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Adoption of Enterprise Resource Planning System in IFRS Conversion: Evidence from Türkiye[1]

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UFRS Dönüşümünde Kurumsal Kaynak Planlama Sisteminin Benimsenmesi: Türkiye'den Kanıtlar	**Adoption of Enterprise Resource Planning System in IFRS Conversion: Evidence from Türkiye**
Öz	**Abstract**
Çalışmanın amacı, Borsa İstanbul veya Türkiye'nin en büyük 500 sanayi kuruşunda yer alan şirketlerin UFRS dönüşümünde ERP sistemi uygulama kararlarını etkileyen temel faktörlerin belirlenmesidir. Temel faktörler teknolojik, örgütsel ve çevresel model çerçevesinde ele alınmıştır. Araştırmaya katılan 324 katılımcıdan elde edilen veriler SmartPLS programında analiz edilmiştir. Sonuçlar, koordinasyonun, göreceli avantajın, uyumluluğun ve üst yönetim desteğinin IFRS dönüşümünde ERP sistemlerinin benimsenmesi üzerinde olumlu ve anlamlı bir etkiye sahip olduğunu, karmaşıklığın ise olumsuz ve anlamlı bir etkiye sahip olduğunu göstermektedir.	The purpose of this study is to determine the primary factors that influence the decision to implement an ERP system in the IFRS conversion in Borsa Istanbul or largest 500 Turkish industrial firms. We propose a modified version of the technology, organization and environment model. The data obtained from 324 participants was analyzed using the SmartPLS program. The results demonstrate that coordination improvements, relative advantage, compatibility and top management support have a positive and significant impact on the adoption of ERP systems in IFRS conversion, while complexity has a negative and significant impact.
Anahtar Kelimeler: Teknoloji, Organizasyon ve Çevre Modeli, UFRS, Kurumsal Kaynak Planlaması	**Keywords:** Technology, Organization and Environment Model, IFRS Conversion, Enterprise Resource Planning
JEL Kodları: O30, M40, M41	**JEL Codes:** O30, M40, M41

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1. Introduction

Over 120 countries, including 14 G20 economies, require all or most publicly traded companies to comply with International Financial Reporting Standards (IFRS) (Pacter, 2017). The G20 and other major international organizations, as well as countries, institutions, investors, and professional accountants worldwide, support a single global set of high-quality accounting standards. According to research, accounting practice harmonization has a number of benefits, including facilitating the acquisition of foreign capital, lowering information costs and risk for investors, boosting market confidence, and lowering the cost of capital (Barth & Schipper, 2008). However, these benefits come at a cost: Preparation of principles-based IFRS is complex compared to rule-based generally accepted accounting principles (GAAP) standards as IFRS often require companies to separate and keep track of all processes (Morais, 2020). Therefore, preparation of IFRS by manual methods such as spreadsheets may not be cost efficient and may lead to errors in financial reporting (PwC, 2016). In this context, the need for storing and maintaining the data for IFRS will increase the demand for information technology (IT) systems. Numerous studies have demonstrated that the design of the accounting information system, which is an IT system, has a significant impact on the quality of financial reports (Hall, 2015; Miller-Nobles et al., 2016). Accounting information systems (AIS) gather, process, and express relevant financial events, including raw data or information, and convert them to financial information, a critical component of the decision-making process (Salehi et al., 2010). Given that enterprise resource planning (ERP) systems, which encompass an organization's AIS, are the most frequently mentioned systems in the Accounting Information Systems literature (Kocsis, 2019), integrating IFRS compliance into the implementation of ERP systems stands to significantly enhance operational management and investment efficiency for enterprises (Trinh, 2020).

Although ERP systems offer numerous advantages and dozens of resources have been invested in ERP systems (Panorama, 2013), the process of adapting ERP systems to IFRS is challenging. According to the researchers, even though ERP systems have high promises, the adaptation process can be complex and slow, and there may be negative consequences (Panorama, 2013; Ram et al., 2013). Despite being aware of the benefits, many businesses are still hesitant to adopt due to the high costs and risks associated with adopting ERP systems to IFRS. However, number of jurisdictions that use IFRS are increasing and as a result more companies will have to implement IFRS in the near future. The need for information technologies is evident in order to be prepared financial reports in accordance with the conceptual framework of IFRS, which is complex in both its preparation and auditing when compared to national accounting standards. Therefore, it is of great importance to carefully investigate the factors influencing the adoption of ERP systems in IFRS conversion to assist legislators, companies, and consultants in decision-making. In this context, this study aims to examine the factors affecting the adoption of ERP systems in IFRS conversion of companies listed in Borsa Istanbul (BIST) or in largest 500 Turkish industrial firms (ISO 500) within the framework of the Technology, Organization and Environment (TOE) model. While the TOE model varies between studies, it has a high potential for application to information system innovations. However, the studies conducted to date emphasize that the scientific studies that attempt to explain and predict ERP adoption within the context of TOE are insufficient and that additional research is required (Awa et al., 2017). Moreover, the researchers state that there are very few academic studies on IFRS and ERP systems in the literature (Nguyen et al., 2021;

Grabski et al., 2011). In this study, the TOE model was revised and re-proposed in order to fill in the knowledge gap on the subject of ERP system adoption in the IFRS conversion. Additionally, to our knowledge, this is the first study on the adoption of ERP systems in IFRS conversion. Therefore, based on the aforementioned literature gap, this study seeks to answer to research questions; 1) What factors critically influence the successful adoption of ERP systems in IFRS conversion? 2) What is the significant impact of these factors the adoption of ERP systems in IFRS conversion?

The remainder of the study is structured as follows**.** Section 2 delves into the background of GAAP to IFRS conversion, adoption models, and the TOE Framework. Sections 3 outline our research model and hypotheses. Section 4 and 5, the research method is explained in detail, and the results of our data analysis are reported. Section 6 offers a comprehensive discussion of our findings. Finally, conclusion is given in section 7.

2. Literature Review and Theoretical Framework

2.1. The conversion from Turkish GAAP to IFRS

With the effect of the European Union (EU) harmonization process, IFRS has been made mandatory by different institutions and organizations by introducing new regulations. Due to the effect of Türkiye's harmonization process with the European Union and being a member of international economic organizations such as the WB and the IMF, IFRS harmonization efforts have accelerated. Accordingly, the Turkish Accounting and Auditing Standards Board was established in 1994. Turkish Accounting and Auditing Standards Board has published 19 national accounting standards based on International Accounting Standards. However, due to a lack of legal enforcement authority over the implementation of Turkish Accounting and Auditing Standards Board standards, the anticipated success in adopting and implementing these standards was not realized, and these studies remained advisory (Erol & Aslan, 2017). In 1999, the Turkish Accounting Standards Board (TASB) was established to replace Turkish Accounting and Auditing Standards Board, and in 2002, it took over the responsibilities of Turkish Accounting and Auditing Standards Board and started its activities as the sole authorized institution to set accounting standards. As of 03/10/2005, when Türkiye's application for full EU membership began, it become necessary to harmonize all legislation with the EU acquis. For this purpose, in the draft of the new Turkish Commercial Law, the authorities of the TASB and the Turkish Accounting Standards published by it are included. As of 2005, companies listed on stock exchanges that are governed by the Capital Markets Board (CMB) have been required to adhere to Turkish Accounting Standards. In 2011, TASB transferred its responsibilities to the Public Oversight, Accounting and Auditing Standards Authority (POA) (Selimoglu et al., 2017). POA sets the accounting standards in Türkiye. Turkish Accounting Standards/Turkish Financial Reporting Standards are fully compatible with IAS/IFRS. New and changing standards are continuously updated by being published in the Official Gazette.

Nowadays, all publicly traded companies are required to prepare financial statements in accordance with IFRS and generally accepted accounting principles in Türkiye (Turkish GAAP). All companies classified as public interest companies (PIEs) are required to prepare financial statements in accordance with IFRS. PIEs consist of companies that are listed on the stock exchange and have public accountability. For companies that are subject to independent auditing but are not PIEs, the requirement to apply IFRS is optional. The POA establishes and the Presidency approves the general criteria for companies subject to independent audit (Akdogan, 2019). Since 2005, the number of businesses subject to independent auditing has

been steadily growing. Today, companies that prepare financial statements in accordance with IFRS also prepare financial statements in accordance with Turkish GAAP.

2.2. Adoption models and the TOE Framework

One of the areas that has been extensively researched is the adoption of information systems and information technologies. The purpose of technology adoption research is to investigate, predict, and explain the variables that influence adoption behavior, which is to accept and use technological innovations at individual and organizational levels. Research on technology adoption has resulted in the development of conceptual models and frameworks for examining the relationship between variables and adoption behavior. Numerous theories and models have been applied to the adoption of information systems and information technologies. Some of the models that continue to be applied and considered important are the Technology Acceptance Model (TAM) (Davis, 1989), Theory of Planned Behavior (TPB) (Ajzen, 1991), Technology Acceptance Model 2 (TAM2) (Venkatesh & Davis, 2000), The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003), The Unified Acceptance and Use Theory (UTAUT2) (Lallmahomed et al., 2017; Venkatesh et al., 2012), Innovation Diffusion Theory (Rogers, 1995), and the Technology, Organization and Environment model (Tornatzky et al., 1990). Many information systems and information technologies researchers use these models in their research on the adoption of enterprise resource planning.

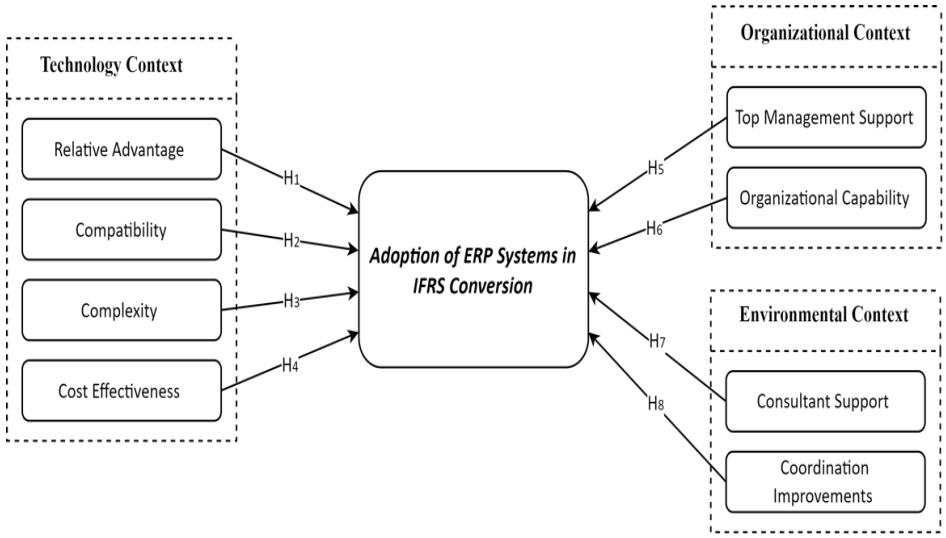
Tornatzky et al. (1990) proposed the technology, organization, and environment model, which identifies the factors that influence technology or system adoption behavior. Technological factors are related to internal and external technological tools and processes (Oliveira & Martins, 2011). Organizational factors relate to resources and assets such as the company's size and hierarchy, procedures, administrative structure, human resources, extra resources, and linkage between jobs (Chong et al., 2009). Environmental factors are related to the regulatory environment, industry characteristics, market competition, and linkages between firms (Tornatzky et al., 1990). The TOE framework has been described as an integrative framework that provides a holistic and guiding theoretical foundation by assessing the various technological, organizational, and environmental conditions that facilitate or hinder the adoption of information technologies and information systems. Additionally, this framework is not constrained by organizational size or industry (Gangwar et al., 2015). Therefore, the TOE has been claimed to be a comprehensive theory of technology adoption, implementation, and post-adoption diffusion among organizations (Oliveira et al., 2014; Makena, 2013).

3. Research Model and Hypotheses

3.1. Research model

The technology, organizational, and environmental model serve as the structural foundation for the research model used in this study. The model takes into account factors such as relative advantage, compatibility, complexity, cost effectiveness, top management support, organizational capability, consultant support, and coordination improvements. By examining factors in technological, organizational, and environmental dimensions, the study provides a holistic perspective on ERP adoption in the IFRS conversion process. The study's research model is depicted in Figure 1.

Figure 1: Research model



3.2. Research Hypotheses

In innovation research relative advantage refers to the perceived superiority of a new idea over the one it replaces (Rogers, 1995). It has been discovered that an innovation's relative advantage is positively correlated with its diffusion (Tornatzky & Klein, 1982). Because of the rapid technological development of ERPs, businesses that want to expand and develop their systems must make ongoing investments (upgrades, new modules, etc). (Kouki et al., 2010). When the relative benefits of ERP system innovations are perceived to be high, the use and adoption of these technologies increase rapidly (Xu et al., 2017). As a result, companies that believe that an ERP system innovation will provide additional benefits are eager to increase the level of integration of ERP systems into their business processes. In this context, the following hypothesis has been proposed with the assumption that the relative advantage will increase the adoption of the ERP system in the IFRS conversion;

H1: Relative advantage has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

Compatibility is a term that refers to the degree to which new technology is compatible with an organization's existing information technology infrastructure (Rogers, 1995). The incompatibility of the business's existing processes and legacy systems is a significant reason for not adopting ERP (Cordery et al., 2011). Businesses will be more willing to adopt new technologies that are compatible with their current business structures and information technology systems. Studies have concluded that compliance has a positive effect on technology adoption (Henderson et al., 2012; Premkumar & Potter, 1995).

Compatibility is defined in this study as the degree of compatibility between the new ERP systems or developed software that companies intend to use in the IFRS conversion and the company's existing infrastructure and processes. In order to make financial reports according to IFRS through ERP systems, companies may need to change existing processes and develop company-specific software. Consequently, we assume that the compatibility of mentioned

developments and the company's existing infrastructure and processes will have a significant impact on the ERP system's adoption in IFRS conversion, and propose the following hypothesis;

H2: Compatibility has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

Complexity is defined as the degree to which an innovation is regarded as being difficult to comprehend and apply (Rogers, 1995). Potential users adopt innovations that are perceived as less complex faster than other innovations (Rogers, 1995). The adoption of information technologies has been found to be negatively correlated with complexity (Grover, 1993). Due to the perception that ERP systems are extremely complex to implement (Clegg et al., 1997; Xue et al., 2005), potential users may require increased mental effort, workload, and stress (Sokol, 1994). According to research, technological complexity exacerbates uncertainty and adoption risks (Premkumar & Roberts, 1999). Assuming the preparation of financial statements in accordance with IFRS through ERP may be perceived as complex by businesses, thereby affecting their adoption, we propose the following hypothesis;

H3: Complexity has a significant and negative effect on the adoption of the ERP system in the IFRS conversion.

The cost effectiveness of a technology or procedure determines whether or not an organization can afford to invest in its implementation and operation (Yoon et al., 2020). Organizations want the benefits of adopting a new innovation to be proportional to the costs associated with adopting the innovation (Premkumar & Roberts, 1999). Businesses must bear the costs of integration, module usage, maintenance and support, and personnel training in order to prepare financial reports in accordance with IFRS using an ERP system. Businesses must make decisions taking into account these costs. In this context, considering that cost is an important factor in the adoption of ERP systems in the IFRS conversion, the following hypothesis has been proposed;

H4: Cost effectiveness has a significant and negative effect on the adoption of the ERP system in the IFRS conversion.

Top management can encourage innovation by fostering an organizational culture that embraces change and encourages new ideas that advance the company's mission and vision (Tushman & Nadler, 1986). One of the most important pioneers of technology innovation at the firm level is top management support. Top management support is required for a successful ERP implementation, as it will help the ERP system meet corporate goals and integrate with business strategies and processes over time, as well as provide the necessary resources (Kettinger et al., 1994). Senior management support is positively related to technology adoption, according to studies (Albar & Hoque, 2019; Xu et al., 2017; Li et al., 2018). The following hypothesis has been proposed, assuming that top management support will have a positive and significant impact on the adoption of ERP systems in the conversion of IFRS;

H5: Top management support has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

The financial, technical, and experience competencies of companies wishing to prepare IFRS reports using an ERP system are discussed in this study. It can be considered an obstacle if a company lacks strong internal technical support (Ilin et al., 2017). Businesses with high technological competence understand that they have the resources to implement new technology and that their information technology manager and team have sufficient knowledge

and experience. Simultaneously, these businesses will be able to provide adequate training in order to provide the cognitive abilities required for the adoption process. Information technologies are more likely to be adopted by businesses with a higher level of technological expertise (Oliveira et al., 2014). In this context, the following hypothesis has been proposed, based on the fact that organizational capability influences the adoption of the ERP system in the IFRS conversion;

H6: Organizational capability has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

The environmental context includes the structure of the industry in which businesses operate, the presence or competence of technology service providers, and the regulatory environment (Baker, 2012). Additionally, environmental factors may include organizations external to the firm that possess specialized expertise in assisting with information technology adoption (Zhu et al., 2010). Coordination improvements and consultant support have been added to the model, which we believe will have a positive effect on the adoption of ERP systems during the IFRS conversion.

To overcome obstacles encountered during the adoption process, businesses outsource support that requires a certain level of competence or skill, such as consulting firms. Consultants serve as both a source of information and a facilitator during adoption. They contribute to the structure and value of an ERP package by providing product information and process guidance (Volkoff & Sawyer, 2001). The consultancy support provided by experts who are intimately familiar with the ERP system and have hands-on experience with how the system works is critical in ensuring the necessary knowledge transfer to the company. The higher the quality of consultant support, the more successful knowledge transfer will be in businesses considering ERP system adoption (Wang et al., 2007). According to studies, consultant support has a beneficial effect on technology adoption (Chang et al., 2015; Wang & Chen, 2006). Given that the consultant's support has a positive effect on the ERP system's adoption during the IFRS conversion, the following hypothesis has been proposed;

H7: Consultant support has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

Using an ERP system, businesses can improve unit coordination and synchronization (Chou & Chang, 2008). It has been observed that as the use of ERP systems increases, so does their efficiency among units. In the absence of integrated systems, businesses must rely on information sharing methods that take more time (fax, phone, e-mail) than ERP systems in order for sub-units to share information with one another. On the contrary, because ERP systems provide instant access to information, the more interdependent facilities there are, the more efficient ERP will be (Gattiker & Goodhue, 2005). The implementation of all company processes through the ERP system will also increase the reliability of data received from other units and provide important information integration with group companies. In this context, the following hypothesis has been proposed, based on the fact that coordination improvements influence the adoption of the ERP system in the IFRS conversion;

H8: Coordination improvements has a significant and positive effect on the adoption of the ERP system in the IFRS conversion.

4. Research methodology

4.1. Measurement development

In this study, the questionnaire technique, which is one of the quantitative research methods, was used to collect data. The scales that make up the questionnaire were obtained as a result of extensive literature research. The items for relative advantage and compatibility were adapted from Henderson et al., 2012. Complexity items were adapted from Albar & Hoque, 2019; Premkumar & Roberts, 1999. Cost effectiveness items were adapted from Premkumar & Roberts, 1999. Items for top management support were adapted from Gutierrez et al., 2015. Organizational capability items were adapted from Badi et al., 2021; Gutierrez et al., 2015; Ilin et al, 2017; Oliveira et al., 2014. Consultant support items were adapted from Kwak et al., 2011; Ferratt et al., 2006; Wang & Chen, 2006. Coordination improvements items were adapted from Chou & Chang, 2008; Gattiker & Goodhue, 2005; and items for adoption of ERP systems in IFRS conversion items were adapted from Yoon et al., 2020; Junior et. al., 2019; Badi et al., 2021; Albar & Hoque, 2019; Chan & Chong, 2013. The five-point Likert scale used in this study is "strongly disagree, disagree, undecided, agree, and strongly agree" in ascending order.

4.2. Data collection

The study's universe includes users who prepare IFRS reports for companies listed on BIST or included in ISO 500 in 2020. Due to the impossibility of reaching every member of the determined population, as well as concerns about cost, time, and ethics, this study employed the convenience sampling method.

Questionnaires were distributed to 67 people who met the requirements for participation in the pilot application. Data was collected between April and May of 2021. However, a total of 64 questionnaires were evaluated for the pilot implementation phase due to incomplete or incorrectly filled questionnaires. As a result of the pilot application phase, it was determined that the scales were valid and the research findings were reliable, and thus the research was continued. The survey was conducted through online forms and emails. Between April and September 2021, we have sent out 657 surveys and 331 questionnaires were collected. However, due to incomplete or incorrectly filled questionnaires, the study was concluded by analyzing data from 324 questionnaires. Resulting in a response rate of 0.493. The universe which is the number of employees that deal with IFRS reporting in BIST and ISO 500 companies is unknown therefore a sample size of approximately 10 times the scale with the highest number of items for robust statistical analysis is recommended in conventional guidelines (Osborne et al., 2019). With 324 surveys collected, our sample size comfortably exceeds this threshold, providing a solid foundation for our analysis.

5. Data analysis and results

The Partial Least Squares (PLS) SEM was chosen for this study because it is well-suited for theory exploration and prediction (Hair, Randolph and Chong, 2016; Richter, Sinkovics et al., 2016). Measurement properties and test hypotheses are tested using SmartPLS (v3.3.7). (Henseler et al., 2014; Ringle et al., 2015).

The following steps were used to analyze the data. The construct measures were first tested for measurement invariance before the models were evaluated. The outer (measurement) model was evaluated for reliability and validity, as well as internal consistency reliability, convergent validity, and discriminant validity. The significance of the path coefficients (β), effect size (f2), predictive relevance (Q2), and coefficient of determination (R2) were determined for the inner (structural) model.

5.1. Demographics statistics

According to demographic analysis, 69.44% of participants were male and 30.56% were female. The 26–35 age group accounts for 63.27% of participants, followed by the 36–45 age group at 31.48%. The majority of participants (59.57%) have a bachelor's degree and the majority (35.80%) have between one and three years of work experience. 36.73% of participants hold the title of specialist, while 29.94% hold the title of manager. Table 1 contains detailed descriptive statistics about these respondents.

Table 1: Demographic analysis

Variable	Count (%)	Variable	Count (%)
Gender		Work experience	
Male	225 (69.44%)	0-1 years	72 (22.22%)
Female	99 (30.56%)	1-3 years	116 (35.80%)
Age		4-10 years	104 (32.10%)
Under 25 years	3 (0.93%)	Over 10 years	32 (9.88%)
26-35 years	205 (63.27%)	Job Title	
36-45 years	102 (31.48%)	Director	17 (5.25%)
Over 46 years	14 (4.33%)	Manager	97 (29.94%)
Education		Assistant manager	22 (6.79%)
Postgraduate (PhD)	7 (2.16%)	Executive	66 (20.37%)
Postgraduate (above degree)	124 (38.27%)	Specialist	119 (36.73%)
Undergraduate degree	193 (59.57%)	Assistant specialist	3 (0.93%)

5.2. Measurement model

Internal consistency reliability, convergent validity, and discriminant validity were examined to determine the scales' reliability and validity. Internal consistency refers to the degree to which all items used to measure a variable are consistent in their interpretation. As a result, it all depends on how the items interact with one another (Tavakol & Dennick, 2011). Cronbach's alpha is a measure of internal consistency reliability. However, the Composite Reliability (CR) value (Hair et al., 2014) and the rho A value (Henseler et al., 2016) are also stated in the studies because Cronbach's Alpha underestimate's reliability. Cronbach Alpha, which is an indicative of the reliability, values of equal to or greater than 0.70 are generally accepted as reliable (Hair et al., 2006). A value greater than 0.70 of the Composite Confidence (CR) should be achieved by each item in order to provide CR (Fornell & Larcker, 1981). Values for Composite Confidence must be between 0 and 1. While it is acceptable for newly developed items to have a value between 0.60 and 0.70, previously tested theoretical scales are expected to have a value greater than 0.70. Henseler et al. (2016) also suggest that rho A values should be greater than

0.70. Cronbach's Alpha values for the constructs included in the study model range from 0.793 (CX) to 0.983 (CS), as shown in Table 2. The model has a high degree of internal consistency reliability, with CR values ranging from 0.904 (CX) to 0.987 (CS) and rho A values greater than 0.70.

Convergent validity indicates that the items in each factor have a similar structure to the items in the other factors. For the purpose of determining convergent validity, the factor load and the average variance extracted values is used. Each variable must have a factor load greater than 0.70 (Hair et al., 2009) and an AVE value greater than or equal to 0.5 (Chin, 1998). Convergent validity is indicated by AVE values, which are between 0.802 (CE) and 0.952 (CS) as shown in Table 2. When the factor loads in Table 2 are taken into account, the results for each variable are 0.70 or higher. It is evident that the model's analysis results demonstrate convergent validity.

Table 2: Validity and reliability

Variable	Cronbach's α	rho_A	CR	AVE	Factor Loading
Relative Advantage (RA)	0.969	0.969	0.976	0.890	0.93-0.95
Compatibility (CP)	0.909	0.910	0.957	0.917	0.95-0.95
Complexity (CX)	0.793	0.865	0.904	0.824	0.87-0.93
Cost Effectiveness (CE)	0.878	0.893	0.924	0.802	0.89-0.90
Top Management Support (TMS)	0.961	0.962	0.972	0.897	0.92-0.95
Organizational Capability (OC)	0.884	0.886	0.928	0.812	0.88-0.91
Consultant Support (CS)	0.983	0.983	0.987	0.952	0.97-0.98
Coordination Improvements (CI)	0.971	0.972	0.981	0.944	0.97-0.98
Adoption (AD)	0.970	0.971	0.977	0.894	0.93-0.94

Convergent validity assesses whether variables are distinct from one another (Hair et al., 2009). To test the discriminant validity, cross-loading, Fornell-Larcker criterion and HTMT criterion are examined (Henseler et al., 2015). As illustrated in Appendix A, the cross-loading analysis results demonstrate discriminant validity, as the factor loads of the items collected under each factor are greater than the factor loads of the other factors.

According to Fornell-Larcker, the square root of the AVE value of each construct (factor) should be greater than the factor's correlation with other factors (Fornerr & Lacker, 1981; Limayem & Chesung, 2008). The results of the Fornell-Larcker criterion analysis provide discriminant validity, as shown in Table 3, since the square root of each factor's AVE value is greater than its correlation with other factors.

Table 3: Fornell-Larcker Criterion: Correlations of constructs and square root of AVE (bold)

Variables	RA	CP	CX	CE	TMS	OC	CS	CI	AD
RA	0.943								
CP	0.573	0.958							
CX	-0.131	-0.116	0.908						
CE	-0.265	-0.252	0.454	0.896					
TMS	0.622	0.686	-0.142	-0.279	0.947				
OC	0.655	0.708	-0.114	-0.337	0.827	0.901			
CS	0.593	0.493	-0.036	-0.232	0.547	0.643	0.976		
CI	0.684	0.55	-0.079	-0.295	0.598	0.686	0.775	0.972	
AD	0.631	0.646	-0.201	-0.287	0.764	0.685	0.518	0.602	0.946

HTMT is the ratio of the geometric mean of the correlations between the items of all variables in the model to the geometric mean of the correlations between the items of a single variable. When the research model contains conceptually similar variables, the HTMT value

should be greater than 0.90 (Henseler et al., 2015). According to the HTMT criterion analysis results in Table 4, none of the variables have a value of 0.90 or greater. These findings indicate that the variables in the research model demonstrates discriminant validity.

Table 4: HTMT criterion for discriminant validity

Variables	RA	CP	CX	CE	TMS	OC	CS	CI	AD
RA	----								
CP	0.610	----							
CX	0.138	0.122	----						
CE	0.283	0.281	0.544	----					
TMS	0.644	0.734	0.153	0.302	----				
OC	0.706	0.788	0.135	0.383	0.896	----			
CS	0.607	0.521	0.044	0.251	0.562	0.690	----		
CI	0.705	0.585	0.090	0.319	0.618	0.740	0.794	----	
AD	0.650	0.687	0.223	0.307	0.790	0.737	0.529	0.619	----

5.3. Structural model

The structural model must be evaluated after ensuring the measurement model's validity and reliability. There was no evidence of multi-collinearity among the study's constructs, as shown by the variance inflation factor (VIF) values in Table 5, which were all less than 5 (Hair et al., 2011; Richter et al., 2016). The structural estimates of path coefficient (β), coefficient of determination (R2), effect size (f^2) was obtained using the bootstrapping method with 5000 iterations of resampling. In order to assess this model's predictive relevance (Q2), cross-validated redundancy was performed by running the blindfolding procedure.

Table 5: Collinearity assessment

Variables	VIF (*)
Relative Advantage (RA)	2.269
Compatibility (CP)	2.207
Complexity (CX)	1.287
Cost Effectiveness (CE)	1.426
Top Management Support (TMS)	3.480
Organizational Capability (OC)	4.449
Consultant Support (CS)	2.686
Coordination Improvements (CI)	3.334

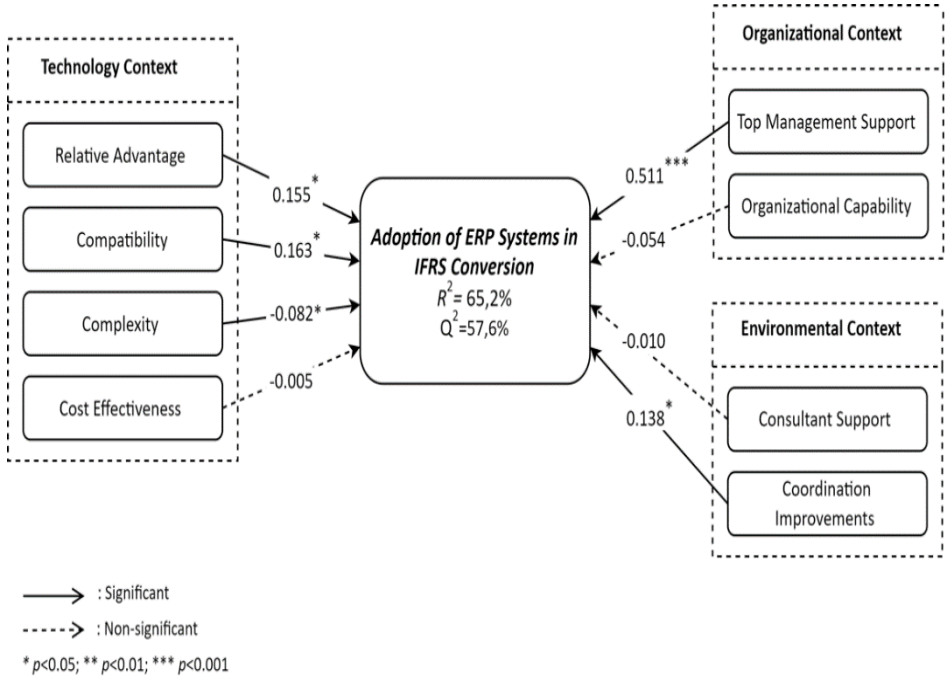
Notes: (*) Collinearity of indicators: Each indicator's tolerance (VIF) value should be higher than 0.20 (lower than 5)

Figure 2 shows the estimation of structural models and the evaluation of defined hypotheses. The findings show that relative advantage (H1: β = 0.155, t=2.116, p <0.05), compatibility (H2: β = 0.163, t=0.163, p<0.05), top management support (H5: β =0.511, t=0.511, p<0.001) and coordination improvements (H8: β =0.138, t=0.138, p<0.05) have a positive and significant effect on the adoption of ERP systems in the IFRS conversion, while complexity (H3: β =-0.082, t=2.024, p<0.05) has a negative and significant effect. The findings also show that cost effectiveness (H4: β =-0.005, t=0.130, p>0.05), organizational capability (H6: β =-0.054, t=0.588, p>0.05) and consultant support (H7: β =-0.010, t=0.174, p>0.05) do not have a significant impact on the adoption of ERP systems in the IFRS conversion.

In the structural model, one of the analyses that takes place is the calculation of the coefficient of determination. The R2 value, which indicates the model's predictive accuracy, is expected to be high in a successful model. The value of R2 is between 0 and 1, and a value close to 1 indicates a high degree of predictive power. R2 values of 0.25 are considered weak, 0.50 are considered moderate, and 0.75 are considered strong (Hair et al., 2011). As demonstrated

in Figure 2, the calculated R2 value for the adoption of the ERP system in the IFRS conversion process is 0.652. As a result, 65.2% of the dependent variable is explained by the independent variables. Along with evaluating the R2 values of all dependent variables, the change in R2 value when a specific independent variable is removed from the model can be used to determine whether the excluded independent variable has a significant effect on the dependent variables. Three guide values are specified when evaluating effect size. f^2 values of 0.02, 0.15, and 0.35 indicate that the independent variable has a small, medium, or large effect, respectively (Cohen, 1988). According to the f^2 effect size analysis results, CE (f^2 =0.002), OC (f^2 =0.002) and CS (f^2 =0.001) have no effect on the adoption of the ERP system in IFRS conversion. The effect of TMS (f^2 = 0.216) on the adoption of the ERP system in the IFRS conversion is moderate. Finally, the effects of RA (f^2 =0.03), CP (f^2 =0.035), CX (f^2 =0.021) and CI (f^2 =0.02) factors can be considered small. The path model is considered predictively relevant for a specific dependent construct if the Q2 value for the particular reflective endogenous latent variable is greater than zero. (Hair vd., 2016). According to the results of the Q2 analysis in figure 2, the model is predictively relevant since the Q2 value is greater than zero.

Figure 2: Structural Model



6. Discussions and implications

Although the factors discussed in this study are based on Tornatzky et. al (1990) TOE model, various modifications have been proposed, and a total of eight hypotheses have been defined. The hypotheses' test results are presented in Table 6. Only five of the eight proposed hypotheses were supported.

Table 6: Hypotheses testing

Hypotheses	Path	β	t-value	Decision
H1	RA -> AD	0.155	2.116*	Accept
H2	CP -> AD	0.163	2.511*	Accept
H3	CX -> AD	-0.082	2.024*	Accept
H4	CE -> AD	-0.005	0.130	Reject
H5	TMS -> AD	0.511	5.837***	Accept
H6	OC -> AD	-0.054	0.588	Reject
H7	CS -> AD	-0.01	0.174	Reject
H8	CI-> AD	0.138	1.975*	Accept

* $p < 0.05$. ** $p < 0.01$. ***$p < 0.001$.

The findings in Table 5 indicate that top management support (H5), compatibility (H2), relative advantage (H1) and Coordination Improvements (H8) are all critical factors in deciding whether to adopt ERP systems in IFRS conversion. H8 is a significant factor with least positive effect. H1 is also found to be a critical factor in many research on the adoption of information technology (Premkumar & Roberts, 1999; Xu et. al, 2017). In this study, after top management support and compatibility, the relative advantage (H1) factor is the most influential factor in the adoption of ERP systems in the IFRS conversion. In this context, businesses that believe preparing IFRS in an ERP system will improve reporting efficiency (time, manpower, and resource utilization), accessibility, reliability, and accuracy of reporting information when compared to traditional methods will be more inclined to adopt ERP system in the IFRS conversion. After top management support, compatibility (H2) factor is the most influential factor in the adoption of ERP systems in the IFRS conversion. Compatibility has also been shown to have a positive and significant effect in previous studies of information technologies (Henderson et al., 2012; Azmi et al., 2016). Additionally, the findings indicate that top management support (H5) is the most effective factor in the adoption of ERP system in IFRS conversion.

Result demonstrate that the complexity factor (H3) has a negative and significant effect on the adoption of ERP systems in the IFRS conversion. This study discovered that complexity has a negative and significant effect, which is consistent with previous research on information technologies (Henderson et al., 2012; Gutierrez et al., 2015). Unexpectedly, findings show that the cost effectiveness factor (H4) and consultant support (H7) have no significant effect on adoption of ERP system in IFRS conversion. Despite the fact that studies have shown that consultant support is a critical factor in the application of information technologies (Maditinos et al., 2012; Wang & Chen, 2006), this study indicates that it has no impact on the adoption phase. Finally, result demonstrates that the organizational adequacy (H6), factor has no significant effect on adoption of ERP system in IFRS conversion.

6.1. Implications for theory

Numerous studies have been conducted in a number of cultures and disciplines to evaluate technology adoption models (Azmi et al., 2016; Awa et al., 2017; Li et al., 2018; Lai & Li, 2005; Al Mansoori et al., 2018; Al-Saedi et al., 2020; Junior et al., 2019; Henderson et al., 2012). Even though different studies use different versions of the TOE model, it has a great deal of potential in the area of information system innovations. However, the studies conducted to date emphasize that the scientific studies that attempt to explain and predict ERP adoption within the context of TOE are insufficient and that additional research is required (Awa et al., 2017). Additionally, researchers state that there are very few academic studies on IFRS and ERP systems in the literature (Nguyen et al., 2021; Grabski et al., 2011). The TOE model was revised and re-proposed in order to fill in the knowledge gap on the subject of ERP system adoption in the IFRS conversion. The explanatory power of ERP system adoption in the IFRS conversion (R^2 = 65.2%) of the proposed model was found to be relatively high. Additionally, to our knowledge, this is the first study on the adoption of ERP systems in IFRS conversion. By proposing a modified TOE model and identifying influential factors such as coordination improvements and consultant support, our research contributes valuable insights to theory. Additionally, our study highlights the need for further exploration of different factors.

6.2. Implications for practice

Adoption of the enterprise resource planning system in the IFRS conversion process may vary from company to company, depending on the sectors in which companies operate, their current system capabilities, organizational competence, support from top management, and consultant support. Top management, which is the most influential factor in the IFRS conversion process, must support ERP system projects to ensure the reliability, transparency, and quality of financial statements and management reports. Top management should not underestimate the IFRS conversion processes in terms of information technology; they should acknowledge the impact of information technology early in the project and allocate all necessary resources. It may be challenging for employees accustomed to conventional methods to prepare and monitor financial reports generated by ERP systems in accordance with IFRS. To improve the knowledge and skills of company employees, senior management should provide training in the preparation of accounting standards via the ERP system. Additionally, the study's findings indicate that consultant support has no effect on ERP system adoption in IFRS conversion. However, consulting firms that wish to play a significant role in the adoption phase can influence adoption by educating top management and training key personnel.

The costs of adoption can be seen as low because the companies that are the focus of the study are some of Türkiye's largest and are already invested in financial resources. All companies must eventually use ERP systems to prepare financial reports, therefore implementation costs are inevitable. For these reasons, the cost factor may not have been a critical factor in the adoption of ERP systems in the IFRS conversion. This study also indicates that the coordination improvements factor was an important determinant in the adoption of ERP systems in the IFRS conversion. It is reasonable to assume that the coordination improvements factor has an effect on adoption because it is critical for the creation of a single, standard consolidated report by enabling the efficient flow of information between businesses and group companies.

In the current situation, IFRS reports prepared by companies in Türkiye, may conflict with the conceptual framework as some companies manually prepare IFRS reports by converting Turkish GAAP reports. Authorized institutions and organizations should establish a system integrated with ERP systems to ensure the comparability, verifiability, high quality, and transparency of financial reports.

7. Conclusion

A comprehensive study was carried out on the adoption of the ERP system in the IFRS conversion. In order to gain a better understanding of the factors affecting the adoption of the ERP system in the IFRS conversion, this study proposed a modified TOE model. Analysis reveals that several factors significantly influence the adoption of ERP systems in IFRS conversion. Coordination improvements, compatibility, relative advantage, and top management support all exert a positive and statistically significant impact on adoption. Conversely, complexity presents a negative and statistically significant impact. Interestingly, factors like cost effectiveness, organizational capability, and consultant support do not exhibit a statistically significant influence on adoption.

In the near future, it is expected that more companies will be obliged to report according to IFRS by authorized institutions and organizations. Companies must complete the implementation of all standard processes into their ERP systems in order to produce comparable, verifiable, high-quality, and transparent financial reports. In order to accelerate these processes even more, necessary training and support should be provided to companies and consultant companies by authorized institutions and organizations. In this context, the results of this study are important for the top management and key employees of companies that prepare or will prepare their financial reports in accordance with IFRS, audit firms, and all related institutions and organizations.

This study, like all studies, has some limitations that should be considered. To begin, the study includes system users who are involved in the adoption of the ERP system in the IFRS conversion process in BIST and ISO 500 companies. In order to protect the privacy and security of companies, some of the participants in the study chose not to answer some of the questions. Users who refused to participate in the survey or who only completed part of it were omitted from the analysis. In this context, the study's findings cannot be generalized to all companies in Türkiye or to companies operating in other countries, as they will only be applicable to BIST and ISO 500 companies. Finally, we analyzed the hypothesized model and its relationships using quantitative data. Qualitative data sources may be considered in future research to explain why such relationships exist or do not exist and to validate the study results.

Future studies can be conducted for all companies in Türkiye and other countries that prepare financial reports in accordance with IFRS, and the results can be compared. The findings of this study can be used as a basis for future research. Additional testing is required on the adoption of ERP systems in IFRS conversion by modifying the TOE model or by utilizing different models.

References

Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.

Akdoğan, N. (2019). Finansal Raporlama Standartlarıyla Uyumlu Olması Amacıyla Tekdüzen Hesap Planının Güncellenmesine Yönelik KGK Tarafından Yayımlanan Taslak Metnin Değerlendirilmesi. *Muhasebe ve Vergi Uygulamaları Dergisi, 12*(3), 745-785.

AlBar, A. M., & Hoque, M. R. (2019). Factors affecting cloud ERP adoption in Saudi Arabia: An empirical study. *Information Development, 35*(1), 150-164.

Ashbaugh, H., & Pincus, M. (2001). Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of accounting research, 39(*3), 417-434.

Awa, H. O., Uko, J. P., & Ukoha, O. (2017). An empirical study of some critical adoption factors of ERP software. *International Journal of Human–Computer Interaction, 33*(8), 609-622.

Azmi, A., Sapiei, N. S., Mustapha, M. Z., & Abdullah, M. (2016). SMEs' tax compliance costs and IT adoption: the case of a value-added tax. *International Journal of Accounting Information Systems, 23*, 1-13.

Badi, S., Ochieng, E., Nasaj, M., & Papadaki, M. (2021). Technological, organisational and environmental determinants of smart contracts adoption: UK construction sector viewpoint. *Construction Management and Economics, 39*(1), 36-54.

Ball, R. (2006). International Financial Reporting Standards (IFRS): pros and cons for investors*. Accounting and business research, 36*, 5-27.

Baker, J. (2012*). The technology–organization–environment framework*. Springer.

Barth, M. E., & Schipper, K. (2008). Financial reporting transparency. *Journal of Accounting, Auditing & Finance, 23*(2), 173-190.

Camfferman, K., & Zeff, S. A. (2007). *Financial reporting and global capital markets: A history of the international accounting standards committee, 1973-2000*. Oxford University Press on Demand.

Chang, M. Y., Pang, C., Tarn, J. M., Liu, T. S., & Yen, D. C. (2015). Exploring user acceptance of an e-hospital service: An empirical study in Taiwan. *Computer Standards & Interfaces, 38*, 35-43.

Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS quarterly, 22*(1).

Chong, A. Y. L., Lin, B., Ooi, K. B., & Raman, M. (2009). Factors affecting the adoption level of c-commerce: An empirical study. *Journal of Computer Information Systems, 50*(2), 13-22.

Chou, S. W., & Chang, Y. C. (2008). The implementation factors that influence the ERP (enterprise resource planning) benefits. *Decision support systems, 46*(1), 149-157.

Clegg, C., Axtell, C., Damodaran, L., Farbey, B., Hull, R., Lloyd-Jones, R., ... & Tomlinson, C. (1997). Information technology: a study of performance and the role of human and organizational factors. *Ergonomics, 40*(9), 851-871.

Cohen J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. L. Erlbaum Associates.

Cordery, C. J., Fowler, C. J., & Mustafa, K. (2011). A solution looking for a problem: factors associated with the non-adoption of XBRL. *Pacific Accounting Review. 23*(1), 69-88.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319.

El-Gazzar, S. M., Finn, P. M., & Jacob, R. (1999). An empirical investigation of multinational firms' compliance with international accounting standards. *The International Journal of Accounting*, 34, 239–248.

Ein-Dor, P., and E. Segev. (1978). Organizational context and the success of management information systems. *Management Science, 24* (10), 1064–1077. doi:10.1287/mnsc.24.10.1064.

Erol, M. & Aslan, M. (2017). Uluslararası muhasebe ve denetim standartlarının gelişmesi. *Muhasebe ve Finans Tarihi Araştırmaları Dergisi*, (12), 55-86.

Ferratt, T. W., Ahire, S., & De, P. (2006). Achieving success in large projects: Implications from a study of ERP implementations. *Interfaces, 36*(5), 458-469.

Fink, D. (1998). Guidelines for the successful adoption of information technology in small and medium enterprises. *International journal of information management, 18*(4), 243-253.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.

Gavidia, J. V., Junglas, I. A., & Chou, C. H. (2021). An integrated model of ERP success: the critical role of task-context alignment. *Enterprise Information Systems*, *17*(1).

Gangwar, H., Date, H., & Ramaswamy, R. (2015). Understanding determinants of cloud computing adoption using an integrated TAM-TOE model. *Journal of enterprise information management, 28*(1), 107-130.

Gattiker, T. F., & Goodhue, D. L. (2005). What happens after ERP implementation: understanding the impact of interdependence and differentiation on plant-level outcomes. *MIS quarterly*, *29*(3), 559-585.

Grabski, S. V., Leech, S. A. & Schmidt, P. J. (2011). A review of ERP research: a future agenda for accounting information systems. *Journal of Information Systems, 25*(1), 37–78.

Grover, V. (1993). An empirically derived model for the adoption of customer-based interorganizational systems. *Decision sciences, 24*(3), 603-640.

Gupta, P., Seetharaman, A., & Raj, J. R. (2013). The usage and adoption of cloud computing by small and medium businesses. *International journal of information management, 33*(5), 861-874.

Gutierrez, A., Boukrami, E., & Lumsden, R. (2015). Technological, organisational and environmental factors influencing managers' decision to adopt cloud computing in the UK. *Journal of Enterprise Information Management, 26*(8), 788-807.

Gyasi, A.K., (2010). *Adoption of International Financial Reporting Standards in Developing Countries-The Case of Ghana*. [Master's Theses]. Vaasa University of Applied Sciences.

Hair, J. F., Black, W. C., Babin, J. B., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. Pearson Prentice Hall.

Hair, J. F., Black, W. C., Babin, J. B., Anderson, R. E., & Tatham, R. L. (2009). *Multivariate data analysis*. Pearson Prentice Hall.

Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*, *117*(3), 442-458.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice, 19*(2), 139-152.

Hall, J. A. (2015). *Accounting information systems*. Cengage Learning.

Hancerliogullari Koksalmis, G., & Damar, S. (2021). An Empirical Evaluation of a Modified Technology Acceptance Model for SAP ERP System. *Engineering Management Journal*, *34*(2), 201-216.

Henderson, D., Sheetz, S. D., & Trinkle, B. S. (2012). The determinants of inter-organizational and internal in-house adoption of XBRL: A structural equation model. *International journal of accounting information systems, 13*(2), 109-140.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems, 116*(1), 2–20.

Henseler, J., Ringle, C.M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science, 43(*1), 115–135.

Ilin, V., Ivetić, J., & Simić, D. (2017). Understanding the determinants of e-business adoption in ERP-enabled firms and non-ERP-enabled firms: A case study of the Western Balkan Peninsula. *Technological Forecasting and Social Change, 125*, 206-223.

IFRS. (2018). *Analysis of the IFRS jurisdiction profiles*.https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#analysis-of-the-166-profiles.

IFRS. (2021). *Why global accounting standards?*. https://www.ifrs.org/use-around-the-world/why-global-accounting-standards/.

Jermakowicz, E. K., & Gornik-Tomaszewski, S. (2006). Implementing IFRS from the perspective of EU traded companies. *Journal of International Accounting, Auditing and Taxation, 15*(2), 170–196.

Junior, C. H., Oliveira, T., & Yanaze, M. (2019). The adoption stages (Evaluation, Adoption, and Routinisation) of ERP systems with business analytics functionality in the context of farms. *Computers and electronics in agriculture, 156*, 334-348.

Kettinger, W. J., Grover, V., Guha, S., & Segars, A. H. (1994). Strategic information systems revisited: A study in sustainability and performance. *MIS quarterly, 18*(1), 31-58.

Kouki, R., Poulin, D., & Pellerin, R. (2010). The impact of contextual factors on ERP assimilation: Exploratory findings from a developed and a developing country. *Journal of global information technology management, 13*(1), 28-55.

Kwak, Y. H., Park, J., Chung, B. Y., & Ghosh, S. (2011). Understanding end-users' acceptance of enterprise resource planning (ERP) system in project-based sectors. *IEEE Transactions on Engineering Management, 59*(2), 266-277.

Lallmahomed, M. Z., Lallmahomed, N., & Lallmahomed, G. M. (2017). Factors influencing the adoption of e-Government services in Mauritius. *Telematics and Informatics*, *34*(4), 57–72.

Limayem, M., & Cheung, C. M. (2008). Understanding infor- mation systems continuance: The case of Internet-based learning technologies. *Information & Management, 45*(4), 227–232.

Lai, V. S., & Li, H. (2005). Technology acceptance model for internet banking: an invariance analysis. *Information & management, 42*(2), 373-386.

Liu, F. C., Hsu, H. T., & Yen, D. C. (2018). Technology executives in the changing accounting information environment: Impact of IFRS adoption on CIO compensation. *Information & Management, 55*(7), 877-889.

Maditinos, D., Chatzoudes, D., & Tsairidis, C. (2012). Factors affecting ERP system implementation effectiveness. *Journal of Enterprise information management, 25*(1), 60-78.

Makena, J. N. (2013). Factors that affect cloud computing adoption by small and medium enterprises in Kenya. *International Journal of Computer Applications Technology and Research, 2*(5), 517-521.

Miller-Nobles, T. L., Mattison, B., & Matsumura, E. M. (2016). *Horngren's Accounting: The Managerial Chapters.* Pearson.

Morais, A. I. (2020). Are changes in international accounting standards making them more complex?. *Accounting Forum, 44*(1), 35-63.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research, 2*(3), 192-222.

Nguyen, T., Chen, J. V., & Nguyen, T. P. H. (2021). Appropriation of accounting information system use under the new IFRS: Impacts on accounting process performance. *Information & Management, 58*(8).

Oliveira, T., Thomas, M., & Espadanal, M. (2014). Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors. *Information & Management, 51*(5), 497-510.

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.

Osborne, J. W., & Costello, A. B. (2019). Sample size and subject to item ratio in principal components analysis. *Practical Assessment, Research, and Evaluation*, *9*(1), 11.

Pacter, P. (2017). *Pocket Guide to IFRS Standards: the global financial reporting language*. https://www.ifrs.org/content/dam/ifrs/around-the-world/pocket-guide/pocket-guide-2017.pdf

Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. *Omega, 27(*4), 467-484.

PwC. (2016). *IFRS 16: The Leases Standard is Changing. Are You Ready?* https://cdpTürkiye.sabanciuniv.edu/tr/raporlar/yerel.

Richter, N. F., Sinkovics, R. R., Ringle, C. M., & Schlägel, C. (2016). A critical look at the use of SEM in International Business research. *International Marketing Review, 33*(3), 376–404.

Ringle, C.M., Wende, S., & Becker, J.-M., (2015). SmartPLS 3. http://www.smartpls.com.

Rom, A., & Rohde, C. (2007). Management accounting and integrated information systems: A literature review. *International Journal of Accounting Information Systems, 8*(1), 40-68.

Salehi, M., Rostami, V., & Mogadam, A. (2010). Usefulness of accounting information system in emerging economy: Empirical evidence of Iran. *International Journal of Economics and Finance, 2*(2), 186-195.

Selimoğlu S. K., Özbirecikli M. ve Uzay Ş. (2017). *Bağımsız Denetim*. Ankara: Nobel Akademik Yayıncılık.

Sokol, M. B. (1994). Adaptation to difficult designs: Facilitating use of new technology. *Journal of Business and Psychology, 8*(3), 277-296.

Sutton, S. G. (2006). Enterprise systems and the re-shaping of accounting systems: A call for research. *International Journal of Accounting Information Systems, 7*(1), 1-6.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education, 2*, 53-55.

Trinh, B. V. (2020). *What firms need to know about IFRS compliance in ERP system: Deloitte Vietnam: Audit & Assurance*. https://www2.deloitte.com/vn/en/pages/audit/articles/ifrs-compliance-in-erp-system.html.

Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). *The processes of technological innovation*. Lexington Books.

Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on engineering management*, *29*(1), 28-45.

Tushman, M., & Nadler, D. (1986). Organizing for innovation. *California management review, 28*(3), 74-92.

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 46*(2), 186-204.

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.

Venkatesh, V., Thong, J. Y., & 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.

Volkoff, O., & Sawyer, S. (2001). ERP implementation teams, consultants, and information sharing. *AMCIS 2001 Proceedings, USA.*

Wang, E. T., & Chen, J. H. (2006). Effects of internal support and consultant quality on the consulting process and ERP system quality. *Decision support systems, 42*(2), 1029-1041.

Wang, E. T., Lin, C. C. L., Jiang, J. J., & Klein, G. (2007). Improving enterprise resource planning (ERP) fit to organizational process through knowledge transfer. *International journal of information management, 27*(3), 200-212.

Wang, Y., & Shi, X. (2009). E-business assimilation in SMEs of China. *International Journal of Electronic Business, 7*(5), 512–535.

Xu, W., Ou, P., & Fan, W. (2017). Antecedents of ERP assimilation and its impact on ERP value: A TOE-based model and empirical test. *Information systems frontiers, 19*(1), 13-30.

Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005). ERP implementation failures in China: Case studies with implications for ERP vendors. *International journal of production economics, 97*(3), 279-295.

Yoon, C., Lim, D., & Park, C. (2020). Factors affecting adoption of smart farms: The case of Korea. *Computers in Human Behavior, 108*, 106309.

Zhu, Y., Li, Y., Wang, W., & Chen, J. (2010). What leads to post-implementation success of ERP? An empirical study of the Chinese retail industry. *International Journal of Information Management, 30*(3), 265-276.

Appendix A

Table A1: Cross loadings

Variables	RA	CP	CX	CE	TMS	OC	CS	CI	AD
Relative advantage									
RA1	0.94	0.55	(0.16)	(0.29)	0.60	0.64	0.56	0.66	0.61
RA2	0.95	0.54	(0.17)	(0.27)	0.61	0.66	0.59	0.68	0.61
RA3	0.95	0.53	(0.10)	(0.24)	0.57	0.60	0.54	0.63	0.59
RA4	0.94	0.54	(0.11)	(0.24)	0.59	0.62	0.57	0.64	0.60
RA5	0.94	0.54	(0.08)	(0.22)	0.56	0.58	0.55	0.62	0.57
Compatibility									
CP1	0.56	0.96	(0.11)	(0.24)	0.66	0.66	0.47	0.53	0.63
CP2	0.54	0.96	(0.11)	(0.24)	0.65	0.70	0.47	0.52	0.61
Complexity									
CX1	(0.16)	(0.16)	0.94	0.42	(0.17)	(0.11)	(0.02)	(0.07)	(0.21)
CX2	(0.06)	(0.03)	0.87	0.40	(0.08)	(0.10)	(0.05)	(0.07)	(0.15)
Cost effectiveness									
CE1	(0.27)	(0.23)	0.40	0.90	(0.27)	(0.30)	(0.20)	(0.28)	(0.29)
CE2	(0.23)	(0.23)	0.38	0.89	(0.25)	(0.31)	(0.22)	(0.27)	(0.23)
CE3	(0.21)	(0.22)	0.45	0.89	(0.23)	(0.31)	(0.21)	(0.25)	(0.24)
Top management support									
TMS1	0.54	0.64	(0.12)	(0.25)	0.93	0.75	0.46	0.49	0.70
TMS2	0.64	0.65	(0.11)	(0.26)	0.94	0.78	0.56	0.62	0.73
TMS3	0.59	0.64	(0.14)	(0.26)	0.96	0.78	0.53	0.58	0.73
TMS4	0.59	0.67	(0.17)	(0.28)	0.96	0.83	0.52	0.56	0.73
Organizational capability									
OC1	0.63	0.69	(0.11)	(0.31)	0.77	0.91	0.56	0.61	0.65
OC2	0.52	0.57	(0.10)	(0.26)	0.72	0.88	0.54	0.56	0.60
OC3	0.63	0.65	(0.10)	(0.34)	0.74	0.92	0.65	0.69	0.61
Consultant support									
CS1	0.57	0.49	(0.04)	(0.24)	0.54	0.64	0.97	0.73	0.52
CS2	0.58	0.48	(0.03)	(0.23)	0.54	0.64	0.98	0.76	0.50
CS3	0.59	0.48	(0.04)	(0.22)	0.52	0.63	0.98	0.77	0.50
CS4	0.57	0.47	(0.03)	(0.21)	0.53	0.61	0.97	0.76	0.50
Coordination improvements									
CI1	0.68	0.55	(0.09)	(0.30)	0.60	0.68	0.75	0.98	0.61
CI2	0.67	0.53	(0.08)	(0.27)	0.57	0.66	0.78	0.97	0.57
CI3	0.65	0.53	(0.06)	(0.29)	0.58	0.66	0.73	0.97	0.58
Adoption									
AD1	0.62	0.63	(0.20)	(0.26)	0.77	0.70	0.50	0.58	0.93
AD2	0.59	0.62	(0.20)	(0.27)	0.71	0.65	0.49	0.55	0.94
AD3	0.57	0.59	(0.21)	(0.27)	0.70	0.61	0.45	0.56	0.95
AD4	0.59	0.61	(0.18)	(0.28)	0.70	0.63	0.50	0.57	0.95
AD5	0.62	0.61	(0.17)	(0.28)	0.74	0.65	0.50	0.58	0.95

Extended Summary

Adoption of Enterprise Resource Planning System in IFRS Conversion: Evidence from Türkiye

IFRS, developed by the International Accounting Standards Board (IASB), has been adopted by over 120 countries, including most G20 economies, to ensure consistency, transparency, and comparability in financial reporting (Pacter, 2017). The global shift from Generally Accepted Accounting Principles (GAAP) to IFRS presents both opportunities and challenges, especially for emerging economies like Türkiye, where the complexity and costs associated with IFRS compliance can be significant.

The adoption of IFRS is driven by various factors, including the harmonization of accounting practices across borders, which facilitates the acquisition of foreign capital, reduces information asymmetry, and lowers investment risk (Barth & Schipper, 2008). However, the transition from GAAP to IFRS is not without its challenges. IFRS is often more complex than GAAP, requiring companies to maintain detailed records of all financial processes (Morais, 2020). This complexity necessitates the use of sophisticated information technology (IT) systems, such as ERP systems, which integrate various functions across an organization and support the comprehensive data requirements of IFRS (Trinh, 2020). ERP systems, which are frequently discussed in the literature on Accounting Information Systems (AIS), offer a centralized platform for managing financial data, crucial for accurate and timely reporting under IFRS (Hall, 2015). This study explores the factors influencing the adoption of ERP systems in the IFRS conversion process within companies listed on Borsa Istanbul (BIST) and Türkiye's largest 500 industrial firms (ISO 500). IFRS is a set of accounting standards developed by the International Accounting Standards Board (IASB) that have been adopted by over 120 countries, including most G20 economies, to ensure consistency, transparency, and comparability in financial reporting. The global shift from Generally Accepted Accounting Principles (GAAP) to IFRS presents both opportunities and challenges, especially for emerging economies like Türkiye, where the complexity and costs associated with IFRS compliance can be significant.

This study is grounded in the Technology-Organization-Environment (TOE) framework, which provides a comprehensive model for analyzing the factors that influence the adoption of technological innovations like ERP systems (Tornatzky et al., 1990). The TOE framework considers three dimensions: technological, organizational, and environmental factors. Technological factors refer to the characteristics of the technology itself, such as its perceived relative advantage, compatibility with existing systems, and complexity (Oliveira & Martins, 2011). Organizational factors include internal resources, top management support, and organizational capabilities (Chong et al., 2009). Environmental factors encompass external pressures, such as market competition, regulatory requirements, and the availability of external expertise, such as consultant support (Gangwar et al., 2015). The TOE framework has been widely used in studies on technology adoption and provides a robust theoretical foundation for exploring the adoption of ERP systems in the IFRS conversion process. The research model proposed in this study extends the TOE framework by integrating additional factors relevant to the IFRS conversion context, such as coordination improvements. The study hypothesizes that factors such as relative advantage, compatibility, complexity, cost-effectiveness, top management support, organizational capability, consultant support, and coordination improvements significantly impact the adoption of ERP systems in IFRS conversion. To test these hypotheses, data were collected from 324 respondents across BIST and ISO 500 companies who were involved in the IFRS reporting process. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical technique suitable for theory exploration and prediction (Hair et al., 2016).

The results of the study indicate that top management support, compatibility, relative advantage, and coordination improvements have a positive and significant impact on ERP adoption during IFRS conversion. These findings align with previous research on technology adoption, which emphasizes the critical role of top management in driving technological innovation and ensuring alignment with organizational goals (Tushman & Nadler, 1986). The compatibility of ERP systems with existing processes and infrastructure also emerged as a significant factor, highlighting the importance of seamless integration between new and existing systems to avoid disruptions in operations. The perceived relative advantage of ERP systems, in terms of improving the efficiency, accuracy, and reliability of financial reporting, further reinforces the importance of perceived benefits in driving adoption decisions (Rogers, 1995). Coordination improvements, which refer to the ability of ERP systems to enhance the flow of information across different units within an organization, were also found to significantly influence adoption, underscoring the role of ERP systems in facilitating better coordination and communication in the context of IFRS reporting (Chou & Chang, 2008).

Conversely, the study found that complexity has a negative impact on ERP adoption, which is consistent with previous research that highlights the challenges associated with implementing complex technologies (Grover, 1993). The perceived complexity of ERP systems, particularly in the context of IFRS conversion, may deter companies from adopting these systems due to concerns about the difficulty of implementation and the potential for disruptions to ongoing operations. Interestingly, the study found that cost-effectiveness, organizational capability, and consultant support do not significantly influence ERP adoption in the IFRS conversion process. These findings suggest that while cost considerations and external support are important, they may not be the primary drivers of ERP adoption decisions in the context of IFRS conversion. The perceived benefits of ERP systems and strong internal support from top management may play a more critical role in driving adoption (Albar & Hoque, 2019; Xu et al., 2017).

The implications of these findings are significant for both theory and practice. From a theoretical perspective, the study contributes to the literature on technology adoption by extending the TOE framework to the context of ERP adoption in IFRS conversion. The modified TOE model proposed in this study offers a more nuanced understanding of the factors that influence ERP adoption in this specific context and highlights the importance of considering both internal and external factors in the adoption process. The study's findings also suggest that future research should explore the role of emerging technologies, such as cloud computing and artificial intelligence, in facilitating IFRS compliance and enhancing the capabilities of ERP systems (Nguyen et al., 2021). From a practical perspective, the study's findings have important implications for companies, policymakers, and consultants involved in the IFRS conversion process. The critical role of top management support in driving ERP adoption underscores the need for strong leadership and commitment to the IFRS conversion process. Companies should ensure that top management is fully engaged in the process and provides the necessary resources and support for successful implementation (Kettinger et al., 1994). The importance of compatibility and coordination improvements also suggests that companies should carefully assess their existing systems and processes before adopting ERP systems and should prioritize solutions that offer seamless integration and enhance communication and coordination across different units (Gattiker & Goodhue, 2005). The finding that consultant support does not significantly influence ERP adoption suggests that companies may benefit more from investing in internal capabilities rather than relying solely on external consultants. However, consulting firms that wish to play a significant role in the adoption phase can still influence adoption by educating top management and training key personnel (Wang & Chen, 2006). Finally, the study's findings suggest that while cost considerations are important, they may not be the primary barrier to ERP adoption in the context of IFRS conversion. Companies should focus on the long-term benefits of ERP adoption, such as improved efficiency, accuracy, and reliability of financial reporting, rather than solely on the upfront costs of implementation (Premkumar & Roberts, 1999).