizational collaboration, along with efficient management of big and open data, supports innovation by providing a foundation for data-driven solutions. Nevertheless, the environmental footprint remains complex, with benefits in hardware reduction offset by energy-intensive data center operations. This duality mirrors findings from prior research highlighting both sustainability gains and challenges associated with Cloud infrastructure (Beloglazov et al., 2012). Privacy and confidentiality remain critical concerns. Even though solutions such as national Cloud Service Providers can mitigate risks, individuals and organizations must carefully manage data governance and compliance to prevent potential breaches. This emphasizes that while AI-integrated Cloud services offer substantial advantages, the adoption process must account for technological, managerial, and ethical considerations simultaneously (Michels et al., 2023). Overall, the discussion highlights that AI-integrated Cloud services contribute positively to performance, efficiency, skill development, and societal value, but these benefits are contingent on careful implementation, organizational support, and risk management. The findings contribute to understanding the interplay between technology adoption and human, organizational, and societal outcomes, corroborating both contemporary and seminal insights in information systems research (Venkatesh et al., 2003).

6. Implications, Limitations, and Future Research Directions

6.1. Theoretical Implications

The findings contribute to the understanding of information technology management by demonstrating that AI-integrated Cloud services function as a lever for enhancing both individual and organizational performance. This research highlights that human factors, particularly perceptions of confidentiality and data security, play a critical role in technology adoption and acceptance, corroborating earlier work on user trust in IT systems (Bélanger & Crossler, 2011; Venkatesh et al., 2012). While Cloud Computing is widely used, the study provides new evidence on its effects beyond cost efficiency and scalability, extending existing models of technology acceptance to include skill development, collaboration, and user satisfaction as mediating factors (Tarhini et al., 2017). Additionally, ethical considerations and organizational culture were identified as moderating variables influencing adoption outcomes, suggesting the necessity for integrating socio-technical perspectives in evaluating IT implementation strategies (Orlikowski & Baroudi, 1991). The study thereby fills a research gap by examining direct impacts on individual, organizational, and societal metrics, offering a more nuanced theoretical framework for understanding Cloud Computing adoption and performance outcomes.

6.2. Practical Implications

The research provides actionable insights for organizations, policymakers, and individuals. Companies can leverage AI-integrated Cloud services to enhance collaboration, efficiency, and innovation, while managing risks related to privacy, data governance, and employee training (Heininger, 2012; Khalil et al., 2016). Educational institutions may consider implementing Cloud-based solutions to facilitate knowledge sharing and equitable access to learning resources, improving students' digital competencies and reducing disparities in information access (Resta & Laferrière, 2015). Individuals are encouraged to develop skills related to Cloud technologies and to adopt

appropriate data security practices to mitigate privacy risks. Moreover, the study emphasizes the importance of selecting environmentally responsible Cloud Service Providers, balancing technological benefits with sustainability concerns. By presenting AI-integrated Cloud services as a multi-dimensional tool affecting user experience, productivity, and societal outcomes, the research guides practical decision-making and provides a framework for evaluating IT investments across organizational and social contexts.

6.3. Limitations

Several limitations should be acknowledged. The qualitative design and the purposive sample restrict the generalizability of findings, as participant perspectives may not reflect broader populations. While the study highlights numerous advantages of AI-integrated Cloud services, environmental impacts remain complex, including energy consumption and CO2 emissions associated with data centers (Beloglazov et al., 2012). Companies must develop comprehensive risk management strategies, including employee training on data security and governance, to fully realize benefits while minimizing vulnerabilities. For individuals, careful consideration of personal data protection is essential, as AI-integrated Cloud services can expose sensitive information if contractual or technological safeguards are inadequate. Furthermore, privacy and ethical concerns, though identified, require deeper investigation to understand their broader implications for adoption and societal trust. Despite these limitations, the study offers a detailed understanding of AI-integrated Cloud services' effects on performance and societal metrics, providing a foundation for more extensive future research.

6.4. Future Research Directions

Future research could explore several dimensions to expand on the findings. Investigating the environmental impact of AI-integrated Cloud services more rigorously, including energy consumption, cooling technologies, and hardware lifecycle effects, would clarify their sustainability profile. The role of AI-integrated Cloud services in enhancing societal resilience, such as disaster recovery and data security during crises, is underexplored and warrants further study (Khalil et al., 2016). Data sovereignty and privacy remain critical areas for investigation, particularly concerning contractual obligations, cross-border data transfers, and the social implications of data breaches. Quantitative studies could complement qualitative insights, enabling generalizable conclusions on adoption patterns, performance outcomes, and user behavior. Additionally, longitudinal research may assess long-term effects of Cloud adoption on organizational processes, innovation, and societal equity. These avenues could provide a more comprehensive understanding of AI-integrated Cloud services' benefits and risks, guiding both policy and practice in rapidly evolving technological environments.

7. Conclusion

AI-integrated Cloud services have demonstrated significant effects on individual, organizational, and societal outcomes. At the individual level, these technologies enhance satisfaction, collaboration, task efficiency, skill development, and user experience, both professionally and personally. Organizationally, their implementation requires structured change management, supports operational efficiency, and enables cost savings while enhancing data security and governance. On a societal scale, AI-integrated Cloud services improve digital equity and resilience and support innovation through inter-departmental and inter-organizational collaboration. However, challenges remain, particularly concerning privacy, data sovereignty, and environmental sustainability. Careful management and ethical considerations are essential to fully harness the benefits while mitigating risks. This research advances theoretical understanding of IT adoption and performance outcomes and provides practical insights for organizations, individuals, and policymakers, contributing to more informed strategies for leveraging AI-integrated Cloud services effectively.

References

Alashhab, Z. R., Anbar, M., Singh, M. M., Leau, Y.-B., Al-Sai, Z. A., & Abu Alhayja'a, S. (2021). Impact of coronavirus pandemic crisis on technologies and cloud computing applications. *Journal of Electronic Science and Technology*, *19*(1), 100059. https://doi.org/10.1016/j.jnlest.2020.100059

Ali, O., Shrestha, A., Osmanaj, V., & Muhammed, S. (2020). Cloud computing technology adoption: an evaluation of key factors in local governments. *Information Technology & People*, *34*(2), 666-703. https://doi.org/10.1108/ITP-03-2019-0119

Alsaadi, E. M. T. A., Fayadh, S. M., & Alabaichi, A. (2020). A review on security challenges and approaches in the cloud computing. AIP Conference Proceedings,

Alshamaila, Y., Papagiannidis, S., & Li, F. (2013). Cloud computing adoption by SMEs in the north east of England: A multi-perspective framework. *Journal of Enterprise Information Management*, *26*(3), 250-275. https://doi.org/10.1108/17410391311325225

Andrae, A. S. G., & Edler, T. (2015). On Global Electricity Usage of Communication Technology: Trends to 2030. *Challenges*, *6*(1), 117-157.

Armbrust, M., Fox, A., Griffith, R., Joseph, A. D., Katz, R., Konwinski, A., Lee, G., Patterson, D., Rabkin, A., Stoica, I., & Zaharia, M. (2010). A view of cloud computing. *Commun. ACM*, *53*(4), 50–58. https://doi.org/10.1145/1721654.1721672

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Bélanger, F., & Crossler, R. E. (2011). Privacy in the Digital Age: a Review of Information Privacy Research in Information Systems1. *Management Information Systems Quarterly*, *35*(4), 1017-A1036. https://doi.org/10.2307/41409971

Beloglazov, A., Abawajy, J., & Buyya, R. (2012). Energy-aware resource allocation heuristics for efficient management of data centers for Cloud computing. *Future Generation Computer Systems*, *28*(5), 755-768. https://doi.org/10.1016/j.future.2011.04.017

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly*, *37*(2), 471-482.

Carvalho, G., & Kazim, E. (2022). Themes in data strategy: thematic analysis of 'A European Strategy for Data' (EC). *AI and Ethics*, *2*(1), 53-63. https://doi.org/10.1007/s43681-021-00102-y

Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of applied learning & teaching*, *3*(1), 1-20. https://doi.org/10.37074/jalt.2020.3.1.7

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *Management Information Systems Quarterly*, *13*(3), 319-340. https://doi.org/10.2307/249008

Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*, *19*(4), 9-30. https://doi.org/10.1080/07421222.2003.11045748

Diaby, T., & Rad, B. B. (2017). Cloud computing: a review of the concepts and deployment models. *International Journal of Information Technology and Computer Science*, *9*(6), 50-58. https://doi.org/10.5815/ijitcs.2017.06.07

Dinev, T., McConnell, A. R., & Smith, H. J. (2015). Research Commentary—Informing Privacy Research Through Information Systems, Psychology, and Behavioral Economics: Thinking Outside the "APCO" Box. *Information Systems Research*, *26*(4), 639-655. https://doi.org/10.1287/isre.2015.0600

Donat, V., Haertel, C., Staegemann, D., Daase, C., Pohl, M., Dreschel, D., Walia, D., & Turowski, K. (2025). Examining the Impact of Cloud Computing on Organizational Performance: A Systematic Literature Review. INSTICC. 27th International Conference on Enterprise Information Systems,, Porto, Portugal.

Dubey, R., Gunasekaran, A., Childe, S. J., Fosso Wamba, S., Roubaud, D., & Foropon, C. (2021). Empirical investigation of data analytics capability and organizational flexibility as complements to supply chain resilience. *International Journal of Production Research*, *59*(1), 110-128. https://doi.org/10.1080/00207543.2019.1582820

Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., Gupta, B., Lal, B., Misra, S., Prashant, P., Raman, R., Rana, N. P., Sharma, S. K., & 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. https://doi.org/10.1016/j.ijinfomgt.2020.102211

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., Medaglia, R., Le Meunier-FitzHugh, K., Le Meunier-FitzHugh, L. C., Misra, S., Mogaji, E., Sharma, S. K., Singh, J. B., Raghavan, V., Raman, R., Rana, N. P., Samothrakis, S., Spencer, J., Tamilmani, K., Tubadji, A., Walton, P., & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, *57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

Golightly, L., Chang, V., Xu, Q. A., Gao, X., & Liu, B. S. C. (2022). Adoption of cloud computing as innovation in the organization. *International Journal of Engineering Business Management, 14*, 1-17. https://doi.org/10.1177/18479790221093992

Goodarzy, S., Nazari, M., Han, R., Keller, E., & Rozner, E. (2020). Resource Management in Cloud Computing Using Machine Learning: A Survey. 2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA),

Haslinda, H., Mohd, H. M. N., Norhaiza, K., & Iskandar, A. (2017). Factors influencing cloud computing adoption in small medium enterprises. *Journal of Information and Communication Technology, 16*(1), 21-41.

Heininger, R. (2012). IT service management in a cloud environment: a literature review. *Studies of the Chair for Information Systems Technische Universität München*(23), 1-12. https://doi.org/10.2139/ssrn.2119030

Hilbert, M. (2011). Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. *Women's Studies International Forum, 34*(6), 479-489. https://doi.org/10.1016/j.wsif.2011.07.001

Kethu, S. S. (2020). AI and IoT-driven CRM with cloud computing: Intelligent frameworks and empirical models for banking industry applications. *International Journal of Modern Electronics and Communication Engineering (IJMECE), 8*(1), 54-69.

Khalil, S., Fernandez, V., & Fautrero, V. (2016, 29 Aug.-1 Sept. 2016). Cloud Impact on IT Governance. 2016 IEEE 18th Conference on Business Informatics (CBI),

Koomey, J. (2011). *Growth in data center electricity use 2005 to 2010*.

Liu, S., Chan, F. T. S., Yang, J., & Niu, B. (2018). Understanding the effect of cloud computing on organizational agility: An empirical examination. *International Journal of Information Management, 43*, 98-111. https://doi.org/10.1016/j.ijinfomgt.2018.07.010

Loukis, E., Janssen, M., & Mintchev, I. (2019). Determinants of software-as-a-service benefits and impact on firm performance. *Decision Support Systems, 117*, 38-47. https://doi.org/10.1016/j.dss.2018.12.005

Loukis, E., Kyriakou, N., Pazalos, K., & Popa, S. (2017). Inter-organizational innovation and cloud computing. *Electronic Commerce Research, 17*(3), 379-401. https://doi.org/10.1007/s10660-016-9239-2

Low, C., Chen, Y., & Wu, M. (2011). Understanding the determinants of cloud computing adoption. *Industrial Management & Data Systems, 111*(7), 1006-1023. https://doi.org/10.1108/02635571111161262

Mariani, M. M., & Fosso Wamba, S. (2020). Exploring how consumer goods companies innovate in the digital age: The role of big data analytics companies. *Journal of Business Research, 121*, 338-352. https://doi.org/10.1016/j.jbusres.2020.09.012

Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J., & Ghalsasi, A. (2011). Cloud computing — The business perspective. *Decision Support Systems, 51*(1), 176-189. https://doi.org/10.1016/j.dss.2010.12.006

Martin, K. (2018). The penalty for privacy violations: How privacy violations impact trust online. *Journal of Business Research, 82*, 103-116. https://doi.org/10.1016/j.jbusres.2017.08.034

Masanet, E., Shehabi, A., Lei, N., Smith, S., & Koomey, J. (2020). Recalibrating global data center energy-use estimates. *Science, 367*(6481), 984-986. https://doi.org/10.1126/science.aba3758

Mell, P., & Grance, T. (2011). *The NIST definition of cloud computing* (Special Publication 800-145).

Michels, J. D., Millard, C., & Walden, I. (2023). On Cloud Sovereignty: Should European Policy Favour European Clouds? *Queen Mary Law Research Paper*, 1-52. https://doi.org/10.2139/ssrn.4619918

Mikalef, P., Krogstie, J., Pappas, I. O., & Pavlou, P. (2020). Exploring the relationship between big data analytics capability and competitive performance: The mediating roles of dynamic and operational capabilities. *Information & Management, 57*(2), 103169. https://doi.org/10.1016/j.im.2019.05.004

Mohammed Sadeeq, M., Abdulkareem, N. M., Zeebaree, S. R. M., Mikaeel Ahmed, D., Saifullah Sami, A., & Zebari, R. R. (2021). IoT and Cloud Computing Issues, Challenges and Opportunities: A Review. *Qubahan Academic Journal, 1*(2), 1-7. https://doi.org/10.48161/qaj.v1n2a36

OECD. (2019). *Enhancing Access to and Sharing of Data*.

Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *Electronic journal of information systems evaluation, 14*(1), 110-121.

Orlikowski, W. J., & Baroudi, J. J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research, 2*(1), 1-28. https://doi.org/10.1287/isre.2.1.1

Rashid, A. M. (2024). A review on the roles of AI and machine learning in optimizing resource allocation, forecasting workload demands, and enhancing security measures in the cloud. *Journal of Engineering & Technological Advances, 8*(2), 106 - 113. https://doi.org/10.35934/segi.v8i2.92

Resta, P., & Laferrière, T. (2015). Digital equity and intercultural education. *Education and Information Technologies*, *20*(4), 743-756. https://doi.org/10.1007/s10639-015-9419-z

Rodríguez-Espíndola, O., Chowdhury, S., Dey, P. K., Albores, P., & Emrouznejad, A. (2022). Analysis of the adoption of emergent technologies for risk management in the era of digital manufacturing. *Technological Forecasting and Social Change*, *178*, 121562. https://doi.org/10.1016/j.techfore.2022.121562

Smith, H. J., Dinev, T., & Xu, H. (2011). Information Privacy Research: An Interdisciplinary Review. *MIS Quarterly*, *35*(4), 989-1015. https://doi.org/10.2307/41409970

Tallon, P. P., Queiroz, M., Coltman, T., & Sharma, R. (2019). Information technology and the search for organizational agility: A systematic review with future research possibilities. *The Journal of Strategic Information Systems*, *28*(2), 218-237. https://doi.org/10.1016/j.jsis.2018.12.002

Tarafdar, M., Cooper, C. L., & Stich, J.-F. (2019). The technostress trifecta - techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, *29*(1), 6-42. https://doi.org/10.1111/isj.12169

Tarhini, A., Masa¡¯deh, R. e., Al-Badi, A., Almajali, M., & Alrabayaah, S. H. (2017). Factors Influencing Employees¡ Intention to Use Cloud Computing. *Journal of Management and Strategy*, *8*(2), 47-62. https://doi.org/10.5430/jms.v8n2p47

Utterback, J. M. (1971). The Process of Technological Innovation Within the Firm. *Academy of Management Journal*, *14*(1), 75-88. https://doi.org/10.5465/254712

Venkatesh, V. (2020). Impacts of COVID-19: A research agenda to support people in their fight. *International Journal of Information Management*, *55*, 102197. https://doi.org/10.1016/j.ijinfomgt.2020.102197

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425-478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, *36*(1), 157-178. https://doi.org/10.2307/41410412

Waheed, M., & Kaur, K. (2019). Students' perceptual quality standards for judging knowledge quality: Development and validation of a perceived e-learning knowledge quality scale. *Information Development*, *35*(2), 319-332. https://doi.org/10.1177/0266666917744370

Waheed, M., Kaur, K., & Kumar, S. (2016). What role does knowledge quality play in online students' satisfaction, learning and loyalty? An empirical investigation in an eLearning context. *Journal of Computer Assisted Learning*, *32*(6), 561-575. https://doi.org/10.1111/jcal.12153

Waheed, M., Klobas, J. E., & Ain, N. (2021). Unveiling knowledge quality, researcher satisfaction, learning, and loyalty: A model of academic social media success. *Information Technology & People*, *34*(1), 204-227. https://doi.org/10.1108/ITP-07-2018-0345

Waheed, M., & Leišytė, L. (2023). German and Swedish students going digital: do gender and interaction matter in quality evaluation of digital learning systems? *Interactive Learning Environments*, *31*(7), 4367-4381. https://doi.org/10.1080/10494820.2021.1965626

Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S. J.-f., Dubey, R., & Childe, S. J. (2017). Big data analytics and firm performance: Effects of dynamic capabilities. *Journal of Business Research*, *70*, 356-365. https://doi.org/10.1016/j.jbusres.2016.08.009

Weill, P., & Ross, J. W. (2004). *IT governance: How top performers manage IT decision rights for superior results*. Harvard Business Press.