



ISSN 2717-9230

European
Journal of
Digital
Economy
Research

2024

Volume 5

Issue 1

European Journal of Digital Economy Research

Year: 2024

Volume: 5

Issue: 1

TABLE OF CONTENTS

Technological Comfort Zone: The Evolution of Human Adaptation and Complacency
Mustafa Zihni TUNCA
1

From Traditional Auditing to Information Technology Auditing: A Paradigm Shift in Practices
Hayrettin USUL
Mustafa Furkan ALPAY
3-9

Investigating the Benefits of Electronic Accounting Applications for Accounting Professionals
with Analytical Hierarchy Process
Sümeyra ÇAKIRASLAN
Mahmut Sami ÖZTÜRK
11-17

Humble Leadership and Organizational Citizenship Behavior: Insights from Contemporary
Research
Tolga ALTINTAS
İsa İPÇİOĞLU
19-28

European Journal of Digital Economy Research

Editorial Team

Editor-in-Chief:

Mustafa Zihni TUNCA

Associate Editors:

Ahmet SARITAŞ

Tuğba ERHAN

Mahmut Sami ÖZTÜRK

International Advisory Board:

Abed Al-Nasser ABDALLAH (American University of Sharjah)

Mohamed Gamal ABOELMAGED (University of Sharjah)

Abdulaziz H. ALGAEED (Dar Al Uloom University)

Nasser ALOMAIM (Riyadh College of Technology)

Falah F. ALSUBAIE (Al-Imam Mohammad Ibn Saud Islamic University)

Walailak ATTHIRAWONG (King Mongkut's Institute of Technology)

Süleyman BARUTÇU (Pamukkale University)

İlker Hüseyin ÇARIKÇI (Suleyman Demirel University)

İsa İPÇİOĞLU (Bilecik Seyh Edebali University)

Murat OKCU (Suleyman Demirel University)

Orhan OZÇATALBAŞ (Akdeniz University)

Khodakaram SALIMIFARD (Persian Gulf University)

Bilal SAMBUR (Ankara Yıldırım Beyazıt University)

Mahmut SÖNMEZ (The University of Texas at San Antonio)

Azman Ismail (Emiratus Professor)

Editorial Assistant:

Mehmet ÖZSOY

Layout Editor:

Ahmet Kuntay DEMİRAL

System Administrator:

Behiç ÇETİN

European Journal of Digital Economy Research

The European Journal of Digital Economy Research (EJDER) is a double-blind refereed journal that aims to describe, assess and foster understanding of different aspects of the business ecosystem in digital era by providing a critical understanding in a wide spectrum.

EJDER does not charge any article processing, submission or publication fee.

EJDER seeks to develop a robust understanding of the dynamics of the digital economy by publishing up-to-date, high-quality, original research papers particularly but not limited to management, marketing, finance, economy, sociology and psychology fields.

Suggested topics include but not limited to:

- Internet business models
- Business value in e-commerce
- Economics of electronic commerce
- The marketplace and organizational effects of e-commerce
- M-commerce and social media marketing
- Digital product management and property rights
- Formation of e-supply chains, and virtual enterprises
- Economics of information security and privacy
- New business models/enabling technologies, e-businesses trends
- E-business ethics and strategies
- Online reputation management
- Trends in e-business models and technologies
- E-business model valuation
- E-service quality
- Organizational, societal, and international issues of electronic commerce
- Consumer ethnography and netnography
- Psychosocial aspects of cyberspace.
- Epidemiological studies of Internet use and behavior
- Technology addiction and digital detox
- E-government and E-healthcare studies
- Neuromarketing and neurofinance
- Technological developments in accounting and finance
- Blockchain applications and Cryptocurrencies
- Digital audit and forensic accounting
- Behavioral and experimental economics related to e-commerce
- Consumer roles in e-commerce
- Digital culture and cross-cultural issues in virtual communities
- Economic impact of virtual communities
- Individual behavior and group dynamics in virtual communities
- Psychological online career assessment
- Psychological strategies of the IT workers

European Journal of Digital Economy Research

www.ejderhub.com

ISSN: 2717-9230

Volume 5

Issue 1

Indexing & Abstracting:

Directory of Research Journals Indexing (DRJI)
Directory of Academic and Scientific Journals (EuroPub)
Root Society for Indexing and Impact Factor Service (Root Indexing)
Eurasian Scientific Journal Index (ESJI)
Directory Indexing of International Research Journals (CiteFactor)
Scientific Indexing Services (SIS)
IP Indexing
Cosmos Foundation (Cosmos)
ASOS Index
Google Scholar
OpenAIRE

Copyright (c) 2024

EJDER is the official publication of
Turkish Design Management Institute (TDMI)
www.tdm.institute

All papers published by EJDER are licensed under the Creative Commons Attribution 4.0 International License. This permits anyone to copy, redistribute, remix, transmit and adapt the work provided the original work and source is appropriately cited.

TECHNOLOGICAL COMFORT ZONE: THE EVOLUTION OF HUMAN ADAPTATION AND COMPLACENCY

Stefan Zweig emphasizes the profound impact of the telegraph on human history in one of his famous books^[1]:

"We later generations will never comprehend the astonishment of the early generation at the first successful results of the electric telegraph. The astonishment was immeasurable when the tiny electrical spark ... whose existence was barely perceptible until yesterday ... suddenly acquired a diabolical power that could cross countries, mountains, and continents. It was impossible not to marvel that an unfinished thought, a word whose ink had not yet dried, could be simultaneously recorded, read, and understood thousands of miles away. The invisible current flickering between the two poles of the tiny voltaic piles could travel across the entire planet from one end to the other. Mankind was amazed that this toy-like device, which only yesterday in the physics laboratory could attract paper particles by friction with glass, could be developed to a potential millions and billions of times greater than human muscle strength and speed. Like Ariel, it could transmit news, move trains, and illuminate roads and houses, just by passing through the air, invisible to the eye. For the first time since the world began, the relationship between time and space was so radically altered by this discovery."

In the following decades, humanity experienced similar astonishment with the advent of the telephone, followed by the development of radio, television, fax machines, and, in the last quarter century, the Internet. Although these advancements, each pushing the boundaries of communication, initially garnered admiration, humanity quickly adapted to these technologies. Each of these disruptive technologies succeeded in rapidly supplanting their predecessors, which had previously held significant historical impact.

Today, information and communication technologies have advanced to such an extent that no one questions where mass information is stored globally or how it can be transferred so quickly when needed. Similarly, no one ponders how voice, image, or information can spread so swiftly on social networks. The likely reason for this is that human beings have accepted the acceleration of communication and easy access to information as integral parts of their lives.

Even artificial intelligence, the latest development that has managed to surprise humanity in recent years, is now becoming a part of people's daily lives faster than expected. Though it has not yet reached its golden age, the limited benefits offered by artificial intelligence in its infancy have already captivated humanity.

As such, apart from a handful of researchers, futurists, and conspiracy theorists, few are concerned about the problems that the rapid development of artificial intelligence may cause. This is one of the primary issues that should be addressed and studied seriously. Because human beings, who no longer feel the need to step out of the technological comfort zone offered by today's technology, do not yet recognize that this situation may pose serious dangers for a sustainable future.

June 2024

Prof. Dr. Mustafa Zihni TUNCA
Editor-in-Chief

REFERENCES

[1] Zweig, S. (1964). *Sternstunden der Menschheit. Vierzehn historische Miniaturen*. Fischer Taschenbuch Verlag, Frankfurt am Main.

FROM TRADITIONAL AUDITING TO INFORMATION TECHNOLOGY AUDITING: A PARADIGM SHIFT IN PRACTICES

Hayrettin USUL*

Mustafa Furkan ALPAY**

* Prof. Dr., İzmir Kâtip Çelebi University, Faculty of Economics and Administrative Sciences, Business Administration, hayrettin.usul@ikc.edu.tr, <https://orcid.org/0000-0002-3930-0866>.

* Corresponding Author, IT Auditor, furkanalpay94@hotmail.com, <https://orcid.org/0009-0003-5575-8652>.

ABSTRACT

The digitalization of information systems has led to fundamental shifts in auditing practices, replacing traditional manual processes with advanced digital auditing methodologies. This transformation has been accelerated by innovations in cloud technology, enhancing the efficiency and effectiveness of auditing operations. Concurrently, the evolution from document-based to transaction-based audits has redefined the auditing landscape, emphasizing real-time transaction monitoring over static record documentation. This paper explores these transformative trends within both internal and external auditing, with a specific focus on IT audit practices. It provides an in-depth analysis of the distinct objectives and methodologies inherent to IT audits, illustrating their adaptation to the digital era. The study examines the implications of these changes on audit processes, highlighting the paradigm shift towards more dynamic and data-driven auditing approaches. By synthesizing theoretical insights with practical implications, this research contributes to a comprehensive understanding of how digitalization is reshaping auditing practices. It underscores the importance of integrating advanced technologies such as AI, blockchain, and IoT in audit frameworks to enhance accuracy, reliability, and compliance in financial reporting.

Keywords: Internal Audit, External Audit, IT Audit, Digitalization.

1. INTRODUCTION

The rapid evolution of information technologies is fundamentally reshaping business operations. Notably, the swift advancements in cloud technology have revolutionized audit methodologies. Traditional document-centric review processes have given way to data-driven approaches, where virtual environments generate and store data in integrated modules. This transformation has led to the digitization of accounting records, rendering traditional books and documents obsolete.

These shifts necessitate corresponding changes in accounting audit practices. The transition from manual to transactional media in accounting transactions has catalyzed a paradigm shift in how accounting is recorded and classified. Consequently, the field of accounting auditing has undergone

substantial transformations, prominently highlighted by the ascendance of IT auditing.

IT auditing emerges at the intersection of internal and external audit methodologies, leveraging computer-aided audit techniques and analytical procedures to gather electronic audit evidence. This approach aims to evaluate the accuracy and reliability of information systems without reliance on physical documentation (Doekhi, 2023).

The adoption of IT auditing methodologies offers manifold benefits to businesses, encompassing aspects such as impact, effectiveness, integrity, efficiency, and cost. A primary objective of IT audits is to furnish management with assurance that automated systems and processes align with their intended objectives. Special emphasis is placed on management's responsibilities in overseeing computer-based information assets and processes, guided by standards set

forth by professional organizations (Talebnia & Dehkordi, 2012).

To execute an efficient and effective IT audit, firms must meticulously determine the audit scope, allocate appropriate resources (including personnel and computer-automated audit tools), outline tasks and activities, and select suitable methods and techniques. These decisions are pivotal in optimizing audit quality and minimizing costs relative to specific IT audit objectives (Stoel, et al., 2012). The subsequent section will delve into these considerations within the contexts of internal and external audits.

2. IT AUDIT AND INTERNAL AUDIT

Internal audit serves as a critical mechanism ensuring the effective operation of an organization's internal control system. These controls are designed to provide reasonable assurance regarding the achievement of operational, reporting, and compliance objectives (COSO, 2013). As businesses increasingly rely on Information Technology (IT), there has been a noticeable shift from manual, document-based internal audits to digital processes. This transformation is significantly reshaping how internal audits are conducted.

However, this transition is not without its challenges. Internal auditors now face the task of auditing high-risk AI decision models and tools to detect potential errors or biases (The Institute of Internal Auditors [IIA], 2018). Additionally, the audit scope may include evaluating Internet of Things (IoT) devices, platforms, and associated workflows for compliance with information privacy regulations and digital ethics policies.

While IT auditing enhances the effectiveness and efficiency of internal audits, it can also lead to increased audit costs. Establishing and maintaining Internal Control over Financial Reporting (ICFR) and conducting annual audits require substantial financial and time investments. ICFR ensures that adequate internal controls are in place to achieve reliable financial reporting, providing

assurance to stakeholders (Center for Audit Quality, 2019).

Despite these challenges, integrating IT audit into internal audit practices offers significant benefits. IT auditing enables auditors to utilize advanced tools and techniques for comprehensive data analysis, enhancing the accuracy and depth of audits. It improves the identification and mitigation of IT-related risks, such as cybersecurity threats and data breaches. Moreover, IT audits contribute to informed decision-making by management through detailed evaluations of IT systems (Boer, et al., 2023).

The internal control system of an organization typically comprises two distinct components: preventive controls and detective controls. Preventive controls are measures implemented to preemptively address potential issues before they manifest. Their objective is to identify and mitigate risks before they materialize, thereby facilitating the implementation of corrective measures. Preventive controls involve tasks such as defining authorizations, approvals, verifications, and restricting access to resources.

On the other hand, detective controls focus on identifying undesirable events and alerting management to these occurrences. They involve activities such as reconciling accounting records with corresponding assets, establishing performance indicators, and monitoring access to records.

In this framework, IT auditing plays a crucial role in ensuring the availability, continuity, and integrity of systems, thereby supporting the implementation of both preventive and detective controls (Otero, 2018). For instance, preventive controls in IT auditing may include access regulations and setting limits on payment approvals above specific thresholds. Detective controls, on the other hand, might involve reconciling outputs from different databases, which can serve as a manual control complemented by IT systems.

Additionally, IT auditing encompasses corrective controls, such as timely patch

updates to mitigate security vulnerabilities. These measures contribute to maintaining the security and functionality of IT systems, thereby reinforcing the overall effectiveness of the organization's internal control environment.

To effectively fulfill its intended functions, an organization's internal control system must undergo rigorous monitoring. Within the framework of COSO (Committee of Sponsoring Organizations of the Treadway Commission), monitoring is highlighted as a critical component of an internal control system. It serves to detect deficiencies in service performance and identify potential threats in real-time. During monitoring, auditors evaluate the system's effectiveness while assessing the security posture of virtual machines, networks, storage, data services, and applications. This proactive approach enables auditors to prioritize and address security vulnerabilities promptly.

The field of information technology (IT) audit encompasses a broad spectrum of activities focused on assessing and enhancing an enterprise's information system infrastructure. Key areas typically included in an IT audit are:

Access Controls: Reviewing authorizations granted to individuals accessing the system.

Backup Procedures: Ensuring the existence and adequacy of backups for critical transactions.

Compliance: Evaluating adherence to relevant laws and regulations.

Policy Adherence: Assessing alignment of transactions with the organization's internal policies and procedures.

In addition to these fundamental areas, specific aspects of IT systems are also subject to audit scrutiny:

Timeliness of Updates: Assessing the promptness of updates to the information system.

Response to External Attacks: Evaluating the effectiveness of measures taken against external threats.

Encryption Practices: Reviewing the use of protocol encryption for SSH and RDP sessions.

Security of VPN Applications: Ensuring the security and proper configuration of internet connection securing (VPN) applications.

Data Protection: Verifying the use of HTTPS for REST API calls and TLS for data protection between services.

To execute these assessments effectively, IT auditors employ a diverse range of audit techniques tailored to the specific objectives of the internal audit. Statistical methods play a crucial role in this process, facilitating accurate assessment through methods such as defining the population, determining standard deviations, estimating sample sizes, and calculating necessary samples.

Information technology (IT) controls are implemented across all levels of an organization and vary in their relationships and applications. At the entity level, IT access management focuses on establishing policies and procedures governing access to organizational resources. This ensures that access rights are appropriately defined and managed across the entire enterprise (Putters, et al., 2023).

At the process level, IT access management addresses specific functions or departments within the system, determining and managing decision-making privileges.

Among the most critical IT controls are Information Technology General Controls (ITGC), which encompass controls applied to both information systems and infrastructure. Application controls are tailored to specific applications and include measures like authorization matrices defining user rights, approval workflows for payments, and automated matching of purchases. These controls ensure that transactions are processed accurately and securely within individual applications.

General controls, on the other hand, are overarching controls that apply to system components such as databases, operating

systems, and networks. Their purpose is to oversee and regulate the processes occurring within and around the information systems. Key ITGCs include:

Logical Access Security: Managing access permissions to systems and data to ensure only authorized personnel have access.

Program Change Management: Governing the process of implementing changes to IT systems to maintain integrity and security.

IT Security: Implementing measures to protect systems and data from unauthorized access, breaches, and cyber threats.

Backup and Recovery: Establishing procedures for secure data storage and ensuring data recovery capabilities in case of data loss or system failure.

System Development: Evaluating the need for and managing changes to IT systems to meet organizational requirements and improve functionality.

Computer Operations: Configuring and installing IT systems and ensuring their ongoing operational efficiency.

These IT controls are essential for mitigating risks associated with IT operations, enhancing data security, and ensuring the reliability and continuity of business processes. Effective implementation and monitoring of these controls are critical to safeguarding organizational assets and achieving compliance with regulatory requirements.

Information Technology General Controls (ITGCs) are foundational components of any control system, designed to assess the effectiveness and functionality of controls over an extended period. They are crucial for ensuring that user controls and application controls operate reliably throughout the control period. In cases where segregation of duties and ITGCs are inadequate, it becomes challenging to provide reasonable assurance of control reliability. In such instances, firms may resort to data-driven controls, using data analysis to detect deviations that occurred during the specified period (Doekhi, 2023).

If no deviations or irregular data patterns are found in the sampled data population, it suggests that risks did not materialize during that period, thereby indicating minimal likelihood of significant errors in the process. Based on the company's risk analysis, appropriate IT controls are integrated into the organization's Internal Control over Financial Reporting (ICFR) framework (ISACA, 2022).

The implementation of IT controls is detailed in work programs that are based on objective and risk analyses. These programs include annual assessments to evaluate the effectiveness of the established controls. IT auditors play a pivotal role in conducting testing at both the application and infrastructure levels. Within the ICFR context, this framework involves identifying and assessing potential risks, ensuring that financial reporting is prepared in accordance with relevant reporting standards such as IFRS or GAAP. This process may also entail issuing a letter of representation, affirming the accuracy and completeness of the financial statements (KPMG, 2018).

3. IT AUDIT AND INDEPENDENT AUDIT

Given these transformations, it is imperative for independent auditors to integrate IT audits alongside traditional audits of client companies. While IT audit is typically internal, external auditors also employ it, adhering to established auditing standards. External auditors must assess the effectiveness and reliability of the client's accounting information system (Iliescu, 2020; Kassa, 2016).

Various technologies, including blockchain technology (BT), robotic process automation (RPA), artificial intelligence (AI), and machine learning, are accelerating the digital transformation of accounting practices. These tools streamline transaction processing, reduce resource requirements, and automate repetitive tasks such as aggregating financial data and compliance reporting (Busulwa & Evans, 2021).

This digital shift challenges traditional auditing practices centered on document

review. Auditing standards are evolving, replacing document review with transaction review as accounting moves towards a transaction-based approach. Digitalized accounting enables auditors to access new data sources like big data, IoT data, and social media feeds, and to enhance access to existing data through automated text analysis in legal contracts and emails.

Digitalization also transforms auditing processes, enabling real-time audits of digital accounting systems. Automation and AI allow auditors to examine all transactions without sampling, rendering traditional document verification unnecessary and establishing transaction review as the norm.

To conduct effective IT audits, auditors follow a structured approach:

Understanding Industry and Business Context: Auditors should grasp the industry's value chain and the client's business model to align audits with governance needs.

Organizational Structure and IT Oversight: Identify governance structures, strategy committees, and IT overseers responsible for the accounting information system's security and development.

Policies and Procedures: Define and evaluate policies governing IT systems, including security protocols and data privacy measures.

Risk Assessment: Assess IT risks using appropriate techniques to develop audit plans and determine the audit scope.

Internal Control Testing: Evaluate the effectiveness of internal controls to ensure compliance and mitigate risks.

Audit Planning: Develop an audit strategy, define objectives, allocate resources, and prepare audit plans and working papers.

Auditors face challenges due to rapid technological advancements, including increased risks such as cyber threats, bias in AI models, and ethical concerns in data handling. These developments complicate the assessment of "material misstatement" risks in financial statements. Auditors must adapt by

understanding emerging risks, refining assessment methodologies, and recommending effective controls to safeguard financial integrity.

As digital technologies reshape accounting practices, IT auditing becomes indispensable for ensuring the reliability and security of financial reporting. Auditors must continuously evolve their approaches to effectively manage new risks and maintain the credibility of financial audits in a digital age.

4. CONCLUSION

The profound impact of digitalization on accounting and auditing practices cannot be overstated. With businesses transitioning from document-centric to transaction-centric recording systems, the auditing profession has undergone significant transformations. These changes challenge traditional auditing practices and emphasize the critical role of IT audits in ensuring the accuracy and security of financial information.

Internally, the role of auditors extends beyond mere compliance to actively safeguarding organizational objectives through robust internal control systems. Historically reliant on manual methods, modern internal audits increasingly incorporate IT audits to comprehensively assess controls and mitigate risks associated with digital technologies such as AI, IoT, and blockchain. This shift not only enhances the efficiency of audits but also addresses emerging risks in real-time.

Externally, auditors play a pivotal role in verifying the integrity of financial reports. By conducting thorough IT audits, they scrutinize the entity's internal control framework to detect potential misstatements and ensure adherence to regulatory standards. This proactive approach is essential in an era where digital advancements introduce complexities like cybersecurity threats and data privacy concerns.

The integration of IT audits into both internal and external audit practices signifies a paradigm shift towards data-driven auditing methodologies. This transformation eliminates the limitations of traditional

sampling methods, allowing auditors to analyze entire datasets and identify anomalies with greater precision. Moreover, IT audits facilitate continuous monitoring of critical systems, enabling auditors to promptly address emerging risks and vulnerabilities.

In conclusion, as information systems continue to evolve, auditing practices must adapt to keep pace with technological advancements. The digitalization of accounting practices has underscored the importance of proactive auditing methodologies that integrate advanced technologies like AI, blockchain, and IoT. IT audits have become indispensable for ensuring the reliability, integrity, and security of financial information in today's complex business landscape.

Looking forward, several promising research avenues emerge for auditors and researchers alike. Firstly, exploring the efficacy of AI-driven audit techniques and their integration into traditional audit processes could yield insights into improving audit efficiency and accuracy. Secondly, investigating the impact of blockchain technology on audit trail transparency and data integrity presents opportunities to enhance audit reliability in decentralized systems.

Furthermore, the evolving regulatory landscape and its intersection with digital auditing practices warrant investigation. Research focusing on how auditors navigate regulatory compliance in the era of digital transformation can provide guidance for developing robust audit frameworks. Additionally, studies on the ethical implications of AI and automated auditing tools in decision-making processes could inform best practices and ethical guidelines for auditors.

Lastly, as cyber threats continue to evolve, research into cybersecurity frameworks and their integration with audit practices is crucial. Understanding how auditors can effectively assess and mitigate cybersecurity risks within organizations will be essential for

maintaining trust and security in financial reporting.

In sum, the future of auditing lies in embracing technological innovations while upholding audit standards and ethical practices. By addressing these research gaps, auditors and researchers can contribute to advancing audit methodologies and ensuring the continued relevance and effectiveness of auditing practices in a digital age.

REFERENCES

- Boer, A., de Beer, L., & van Praat, F. (2023). Algorithm assurance: Auditing applications of artificial intelligence. 149-183. *Advanced Digital Auditing: Theory and Practice of Auditing Complex Information Systems and Technologies*, (Eds. Berghout, et al.), Springer.
- Busulwa, R., & Evans, N. (2021). *Digital Transformation in Accounting*, Routledge.
- Stoel, D., Havelka, D., & Merhout, J. W. (2012). An analysis of attributes that impact information technology audit quality: A study of IT and financial audit practitioners. *International Journal of Accounting Information Systems*, 13(1), 60-79.
- Center for Audit Quality (2019). Guide to internal control over financial reporting. <https://www.thecaq.org/guide-internal-control-over-financial-reporting/>
- COSO, <https://www.coso.org/>
- Doekhi, R.J.M. (2023). The Intercompany Settlement Blockchain: Benefits, Risks, and Internal IT-Controls. 47-88. *Advanced Digital Auditing: Theory and Practice of Auditing Complex Information Systems and Technologies*, (Eds. Berghout, et al.), Springer.
- Iliescu, F. M. (2010). Auditing IT governance. *Informatica Economica*, 14(1), 93.
- ISACA Journal, 15 Feb. 2022, isaca.org/resources/isaca-journal/issues/2022/volume-1/the-evolution-of-audit-in-the-wake-of-the-pandemic
- Kassa, S. (2016). Information Systems Security Audit: An Ontological Framework. *ISACA Journal*, 5, 1-8.

KPMG (2018). <https://kpmg.com>.

Otero, A. R. (2018). *Information technology control and audit*, 5th ed., 12-17, Amsterdam University Press.

Putters, J., Hashemi, J. B., & Yavuz, A. (2023). Demystifying Public Cloud Auditing for IT Auditors. *Advanced Digital Auditing*, 185-235. *Advanced Digital Auditing: Theory and Practice of Auditing Complex Information Systems and Technologies*, (Eds. Berghout, et al.), Springer.

Talebnia, G., & Dehkordi, B. B. (2012). Study of relation between effectiveness audit and management audit. *GSTF Business Review (GBR)*, 2(1), 92.

The Institute of Internal Auditors [IIA] (2018). <https://www.theiia.org/en/standards/>

INVESTIGATING THE BENEFITS OF ELECTRONIC ACCOUNTING APPLICATIONS FOR ACCOUNTING PROFESSIONALS WITH ANALYTICAL HIERARCHY PROCESS

Sümevra ÇAKIRASLAN *, Mahmut Sami ÖZTÜRK**

* Corresponding Author, Ph.D. Candidate, Süleyman Demirel University, Institute of Social Sciences, sumeyrad2519@gmail.com, <https://orcid.org/0000-0003-4971-3901>.

** Assoc. Prof. Dr., Süleyman Demirel University, Faculty of Economics and Administrative, Dept. Of Business Administration, samiozturk@sdu.edu.tr, <https://orcid.org/0000-0002-7657-3150>.

ABSTRACT

Electronic accounting applications occupy a pivotal position in the professional accounting landscape, largely due to the technological advancements they facilitate. Electronic accounting applications facilitate the work of professional accountants, create standards in the transactions made, save professional accountants in terms of time and manpower, and increase the reliability of the data created. This study aims to investigate the benefits of electronic accounting applications for professional accountants. To this end, multi-criteria decision-making methods are applied in the study, and it is analysed in which aspects electronic accounting applications offer more benefits. The analytical hierarchy process (AHP) was selected as the preferred method for this study, as it is one of the most widely used multi-criteria decision-making methods. The data used in the study was obtained from interviews with professional accountants who are experts in their field. The advantages of electronic accounting applications for professional accountants are examined under five main headings. The criteria expressed as the benefits offered by electronic accounting applications are as follows: ease of auditing, time savings, reduction in labour, ease of accessibility and increased safety. As a result of the application of the analytical hierarchy process method, it has been concluded that electronic accounting applications provide the most benefit to professional accountants in terms of saving time and then saving on the labour force used.

Keywords: *Electronic accounting applications, Accounting professionals, Multi-criteria decision-making, Analytical hierarchy process.*

1. INTRODUCTION

Technological developments have altered the methodologies employed in the execution of accounting-related tasks, with an increasing number of transactions now being conducted electronically. The exponential growth and development of information technologies on a daily basis has precipitated a digital revolution across a range of economic, social and cultural domains. The contemporary era is the information age. When we acknowledge that accounting is an information system, we can see how the way businesses operate and their processes have been transformed by the use of information technologies in businesses. This has had a profound impact on accounting (Güney, 2014).

In light of these developments, it is imperative that accounting adopt and utilise the latest methodologies in order to provide services and fulfil obligations in an efficient and effective manner. E-accounting represents a novel concept in the field of accounting. In essence, in order to define this, one must first define the internet application and internet technologies. In other words, the entire spectrum of work and transactions, including websites and weblogs, can be recorded in an online service or database. Nevertheless, a username and password are required to perform operations and transactions. In this case, the user can readily access the database by selecting the relevant option. E-accounting provides a comprehensive range of data processing and operational applications via the Internet, encompassing

recording, storage, business activity, production management, purchasing and distribution, goods transfer and after-sales service, among other aspects (Vakilifard & Khorramin, 2015).

The utilisation of electronic accounting applications confers a plethora of advantages upon professional accountants, who represent the most pivotal practitioners. The utilisation of electronic accounting applications affords professional accountants a number of significant conveniences in the transactions they undertake. The present study examines the significance of electronic accounting applications for professional accountants. The study commenced with an examination of the existing literature on the subject, after which the application section was initiated. In the subsequent analysis, the significance of the advantages conferred by electronic accounting applications on professional accountants was evaluated. The analytical process method was employed to determine the relative importance of the benefits provided by electronic accounting applications for professional accountants. This involved ranking the benefits from the most to the least important, with the most important benefit being identified.

2. LITERATURE REVIEW

Some studies on electronic accounting applications are presented below:

In the study conducted by Bursalı (2023), a survey was conducted with independent freelance accountants and financial advisors operating in Istanbul. It is thought that eliminating and improving the systemic problems experienced by professionals in an important position in terms of public interest in the performance of their professional activities will contribute positively to achieving the goals expected from e-accounting regulations.

In the study implemented by Öner (2022), the interaction of e-accounting applications with the accounting information system and tax audit and the effectiveness of the

VEDAS audit program were investigated through a survey for tax inspectors and assistant tax inspectors who are responsible for tax inspection. It has been concluded that the effectiveness of the participants' e-accounting applications, accounting information system and VEDAS audit program are quite positive and that these applications make positive contributions to commercial life for both the private sector and the public authority.

In the study of Bozkurt (2020), it was aimed to provide evidence about the attitudes of professional accountants operating in Yozgat towards e-invoice and e-ledger applications and whether these attitudes differ in terms of their professional title and professional experience. The results suggest that the use of e-applications is beneficial for both businesses and the government. However, they expressed the opinion that the current conditions cause some problems and that these problems will decrease over time and the actual desired and expected performance from e-applications will be exhibited.

In the study conducted by Yıldırım (2020), it is aimed to evaluate the knowledge levels of professional accountants in Kırıkkale province regarding electronic accounting applications, their performance expectations, trust expectations, intentions to use and professional experiences by survey method. In line with the answers given by the participants, it was concluded that e-accounting applications are easy to learn, but updates must be followed, they make positive contributions to the accounting information system, reduce transaction costs, are compatible with the legislation and are generally satisfactory.

In the study of Kulak (2019), a survey was conducted by face-to-face interview method to determine the opinions of professional accountants operating in Malatya province about e-accounting. Professional accountants are generally satisfied with e-accounting applications.

In the study implemented by Varlı (2016), the effect of electronic accounting applications of independent accountants and financial advisors on tax audit in Konya province is examined. In general, there is a positive and high level of relationship between the perceptions of independent accountants and financial advisors regarding electronic invoices, electronic ledgers and electronic declarations and notifications.

3. APPLICATION

The objective of this study is to examine the advantages and benefits offered by electronic accounting applications for professional accountants. The analytical hierarchy process (AHP) method, one of the multi-criteria decision-making methods, was employed as a method.

The data utilized in the subsequent analysis were obtained through interviews with professional accountants who are recognized experts in their respective fields.

A synthesis of the findings from the literature review and the interviews with professional accountants revealed five main categories of benefits associated with electronic accounting applications for this professional group. The five key benefits identified were convenience in terms of inspection, time savings, reduction in workforce, ease of accessibility and increase in security. The aforementioned criteria, which have been collated under five main headings, are presented in Table 1.

Table 1. Benefits Provided by Electronic Accounting Applications

Audit
Time
Labour
Accessibility
Safety

The steps employed in the analytical hierarchy process (AHP) methodology, which was selected for use in the empirical investigation, are outlined below.

Table 2. Pairwise Comparison of Benefits

Benefits										Benefits
Audit	9	7	5	3	1	3	5	7	9	Time
Audit	9	7	5	3	1	3	5	7	9	Labour
Audit	9	7	5	3	1	3	5	7	9	Accessibility
Audit	9	7	5	3	1	3	5	7	9	Safety
Time	9	7	5	3	1	3	5	7	9	Labour
Time	9	7	5	3	1	3	5	7	9	Accessibility
Time	9	7	5	3	1	3	5	7	9	Safety
Labour	9	7	5	3	1	3	5	7	9	Accessibility
Labour	9	7	5	3	1	3	5	7	9	Safety
Accessibility	9	7	5	3	1	3	5	7	9	Safety

The results of the interviews with professional accountants were used to compare the importance of the benefits provided by electronic accounting

applications in pairs. The data obtained from the pairwise comparison is presented in Table 2.

A matrix was constructed from the data obtained through a pairwise comparison of the benefits provided by electronic

accounting applications. The resulting pairwise comparison matrix is presented in Table 3.

Table 3. Pairwise Comparison Matrix

	Audit	Time	Labour	Accessibility	Safety
Audit	1	1/7	1/5	1/3	3
Time	7	1	3	5	9
Labour	5	1/3	1	3	5
Accessibility	3	1/5	1/3	1	3
Safety	1/3	1/9	1/5	1/3	1

The data presented in the resulting pairwise comparison matrix are expressed in numerical form. The numerical

representation of the binary comparison matrix is presented in Table 4.

Table 4. Pairwise Comparison Matrix

	Audit	Time	Labour	Accessibility	Safety
Audit	1	0,1428571	0,2	0,3333333	3
Time	7	1	3	5	9
Labour	5	0,3333333	1	3	5
Accessibility	3	0,2	0,3333333	1	3
Safety	0,3333333	0,1111111	0,2	0,3333333	1

Table 5. Sum of Columns

	Audit	Time	Labour	Accessibility	Safety
Audit	1	0,1428571	0,2	0,3333333	3
Time	7	1	3	5	9
Labour	5	0,3333333	1	3	5
Accessibility	3	0,2	0,3333333	1	3
Safety	0,3333333	0,1111111	0,2	0,3333333	1
Total	16,33333	1,787302	4,733333	9,666667	21

The data in the resulting pairwise comparison matrix must be normalised. In order to normalise the data, it is first necessary to add together the numbers in

each column. The data obtained from the column totals are presented in Table 5.

Subsequently, the figures presented in Table 4 were divided by the total column values displayed in Table 5. The resulting figures from the aforementioned section

constituted the normalized matrix. The resulting normalized matrix is presented in Table 6.

Table 6. Normalized Matrix

	Audit	Time	Labour	Accessibility	Safety
Audit	0,061224	0,079929	0,042254	0,034483	0,142857
Time	0,428571	0,559503	0,633803	0,517241	0,428571
Labour	0,306122	0,186501	0,211268	0,310345	0,238095
Accessibility	0,183673	0,111901	0,070423	0,103448	0,142857
Safety	0,020408	0,062167	0,042254	0,034483	0,047619

Once the normalised matrix had been obtained, the row totals were calculated by adding together the numbers in each row of

the normalised matrix. The matrix from which the row totals are derived is provided in Table 7

Table 7. Row Totals in Normalized Matrix

	Audit	Time	Labour	Accessibility	Safety	Total
Audit	0,061224	0,079929	0,042254	0,034483	0,142857	0,360747
Time	0,428571	0,559503	0,633803	0,517241	0,428571	2,56769
Labour	0,306122	0,186501	0,211268	0,310345	0,238095	1,252331
Accessibility	0,183673	0,111901	0,070423	0,103448	0,142857	0,612302
Safety	0,020408	0,062167	0,042254	0,034483	0,047619	0,20693

Table 8. Determination of Intensity of Importance of Criteria

	Audit	Time	Labour	Accessibility	Safety	Total	Averages
Audit	0,061	0,080	0,042	0,034	0,143	0,361	0,072149
Time	0,429	0,560	0,634	0,517	0,429	2,568	0,513538
Labour	0,306	0,187	0,211	0,310	0,238	1,252	0,250466
Accessibility	0,184	0,112	0,070	0,103	0,143	0,612	0,12246
Safety	0,020	0,062	0,042	0,034	0,048	0,207	0,041386

Once the row totals had been obtained, the average of each row was calculated. In order to achieve this, the row totals were divided by five, thus obtaining the averages. The row averages are presented in Table 8.

The data presented in Table 8 illustrates the significance of the advantages offered by electronic accounting applications. Table 9 presents a summary of the importance levels

of the benefits provided by electronic accounting applications.

Table 9. Intensity of Importance of Benefits

Audit	0,072149
Time	0,513538
Labour	0,250466
Accessibility	0,12246
Safety	0,041386

The relative importance levels provided by electronic accounting applications are presented in tabular form. The benefits are presented in descending order of importance in Table 10.

Table 10. Priorities of Benefits

Rank	Benefits	Values
1.	Time	0,513538
2.	Labour	0,250466
3.	Accessibility	0,12246
4.	Audit	0,072149
5.	Safety	0,041386

4. CONCLUSION

Electronic accounting applications play a crucial role in the landscape of professional accounting, primarily driven by the technological advancements they enable. These applications streamline the work of professional accountants, establish transactional standards, economize time and manpower, and enhance data reliability. This study aims to investigate the advantages of electronic accounting applications for professional accountants. To achieve this goal, multi-criteria decision-making methods were employed, specifically analyzing the dimensions where electronic accounting applications offer maximal benefits. The Analytical Hierarchy Process (AHP) was chosen as the preferred methodology due to its widespread use in such contexts. Data for the study were

derived from interviews conducted with expert professional accountants.

A synthesis of findings from both the literature review and interviews with professional accountants identified five primary categories of benefits linked to electronic accounting applications for this professional accountants. These key benefits include enhanced audit convenience, time savings, reduced labor requirements, improved accessibility, and heightened security measures.

In the realm of professional accounting, electronic accounting applications offer several notable advantages. According to the Analytical Hierarchy Process method results, foremost among these is the substantial reduction in task completion time for professional accountants. Following closely, the second most significant benefit is the decreased need for personnel to execute equivalent tasks. Thirdly, these applications enhance accessibility to data, facilitating easier retrieval and management. Additionally, they contribute significantly to the audit process, bolstering its efficiency and effectiveness. Lastly, while still advantageous, the least prioritized benefit is the improvement in data security.

Upon evaluation of the results of the study, it becomes evident that the most significant advantage offered by electronic accounting applications to professional accountants is the saving of time. When evaluated in terms of time savings, it can be observed that electronic accounting applications facilitate the processing of data obtained from accounting processes at a faster rate. Manual applications are replaced by automatic transactions, transactions are conducted in the digital environment, and accounting records are recorded with greater efficiency. Consequently, all accounting processes can be conducted via automation. Furthermore, professional accountants and other information users are able to access accounting data with immediate effect, thereby enhancing the efficiency of

decision-making processes. The time savings achieved through digitalisation, remote connection, accessibility and various other factors contribute significantly to professional accountants.

REFERENCES

Bozkurt, E., (2020). Muhasebede E-Fatura, E-Defter: Yozgat'ta Faaliyet Gösteren Muhasebe Meslek Mensuplarının E-Fatura ve E-Defter Uygulamalarına Karşı Tutumları, Yozgat Bozok Üniversitesi Sosyal Bilimler Enstitüsü, Yozgat.

Bursalı, H., (2023). E-Muhasebe Uygulamaları ve Meslek Mensuplarının Konu ile İlgili Görüşlerinin Değerlendirilmesi: İstanbul İli Örneği, İstanbul Gelişim Üniversitesi Lisansüstü Eğitim Enstitüsü, İstanbul.

Güney, A. (2014). Role of technology in accounting and e-accounting. *Social and Behavioral Sciences*, 152, 852-855.

Kulak, A., (2019). Muhasebe'de E-Dönüşüm, İnönü Üniversitesi Sosyal Bilimler Üniversitesi, Malatya.

Öner, F., (2022). E-Muhasebe Uygulamalarının Muhasebe Bilgi Sistemi ve Vergi Denetimi Etkileşimi Üzerine Bir Araştırma, Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü, İzmir.

Vakilifard, H. R., & Khorramin, M. (2015). A review of e-accounting. *Indian Journal of Fundamental and Applied Life Sciences*, 5(1), 1824-1829.

Varlı, Y., (2016). Türkiye'de E-Muhasebe Uygulamaları ve Vergi Denetimine Etkisi, Selçuk Üniversitesi Sosyal Bilimler Enstitüsü, Konya.

Yıldırım, A., (2020). E-Dönüşüm Sürecinde E-Muhasebe Uygulamaları: Muhasebe Meslek Mensupları Üzerine Bir Araştırma: Kırıkkale, Kırıkkale Üniversitesi Sosyal Bilimler Enstitüsü, Kırıkkale.

HUMBLE LEADERSHIP AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR: INSIGHTS FROM CONTEMPORARY RESEARCH

Tolga ALTINTAS*

İsa İPCİOĞLU**

* Corresponding Author, Research Assistant, Bilecik Şeyh Edebali University, Faculty of Economics and Administrative Sciences, Business Administration, tolga.altintas@bilecik.edu.tr, <https://orcid.org/0000-0003-0765-6195>.

** Prof. Dr., Bilecik Şeyh Edebali University, Faculty of Economics and Administrative Sciences, Business Administration, isa.ipcioglu@bilecik.edu.tr, <https://orcid.org/0000-0002-6912-3290>.

ABSTRACT

Leadership is pivotal in today's dynamic business environment, where organizations navigate complexity and strive for sustained success. This study explores the relationship between humble leadership and organizational citizenship behavior (OCB) within organizational settings. Humble leadership, characterized by leaders who exhibit self-awareness, openness to feedback, and appreciation for their team members' contributions, has garnered increasing attention for its positive impact on employee outcomes. Extensive literature supports the notion that humble leadership enhances employee job satisfaction, commitment, and overall organizational performance. This study synthesizes existing research to highlight how humble leadership influences various dimensions of OCB, including altruism, courtesy, sportsmanship, conscientiousness, and civic virtue. Despite empirical evidence demonstrating the positive association between humble leadership and OCB, gaps remain in understanding the nuanced mechanisms and specific dimensions of OCB influenced by humble leadership behaviors. By addressing these gaps, this study aims to contribute to the literature on leadership effectiveness and organizational behavior, providing insights that can inform leadership practices and enhance organizational performance.

Keywords: *Humble Leadership, Organizational Citizenship Behavior.*

1. INTRODUCTION

Leadership, a subject of enduring interest both in everyday life and academic inquiry, encompasses various dimensions such as position, characteristics, behaviors, and outcomes (Larwood, 1984). Effective leadership is widely recognized as pivotal to the success of the groups or organizations they lead. Leaders play a crucial role in guiding their followers towards achieving shared goals (Daft, 2016). Their influence extends beyond mere direction; leaders motivate individuals within the organization, contributing significantly to its vitality and operational efficacy.

In recent academic discourse, humble leadership has emerged as a distinctive focus, particularly notable in Eastern cultures (Oc, et al., 2015). Humble leadership is characterized by leaders who exhibit humility,

acknowledging their strengths and limitations without arrogance, and valuing the ideas and contributions of their employees (Nielsen, et al., 2010). Such leaders foster an environment conducive to mutual growth and development, promoting transparency and employee engagement (Ali, et al., 2020; Owens, et al., 2013).

The psychological security and freedom provided by humble leaders nurture positive employee attitudes and behaviors, enhancing organizational outcomes (Senge, 1990; Li, et al., 2016; Morris & Brotheridge, 2005). Despite the growing recognition of humble leadership's importance (Owens & Hekman, 2012), empirical studies on its impact on employee attitudes and behaviors remain relatively scarce (Wang, et al., 2018a).

Organizational citizenship behavior (OCB) represents an essential aspect of employee

behavior beyond formal job requirements, encompassing voluntary actions that contribute to a positive work environment (Organ, 1997; Wang, et al., 2005). OCB enhances task performance and fosters a supportive organizational culture, reflecting proactive efforts to benefit others within the organization (Penner, et al., 1997).

Leadership behaviors, including humble leadership, are crucial antecedents influencing OCB (Organ, et al., 2006). It is hypothesized that humble leadership positively influences employees' perceptions of the organization, thereby enhancing their levels of OCB. This study aims to fill the gap in existing literature by exploring the relationship between humble leadership and OCB, contributing new insights to both leadership theory and organizational behavior research.

2. HUMBLE LEADERSHIP

In contemporary leadership literature, there is a growing recognition of the limitations of traditional hierarchical models that emphasize authority over collaboration and mutual respect among team members. The concept of humble leadership has emerged as a compelling alternative, reflecting a leader's ability to acknowledge personal limitations, appreciate the contributions of others, and foster an environment conducive to continuous learning and growth (Owens, et al., 2013; Liu, 2016).

Humble leaders exhibit a high degree of self-awareness, which involves objectively assessing their own strengths and weaknesses. They are willing to admit mistakes and acknowledge their limitations in specific areas of expertise (Owens & Hekman, 2012). This self-awareness is crucial as it allows leaders to make informed decisions and seek input from others when necessary (Özer, et al., 2021). According to Özer, et al. (2021), humble leadership is characterized by an accurate self-concept, recognition of one's own weaknesses and shortcomings, and a willingness to accept suggestions from others. Moreover, humble leaders demonstrate a proactive approach to

personal development by engaging in continuous self-improvement efforts. They view setbacks and challenges as opportunities for growth rather than personal failures, thereby promoting a culture of resilience within their teams (Zhu, et al., 2019).

A distinguishing feature of humble leadership is the genuine appreciation and recognition of employees' strengths and contributions. Instead of seeking personal acclaim, humble leaders emphasize the collective achievements of the team (Walters & Diab, 2016). By highlighting the positive qualities and efforts of their team members, these leaders foster a supportive work environment where individuals feel valued and motivated to excel (Hefferon & Boniwell, 2018). Research indicates that such positive reinforcement not only enhances employee morale but also promotes organizational cohesion and teamwork (Morris & Brotheridge, 2005). Walters & Diab (2016) emphasize that humble leaders inspire loyalty and commitment among employees by creating an atmosphere of mutual respect and appreciation.

Humble leaders are characterized by their openness to learning from others and their willingness to consider new ideas and perspectives (Jiang, et al., 2019). This openness fosters a culture of trust and collaboration within the organization, where team members feel empowered to contribute their insights and innovations (Rego, et al., 2019). By encouraging a bottom-up approach to decision-making, humble leaders create opportunities for creative problem-solving and innovation (Zhou & Wu, 2018). They actively seek feedback from employees and stakeholders, recognizing that diverse viewpoints contribute to more informed and effective decision-making processes (Yang, et al., 2019).

Empirical studies have underscored the positive impact of humble leadership on various organizational outcomes. For instance, humble leaders are found to enhance employee job satisfaction, commitment, and performance by fostering a supportive and psychologically safe work

environment (Argandona, 2015; Nielsen, et al., 2010; Owens, et al., 2013; Zhang & Song, 2020). This leadership style promotes employee engagement and organizational citizenship behaviors, such as willingness to go above and beyond formal job requirements (Jeung & Yoon, 2018; Zhang & Liu, 2019; Ding, et al., 2020). Furthermore, humble leadership is associated with higher levels of organizational trust and perceived support from leadership, which are critical factors in enhancing employee morale and organizational resilience (Yuan, et al., 2018). Rego, et al. (2017) argue that humble leadership contributes to the development of psychological capital within teams, thereby improving overall team performance and effectiveness.

In conclusion, humble leadership represents a paradigm shift from traditional hierarchical models to more inclusive and empowering leadership styles. By cultivating self-awareness, appreciating others' contributions, and promoting collaboration and learning, humble leaders create organizational cultures that are resilient, innovative, and supportive of employee growth and development. As organizations navigate increasingly complex and dynamic environments, the role of humble leadership in promoting organizational success and sustainability becomes increasingly pivotal.

3. ORGANIZATIONAL CITIZENSHIP BEHAVIOR

Organizational Citizenship Behavior (OCB) was first conceptualized by Dennis Organ and his colleagues in 1983, drawing on Barnard's (1938) concept of 'willingness to cooperate' and Katz and Kahn's (1964, 1966) distinction between reliable role performance and 'innovative and spontaneous behaviors'. According to Organ (1988), OCB encompasses voluntary actions by individuals that benefit both the organization and its members, contributing to the effective functioning of the organization. These behaviors are not formally mandated by job descriptions or incentive systems (Bies, 1989).

The significance of OCB lies in its role in facilitating organizational flexibility and resilience in the face of unforeseen challenges. Unlike behaviors dictated by formal roles, OCB involves personal sacrifices made voluntarily, contributing to the overall performance of other employees (Smith, et al., 1983).

Organ (1988) delineates several dimensions of OCB that have become central in organizational research. Altruism, for instance, refers to the motivation to enhance the welfare of others by engaging in pro-social behaviors when someone within the organization is in need (Organ & Ryan, 1995; Rioux & Penner, 2001; Batson & Powell, 2003). Courtesy entails voluntary actions aimed at preventing work-related problems with colleagues, fostering positive interpersonal relationships (Podsakoff, et al., 1990). Sportsmanship involves tolerating inconveniences and impositions of work without complaint, contributing to a harmonious work environment (Podsakoff, et al., 2000). Conscientiousness reflects an employee's willingness to exceed role expectations, such as punctuality and adherence to organizational rules (Podsakoff, et al., 1990). Civic virtue, on the other hand, refers to active participation in organizational affairs and initiatives that contribute to the organization's well-being and success (Graham & Dyne, 2006).

Research indicates that job satisfaction is a significant predictor of OCB (Bateman & Organ, 1983; Organ & Ryan, 1995; Podsakoff, et al., 2000). Additionally, organizational commitment positively influences OCB, as committed employees are more likely to engage in behaviors that benefit the organization beyond their formal duties (Pitaloka & Sofia, 2014; Podsakoff, et al., 2000). Emotional intelligence, which enables individuals to manage their own emotions and perceive and utilize others' emotions effectively, also enhances OCB (Turnipseed, 2018). Furthermore, organizational justice, effective leadership, and clear role definitions

are among the antecedents that influence OCB (Chahal & Mehta, 2010).

Leadership styles significantly impact OCB through various mechanisms. Supportive leadership behaviors, for instance, foster an environment where employees feel valued and supported, thus encouraging OCB (Organ, et al., 2006). Transformational leadership, characterized by inspiring and motivating followers, also promotes OCB by aligning individual goals with organizational objectives. Servant leadership emphasizes empathy, stewardship, and empowerment, encouraging employees to engage in behaviors that benefit others (Organ, et al., 2006). Additionally, fair and consistent reward systems reinforce OCB by recognizing and rewarding employees' voluntary contributions to the organization (MacKenzie, et al., 2001).

Empirical evidence suggests that OCB positively impacts organizational outcomes. Employees exhibiting OCB contribute to the functionality and performance of organizational units by addressing existing problems and fostering a positive work environment (Organ, 1997). OCB enhances organizational loyalty and commitment among employees, thereby reducing turnover and absenteeism (Tepper, et al., 2004; Podsakoff, et al., 2009). Moreover, OCB is associated with higher employee well-being, positive mood, and increased productivity (Glomb, et al., 2011; Sonnentag & Grant, 2012; Ramadhani, et al., 2017).

Engaging in OCB enhances an employee's social capital and reputation within the organization (Klotz, et al., 2017). However, employees with low levels of OCB may experience social exclusion or ostracism from their peers (Ferris, et al., 2008). OCB also plays a crucial role in shaping organizational culture by fostering cooperation, trust, and mutual respect among employees (Bolino, et al., 2002). This behavior contributes to a positive psychological climate within the workplace, enhancing overall organizational effectiveness (Podsakoff & Mackenzie, 1997).

In sum, OCB represents a vital aspect of organizational behavior that goes beyond formal job requirements, contributing significantly to organizational success and employee well-being. Future research could explore additional antecedents and outcomes of OCB, further elucidating its role in contemporary organizational contexts and its potential for enhancing organizational performance and employee satisfaction.

4. THE RELATIONSHIP BETWEEN HUMBLE LEADERSHIP AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR

Previous research underscores the profound impact of humble leadership on organizational dynamics, highlighting its role in fostering positive outcomes across various organizational domains. Owens and Hekman (2012) provided empirical evidence showing that humble leadership enhances subordinates' personal growth, job satisfaction, commitment, and reduces turnover rates (Owens, et al., 2013). This leadership style cultivates loyalty among employees, promotes a supportive organizational climate conducive to innovation (Ou, et al., 2017), and positively influences team performance through the development of psychological capital (Wang, et al., 2018b). Rego, et al. (2017) further corroborated these findings, demonstrating a robust positive correlation between humble leadership and team effectiveness, mediated by psychological capital. Additionally, Chen, et al. (2018) identified a mediating pathway wherein humble leadership enhances leader identification, psychological empowerment, and subsequently encourages proactive behaviors among employees, thereby enhancing organizational agility and responsiveness.

The link between humble leadership and Organizational Citizenship Behavior (OCB) is particularly evident in the congruence between the leadership behaviors associated with humility and the antecedents of OCB. Wang, et al. (2018b) noted that humble leaders' recognition of their subordinates'

strengths (Owens & Hekman, 2012) enhances subordinates' self-efficacy and perceived value within the organization. Given that self-efficacy is a known predictor of OCB (Dussault, 2006; Kao, 2017), it follows that humble leadership positively influences OCB by validating and amplifying subordinates' sense of meaningful contribution to organizational goals (Chen, et al., 2018). Maharaj & Schlechter, 2007) also underscored the importance of meaningful work in fostering OCB, suggesting a synergistic relationship with humble leadership practices.

Humble leaders actively engage in developing their subordinates' capabilities through mentorship and knowledge-sharing initiatives (Owens, et al., 2013; Chiu, et al., 2016). By valuing input and feedback from their teams, humble leaders promote an inclusive environment that encourages employee voice (Ma, et al., 2020; Qian et al., 2020) and facilitates knowledge dissemination (Anand, et al., 2019). Social information processing theory posits that individuals interpret their work environment through social interactions, influencing their organizational attitudes and behaviors (Rego, et al., 2017). Leaders play a pivotal role in shaping this social knowledge environment, affecting how subordinates perceive their organizational standing and fostering a culture of trust and gratitude through transparent and supportive leadership practices (Owens, et al., 2013). This, in turn, enhances subordinates' willingness to engage in OCB as a form of reciprocal behavior (Mao, et al., 2017).

Moreover, leadership styles that emphasize proactive behaviors have consistently shown positive associations with OCB, including transformational leadership (Jiao, et al., 2011), charismatic leadership (Deluga, 1995), shared leadership (Khasawneh, 2011), and developmental leadership (Yan & Chen, 2013). Humble leadership, characterized by its emphasis on humility, empathy, and openness to learning from others, aligns closely with these positive leadership attributes that foster organizational citizenship (Crant, 2000).

Empirical studies across diverse organizational contexts provide compelling evidence of the beneficial effects of humble leadership on OCB. For instance, Ding, et al. (2020) observed significant improvements in OCB among healthcare workers in China under humble leaders, while Qian, et al. (2020) reported enhanced OCB among employees due to leader humility. Similarly, research by Suryani, et al. (2023) in Islamic Banks in Indonesia and Mian, Malik, and Hussain (2023) in other organizational settings consistently support the positive impact of humble leadership on promoting OCB.

Hence, humble leadership emerges as a pivotal factor in predicting and enhancing OCB through its role in creating supportive and empowering organizational climates. Future research endeavors could explore specific mechanisms through which humble leadership influences OCB dynamics, further advancing our understanding of leadership behaviors and their impact on organizational effectiveness and employee engagement.

5. CONCLUSION

This study delved into the relationship between humble leadership and organizational citizenship behavior (OCB), aiming to illuminate their interconnectedness and implications for organizational effectiveness. Humble leadership, characterized by leaders who exhibit humility, empathy, and openness to learning from others, has been shown in the literature to significantly benefit organizational outcomes. Specifically, humble leadership enhances employees' job satisfaction, commitment, loyalty, and fosters a positive work environment (Owens & Hekman, 2012; Basford, et al., 2014; Ou, et al., 2017; Owens & Hekman, 2016). By encouraging open communication and valuing subordinates' input, humble leaders create a supportive climate that promotes employee well-being and performance (Owens, et al., 2013; Ma, et al., 2020).

In contrast, OCB is defined as voluntary behaviors that go beyond formal job

requirements and contribute to organizational effectiveness (Robbins & Judge, 2015). Factors such as employee self-efficacy play a crucial role in predicting OCB, with higher self-efficacy levels linked to increased engagement in extra-role behaviors (Dussault, 2006). Owens and Hekman (2012) posit that humble leadership enhances subordinates' self-efficacy by acknowledging their strengths and contributions, thereby fostering an environment where employees feel valued and motivated to go beyond their basic duties.

The relationship between humble leadership and OCB can be further understood through social exchange theory (Blau, 1964), which suggests that when leaders demonstrate care and support towards their followers, employees reciprocate with positive behaviors. Humble leaders who prioritize their followers' development and well-being cultivate a sense of responsibility and commitment among employees, encouraging them to engage in OCB as a form of mutual benefit (Ehrhart, et al., 2004).

Empirical studies by Ding, et al. (2020), Qian, et al. (2020), Suryani, et al. (2023), and Mian, et al. (2023) consistently support the positive impact of humble leadership on OCB across various organizational contexts. However, the literature remains sparse in exploring the specific dimensions of OCB proposed by Organ (1988) in relation to humble leadership. Future research endeavors should focus on examining how humble leadership influences each dimension of OCB such as altruism, courtesy, sportsmanship, conscientiousness, and civic virtue individually. Moreover, exploring mediating factors like self-efficacy, trust, and organizational justice could provide deeper insights into the mechanisms through which humble leadership influences OCB.

In conclusion, this study underscores the pivotal role of humble leadership in fostering organizational citizenship behaviors that contribute to enhanced organizational performance and employee well-being. By fostering a supportive and inclusive work environment, humble leaders empower their employees to go beyond their formal roles,

contributing voluntarily to organizational goals. The empirical evidence reviewed consistently supports the positive impact of humble leadership on various facets of organizational effectiveness, from job satisfaction and commitment to team performance and organizational climate. However, while existing research provides compelling insights, there remains a need for deeper exploration into the specific dimensions of OCB affected by humble leadership.

Future studies could explore how each dimension of OCB such as altruism, courtesy, sportsmanship, conscientiousness, and civic virtue is influenced by different aspects of humble leadership behaviors. Additionally, investigating mediating factors such as self-efficacy, trust, and organizational justice could elucidate the underlying mechanisms through which humble leadership exerts its influence. By addressing these gaps, researchers can further refine our understanding of how leadership behaviors shape organizational dynamics and effectiveness across diverse contexts, thereby informing leadership practices and contributing to organizational success.

REFERENCES

- Ali, M., Zhang L., Shah, S. J., Khan, S., & Shah, A. M. (2020). Impact of humble leadership on project success: the mediating role of psychological empowerment and innovative work behavior. *Leadership & Organization Development Journal*, 41, 349-367.
- Anand, A., Walsh, I., & Mofett, S. (2019). Does humility facilitate knowledge sharing? Investigating the role of humble knowledge inquiry and response. *Journal of Knowledge Management*, 23(6), 1218-1244.
- Argandona, A. (2015). Humility in management. *Journal of Business Ethics*, 132(1), 63-71.
- Basford, T. E., Offermann, L. R., & Behrend, T. S. (2014). Please accept my sincerest apologies: examining follower reactions to leader apology. *Journal of Business Ethics*, 119, 99-117.

- Bateman, T. S. & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship". *The Academy of Management Journal*, 26 (4), 587-595.
- Batson, C. D., & Powell, A. A. (Eds.) (2003). *Handbook of Psychology*, Vol. 5. Canada: Wiley.
- Bies, R. J. (1989). Organizational Citizenship Behavior: The Good Soldier Syndrome. Dennis W. Organ Book-Review, *Academy of Management Review*, 14(2), 294-297.
- Blau, P. M. (1964). *Exchange & power in social life*. Transaction Publishers.
- Bolino, M. C., Turnley, W. H., & Bloodgood, J. M. (2002). Citizenship Behavior and the Creation of Social Capital in Organizations. *Academy Of Management Review*, 27, 505-522.
- Chahal, H. & Mehta, S. (2010). Antecedents and consequences of organizational citizenship behaviour (OCB): A Conceptual Framework in Reference to Health Care Sector. *Journal of Services Research*, 10 (2).
- Chen, Y., Liu, B., Zhang, L., & Qian, S. (2018). Can leader "humility" spark employee "proactivity"? The mediating role of psychological empowerment. *Leadership and Organization Development Journal*, 39(3), 326-339.
- Chiu, C.-Y., Owens, B. P., & Tesluk, P. E. (2016). Initiating and utilizing shared leadership in teams: The role of leader humility, team proactive personality, and team performance capability. *Journal of Applied Psychology*, 101(12), 1705-1720.
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, 26, 435-462.
- Daft, R. L. (2016). *Management*. Cengage Learning: Boston.
- Deluga, R. J. (1995). The relationship between attributional charismatic leadership and organizational citizenship behavior. *Journal of Applied Social Psychology*, 25, 1652-1669.
- Ding, H., Yu, E., Chu, X., Li, Y., & Amin, K. (2020). Humble leadership affects organizational citizenship behavior: The sequential mediating effect of strengths use and job crafting. *Frontiers in Psychology*, 11, 65-76.
- Dussault, M. (2006). Teachers' self-efficacy and organizational citizenship behaviors. *Psychological Reports*, 98, 427-432.
- Ehrhart, M. G., Hanges, P., Hattrup, K., Klein, K., Ployhart, R., Stevens, C., Tesluk, P., & Holcombe, K. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. *Personnel Psychology*, 57(1), 61-94.
- Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The Development and Validation of the Workplace Ostracism Scale. *Journal Of Applied Psychology*, 93, 1348-1366.
- Glomb, T. M., Bhave, D. P., Miner, A. G., & Wall, M. (2011). Doing Good, Feeling Good: Examining the Role of Organizational Citizenship Behaviors in Changing Mood. *Personnel Psychology*, 64(1), 191-223.
- Graham, J. W., & Dyne, L. V. (2006). Gathering information and exercising influence: Two forms of civic virtue organizational citizenship behavior. *Employee Responsibilities and Rights Journals*, 18(2), 89-109.
- Hefferon, K., & Boniwell, I. (2018). *Pozitif psikoloji: Kuram, araştırma ve uygulamalar* (Trans: T. Doğan). Ankara: Nobel Yayıncılık.
- Jiao, C., Richards, D. A., & Zhang, K. (2011). Leadership and organizational citizenship behavior: OCB-specific meanings as mediators. *Journal of Business Psychology*, 26, 11-25.
- Jiang, H., Liu, W., & Jia, L. (2019). How humble leadership influences the innovation of technology standards: A moderated mediation model. *Sustainability*, 11, 2-20.
- Jeung, C.W., & Yoon, H.J. (2018). When leadership elicits voice: Evidence for a mediated moderation model. *Journal of Management and Organization*, 24(1), 40-61.
- Kao, R. H. (2017). Task-oriented work characteristics, self-efficacy, and

- serviceoriented organizational citizenship behavior. *Personnel Review*, 46, 718-739.
- Katz, D., & Kahn, R. L. (1964). Motivational Basis Of Organizational Behavior. *Behavioral Science*, 9(2), 131-146.
- Katz, D., & Kahn, R. L. (1966). *The Social Psychology Of Organizations*. NY: Wiley.
- Khasawneh, S. (2011). Shared leadership and organizational citizenship behaviour in Jordanian public universities: developing a global workforce for the 21st century. *Educational Management Administration & Leadership*, 39, 621-634.
- Klotz, A. C., Bolino, M. C., Song, H., & Stornelli, J. (2017). Examining the Nature, Causes, and Consequences of Profiles of Organizational Citizenship Behavior. *Journal of Organizational Behavior*, 39(5), 629-647.
- Larwood, L. (1984). *Organizational Behavior and Management*. Kent Publishing, Boston.
- Li, J., Liang, Q. Z., & Zhang, Z. Z. (2016). The effect of humble leader behavior, leader expertise, and organizational identification on employee turnover intention. *The Journal of Applied Business Research*, 32(4), 1145-1156.
- Liu, C. (2016). Does humble leadership behavior promote employees' voice behavior? A dual mediating model. *Open Journal of Business and Management*, 4(4), 731-740.
- Ma, C., Wu, C.-H., & Chen, Zhen X., Jiang, X., & Wei, W. (2020). Why and when leader humility promotes constructive voice: A crossover of energy perspective. *Personnel Review*, 49(5), 1157-1175.
- MacKenzie, S. B., Podsakoff, P. M., & Rich, G. A. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29(2), 115-134.
- Maharaj, I., & Schlechter, A. F. (2007). Meaning in life and meaning of work: relationships with organizational citizenship behaviour, commitment and job satisfaction. *Management Dynamics*, 26, 24-41.
- Mao, J., Liao, J., & Han, Y. (2017). The Mechanism and Effect of Leader Humility: An Interpersonal Relationship Perspective. *Acta Psychologica Sinica*, 2017, 49, 1219-1233.
- Morris, J. A., Brotheridge, C. M., & Urbanski, J. C. (2005). Bringing humility to leadership: Antecedents and consequences of leader humility. *Human Relations*, 58, 1323-1350.
- Mian, N., Malik, M. I. & Hussain, S. (2023), Humble leadership and project success: underpinning service-oriented organizational citizenship behavior and task complexity, *Journal of Organizational Effectiveness: People and Performance*.
- Nielsen, R., Marrone, J. A., & Slay, H. S. (2010). A new look at humility: exploring the humility concept and its role in socialized charismatic leadership. *Journal of Leadership & Organizational Studies*, 17, 33-43.
- Oc, B., Basshur, M. R., Daniels, M. A., Greguras, G. J., & Diefendorff, J. M. (2015). Leader humility in Singapore. *The Leadership Quarterly*, 26(1), 68-80.
- Organ, D. W. (1988). *Organizational Citizenship Behavior: The Good Soldier Syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W. (1997). Organizational citizenship behavior: it's construct clean-up time. *Human Performance*. 10(2), 85-97.
- Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: its nature, antecedents, and consequences*, Thousand Oaks, SAGE Pub.
- Organ, D. W., & Ryan, K. A. (1995). Meta-Analytic Review of Attitudinal and Dispositional Predictors of Organizational Citizenship Behavior, *Personnel Psychology*, 48, 775-82.
- Ou, A. Y., Seo, J., Choi, D., & Hom, P. W. (2017). When can humble top executives retain middle managers? The moderating role of top management team fault lines. *Academy of Management Journal*. 60, 1915-1931.
- Owens, B. P., & Hekman, D. R. (2012). Modeling how to grow: an inductive examination of humble leader behaviors,

- contingencies, and outcomes. *Academy of Management Journal*, 55(4), 787-818.
- Owens, B. P., & Hekman, D. R. (2016). How does leader humility influence team performance? exploring the mechanisms of contagion and collective promotion focus. *Academy of Management Journal* 59, 1088-1111.
- Owens, B. P., Johnson, M. D., & Mitchell, T. R. (2013). Expressed humility in organizations: implications for performance, teams, and leadership. *Organization Science*, 24(5), 1517-1538.
- Özer, Ö., Özkan, O., Özmen, S., & Üzümcü, F. (2021). Mütevazı liderlik işten ayrılma niyetini etkiler mi? Hemşireler üzerinde bir araştırma. *Bingöl Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 5(2), 455-469.
- Penner, L. A., Midili, A. R., & Kegelmeyer, J. (1997). Beyond job attitudes: A personality and social psychology perspective on the causes of organizational citizenship behavior. *Human Performance*, 10(2), 111-131.
- Pitaloka, E., & Sofia, I. P. (2014). The affect of work environment, job satisfaction, organization commitment on OCB of internal auditors. *International Journal of Business, Economics and Law*, 5 (2), 10-18.
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly*, 1 (2), 107-142.
- Podsakoff, P. M., & MacKenzie, S. B. (1997). Impact Of Organizational Citizenship Behavior On Organizational Performance: A Review And Suggestions For Future Research. *Human Performance*, 10(2), 133-151.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational Citizenship Behaviors: A Critical Review of the Theoretical and Empirical Literature and Suggestions for Future Research. *Journal of Management*, 26(3), 513-563.
- Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. (2009). Individual and Organizational-Level Consequences of Organizational Citizenship Behaviors: A Meta-Analysis. *Journal of Applied Psychology*, 94(1), 122-141.
- Qian, X., Zhang, M., & Jiang, Q. (2020). Leader humility, and subordinates' organizational citizenship behavior and withdrawal behavior: Exploring the mediating mechanisms of subordinates' psychological capital. *International Journal of Environmental Research and Public Health*, 17(7), 2544.
- Ramadhani, N., Ancok, D., & Andrianson, L. (2017). The Importance of Positive Affect: The Role of Affective Personality in Predicting Organizational Citizenship Behavior. *Makara Hubs-Asia*, 21 (2), 62-69.
- Rego, O. B., Leal, S., Melo, A. I., Cunha, M. P., Gonçalves, L. & Ribeiro, P. (2017). How leader humility helps teams to be humbler, psychologically stronger, and more effective: a moderated mediation model. *The Leadership Quarterly*, 28(5), 639-658.
- Rego, O. B., Yam, K. C., Bluhm, D., Cunha, M. P. E., Silard, A., & Liu, W. (2019). Leader humility and team performance: Exploring the mediating mechanisms of team psychcap and task allocation effectiveness. *Journal of Management*, 45(3), 1009-1033.
- Rioux, S. M., & Penner, L. A. (2001). The causes of organizational citizenship behavior: A motivational analysis. *Journal of Applied Psychology*, 86 (6), 1306-1314.
- Robbins, S. P., Judge, T. A., & Millett, B. (2015). *OB: The Essentials*. Pearson.
- Senge, P. M. (1990). *The Fifth Discipline*, London: Century Business.
- Smith C. A., Organ D. W., & Near J. P. (1983). Organizational Citizenship Behavior: Its Nature and Antecedents. *Journal of Applied Psychology*. 68(4), 653-663.
- Sonnentag, S., & Grant, A. M. (2012). Doing Good at Work Feels Good at Home, but not Right Away: When and Why Perceived Pro-Social Impact Predicts Positive Affect. *Personnel Psychology*, 65(3), 495-530.

- Suryani, S., Sudrajat, B., & Hendryadi, H. (2023). Development of thriving at work and organizational citizenship behavior through Islamic work ethics and humble leadership. *Asian Journal of Business Ethics*, 12, 1-23.
- Tepper, B. J., Duffy, M. K., Hoobler, J. & Ensley, M. D. (2004). Moderators of the Relationships Between Coworkers' Organizational Citizenship Behavior and Fellow Employees' Attitudes. *Journal of Applied Psychology*, 89(3), 455-465.
- Turnipseed, D. I. (2018). Emotional intelligence and ocb: the moderating role of work locus of control. *The Journal of Social Psychology*, 158(3), 322-336.
- Walters, K. N., & Diab, D. L. (2016). Humble leadership: Implications for psychological safety and follower engagement. *Journal of Leadership Studies*, 10(2), 7-18.
- Wang, H., Law, K.S., Hackett, R. D., Wang, D., & Chen, Z. X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal*, 48(3), 420-432.
- Wang, L., Owens, B. P., Li, J. & Shi, L. (2018a). Exploring the affective impact, boundary conditions, and antecedents of leader humility. *Journal of Applied Psychology*, 103, 1019-1038.
- Wang, Y., Liu, J., and Zhu, Y. (2018b). How does humble leadership promote follower creativity? the roles of psychological capital and growth need strength. *Leadership Organizational Development Journal*. 39, 507-521.
- Yan, Z., & Chen, C. C. (2013). Developmental leadership and organizational citizenship behavior: mediating effects of self-determination, supervisor identification, and organizational identification. *Leadership Quarterly*. 24, 534-543.
- Yang, K., Zhou, L., Wang, Z., Lin, C., & Luo, Z. (2019). Humble leadership and innovative behaviour among Chinese nurses: The mediating role of work engagement, *Journal of Nursing Management*, 27, 1801-1808.
- Yuan, L., Zhang, L., & Tu, Y. (2018). When a leader is seen as too humble: A curvilinear mediation model linking leader humility to employee creative process engagement, *Leadership & Organization Development Journal*, 39(4), 468-481.
- Zhang, W., & Liu, W. (2019). Leader humility and taking charge: The role of OBSE and leader prototypicality. *Frontiers in Psychology*, 10, 2515-2525.
- Zhang, Z., & Song, P. (2020). Multi-level effects of humble leadership on employees' work well-being: the roles of psychological safety and error management climate. *Frontiers in Psychology*, 11.
- Zhou, F., & Wu, Y. J. (2018). How humble leadership fosters employee innovation behavior: A two-way perspective on the leader-employee interaction. *Leadership & Organization Development Journal*, 39(3), 375-387.
- Zhu, Y., Zhang, S., & Shen, Y. (2019). Humble leadership and employee resilience: Exploring the mediating mechanism of work-related promotion focus and perceived insider identity, *Frontiers in Psychology*, 10, 1-9.