

EGE AKADEMİK BAKIŞ

EGE ACADEMIC REVIEW

Ekonomi, İşletme, Uluslararası İlişkiler
ve Siyaset Bilimi Dergisi

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Examining the Effect of Informal and Foreign Competitors on Innovation and Export: Evidence from Service SMEs

Ebru ÖZTÜRK KÖSE¹ 

ABSTRACT

Threats from informal and foreign competitor groups have been particular importance for local emerging economy firms' strategies. In this line, previous studies have examined the link between competitor groups and emerging economy firm success. Extant studies have mostly explored firms in the manufacturing sectors and they have not investigated what the results mean for smaller firms. To extend prior research, this paper examines to what extent informal and foreign competition affect the innovation and export performance of service SMEs. In analyzing cross-sectional data across Eastern Europe and Central Asia countries, this research finds that informal and foreign competition increase service SMEs' innovation performance and the informal competition has bigger effect than foreign competition. The findings further reveal that informal competition decreases service SMEs' export performance whereas foreign competition raises service SMEs' export performance. Overall, this research aims to extend the existing literature that explores the influence of competition on firms' strategies and decisions.

Keywords: Informal Competition, Foreign Competition, Service Sector, SMEs, Innovation, Export Performance.

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INTRODUCTION

Informal and foreign competitors have attracted considerable research attention in developed economies (Chen & Macmillan, 1992; Chen, 1996). Studies in emerging economies have also drawn their attention towards informal competitors (McCann & Bahl, 2017; Schneider, 2002; Williams & Kosta, 2020) and foreign competitors (Cui, Meyer & Hu, 2014; Fu, Pietrobelli & Soete, 2011; Iriyama, Kishore & Talukdar, 2016; Ozturk Kose, 2023). Informal firms are defined as unregistered with the government but derive income from the production of legal goods and services (Darbi, Hall & Knott, 2018; McGahan, 2012; Nichter & Goldmark, 2009). These competitors are typically small and have fewer resources and capabilities. Foreign competitors refer to foreign firms that are active within a host country (Nuruzzaman, Singh & Pattnaik, 2019). These competitors have certain advantages, such as abundance of resources, skilled employees, and experienced managers. Foreign competitors also enjoy a great level of advanced technologies compared to emerging economy firms (Wiersema & Bowen, 2008). Foreign competition hence affects the local formal firms' strategies and performance (Bowen & Wiersema, 2005).

So far, extant literature has explored to what extent informal and foreign competition affect formal firms' success and strategies. For example, previous studies have examined the effect of informal competitors on new product introductions, annual sales, corruption, and tax evasion (Gokalp, Lee & Peng, 2017; McCann & Bahl, 2017; Williams & Kosta, 2020). In addition, existing studies have explored how foreign competitors impact on different firm level strategies, such as innovation, human resource training, and product quality (Iriyama, Kishore & Talukdar, 2016; Lam, Ding & Dong, 2022; Nuruzzaman, Singh & Pattnaik, 2019; Ozturk Kose, 2023; Wadho & Chaudhry, 2018; Xia & Liu, 2017). Although these studies advance our understanding of the consequences of informal and foreign competition, the field is still nascent and needs further research.

In addition, studies on competitive rivalry from different competitor groups have largely been studied in the context of manufacturing firms (Iriyama, Kishore & Talukdar, 2016; Krammer, Strange & Lashitew, 2018; Mendi & Contamagna, 2017; Nuruzzaman, Singh & Pattnaik, 2019; Perez, Kunc, Durst, Flores & Geldes, 2018). In fact, the service sector has long been recognized as an important force in the economy (Barrett, Davidson, Prabhu

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& Vargo, 2015). Fierce competition coming from informal and foreign competitors poses significant challenges to service firms (Gonzalez & Lamanna, 2007). In spite of its increasing importance in the economy and among the scholars, there is little knowledge about to what extent service firms are influenced by the competitive pressures coming from different competitor groups, i.e., informal and foreign competitors. In addition, previous studies have not investigated how small and medium-sized firms (SMEs) are likely to be influenced by competitive threats coming from informal and foreign competitors (Amin, 2023). Despite the potential role of informal and foreign competitors in affecting SMEs, theoretical and empirical work in this area is very limited.

Overall, this paper contributes to competitive rivalry literature by highlighting that informal and foreign competitors influence innovation and export performance of service SMEs. This work distinguishes between informal and foreign competitors by building on research demonstrating the importance of two strategic groups in emerging economies (Iriyama, Kishore & Talukdar, 2016; Schneider, 2002). First of all, this research contributes to existing research by explicitly connecting two specific competitor threats to innovation performance. This research suggests that informal and foreign competitors are important types of competitors which influence innovation performance of service SMEs. However, this research argues that the effect of informal competitors on innovation performance is more influential than the effect of foreign competitors. Second, this research contributes to extant literature on competitive rivalry by examining the link between informal and foreign competitors and export performance of service SMEs. This paper proposes that informal competitors negatively affect service SMEs' export performance while foreign competitors positively affect. In this way, this paper extends previous studies in internationalization by explaining the antecedents of exporting (Krammer, Strange & Lashitew, 2018). This study tests its hypotheses by utilizing the 2009 World Bank Enterprise Survey of 30 Eastern European and Central Asian countries.

The remainder of this paper is organized as follows. In the next section, the literature regarding informal and foreign competitors in emerging economies is reviewed and hypotheses about the effects of informal and foreign competitors on innovation and export performance of service SMEs are proposed. In methods section, the data and variables are explained and then the results are presented. Finally, findings are discussed along with limitations and further research directions.

LITERATURE REVIEW AND HYPOTHESES

Competitor groups in emerging economies

Informal competitors consist of firms that do not follow government regulation and systems but trade legal products and services (Darbi, Hall & Knott, 2018; McGahan, 2012). These firms are different from those whose activities are illegal. Two opposing views have been around that push new firms to be unregistered. The first view argues that a burdensome regulatory environment pushes firms to be informal (Williams & Martines, 2014). In fact, firms choose to be informal to avoid the high costs of registration (Webb, Tihanyi, Ireland & Sirmon, 2009). Even though the process of registration with the government ranges across countries, on average firms spend a long time and have to follow many procedures. In addition, they need to obey with the taxation systems thereby paying high fees and taxes (Godfrey, 2011). The second view suggests that weak government system fails to support young businesses at their initial stage (Williams & Martinez, 2014). For instance, unstable and weak institutional framework causes firms to face higher tax rates and bribery (Bu & Cuervo-Cazurra, 2020). Therefore, in order to pay-off the costs of operating in emerging economies, informal firms are likely to occur. While the informal sector comprises more than half of the economic output of emerging economies (Schneider & Williams, 2013; Wellalage & Locke, 2016), these firms can have detrimental effects on countries' economic development.

Foreign competition is likely to happen through foreign direct investment (FDI) and exports (Gaur, Ma & Ding, 2018). As a result, emerging economy local firms are exposed to competition of foreign firms coming from other countries due to local firms lack of innovative capabilities (Singh & Gaur, 2013). For example, local Turkish firms, such as Turkcell fight against Western rivals such as Vodafone in the telecommunication sector in Türkiye. Local firms operating in emerging economies significantly compete with foreign competitors for inputs (Nuruzzaman, Singh & Pattnaik, 2019). Since foreign competitors have both country and firm specific capabilities they raise the level of competition between formal firms and foreign competitors (Singh & Gaur, 2013; Wiersema & Bowen, 2008). Nevertheless, competition from foreign competitors helps emerging economy firms build their capabilities through knowledge spillovers (Araujo & Salerno, 2015; Fu, 2012). Thus, instead of threatening local firms' success, foreign competitors can help them by improving their efficiency and productivity.

Competitor groups and innovation performance of service SMEs

In order to gain competitive advantages over informal competitors, prior studies have showed that formal firms can engage in innovative activities (McCann & Bahl, 2017; Mendi & Costamagna, 2017; Tian, Wang, Xie, Jiao & Jiao, 2019; Xia & Liu, 2017; Xie & Li, 2018). However, these studies have either focused on manufacturing industries or had a comprehensive approach by examining manufacturing and service industries together. Service innovation is one important strategy that increases firms' ability to be competitive across companies and different nations (Helkkula, Kowalkowski & Tronvoll, 2018). Service firms differ from manufacturers primarily due to the characteristics of services (Hipp & Grupp, 2005). The main characteristics of service firms are that they are intangible, heterogeneous, and inseparable. The heterogeneous nature of services makes it difficult to produce services identical to each other. The production and consumption phases of services occur simultaneously, making it inseparable. These features draw the attention to examine which strategies are beneficial for service firms to fight against informal and foreign competition (Gonzalez & Lamanna, 2007; Kotabe, 1989). Therefore, it becomes important to understand the effect of informal competition on innovation performance of service SMEs.

Service SMEs face severe competition from informal firms because these competitors prefer to operate in sectors characterized by low levels of technology, skills, and capital requirement, such as retail and services (Distinguin, Rugemintwari & Tacneng, 2016; Gonzalez & Lamanna, 2007). These competitors are likely to be small and they like to keep their heads down to become invisible (Nichter & Goldmark, 2009). This presents significant challenges to SMEs since they are also small and have similar resources with their informal competitors (Iriyama, Kishore & Talukdar, 2016). In addition, SMEs are likely to share the same customers with informal competitors, thereby having market commonality. Despite these similarities, informal firms have some advantages over formal ones. Informal firms can lower their operational costs by not being exposed to following government rules and regulations. Moreover, these informal firms can lower production costs by hiring non-skilled labour and using less advanced technology (Abbas, Adaba, Sheridan & Azeem, 2022). Therefore, the cost advantages these informal competitors have enable them to operate more cheaply. Informal competitors can lower the price following the customer demand whereas formal firms are not keen on reducing the price.

Additionally, since informal competitors do not follow any regulations they are keen on copying the knowledge and technology from their counterparts (Bu & Cuervo-Cazurra, 2020). This creates a big issue for service firms since it is easier for a competitor to imitate a new service due to its intangibility compared to a product (Hipp & Grupp, 2005). In addition, service firms find it difficult to protect their services from the competitors because of the complexity of defining appropriate regime of knowledge and technology (Santamaria, Nieto & Miles, 2012). Therefore, it is important to take actions that informal competitors will find difficult to imitate (Miocevic, Arslanagic-Kalajdzic & Kadic-Maglajlic, 2022). Since informal competitors lack in resources and capabilities to innovate, formal firms can fight against informal competitors by increasing their innovativeness.

SMEs perceive foreign competitors as a threat as well. SMEs can operate successfully in markets where foreign firms also aim to function (Oviatt & McDougall, 1994). Foreign competition either pushes inefficient firms out of the market or forces them to be more innovative to compete (Fu, Pietrobelli & Soete, 2011; Li & Vanhaverbeke, 2009). The competitive threat from foreign competitors increases formal firms' awareness of competence gap and the need to catch-up (Cui, Meyer & Hu, 2014). When foreign firms produce advanced products, this leads to diminishing demand for existing products (Xia & Liu, 2017). Since foreign competitors will likely to possess different combinations of resources and capabilities, the expected strategic response of the formal firms would be to strengthen its resources and capabilities (Wiersema & Bowen, 2008; Xia & Liu, 2017). Therefore, service SMEs update their skills and advance management techniques to meet this competitive challenge, thereby, increasing the introduction of innovative services. In addition, foreign competitors can help local firms innovate through potential knowledge spillovers from foreign firms to local firms (Zhang, Li, Li & Zhou, 2010). When local firms observe foreign firms' new product they develop similar or related products. Hence;

Hypothesis 1: In service SMEs, informal and foreign competitors positively affect focal firms' innovation performance.

However, this research suggests that competitive threat from informal competitors is more effective on formal firms' innovation performance than competitive threat from foreign competitors. This is particularly important for service SMEs. SMEs and foreign competitors do not have similar level of resources and capabilities. Foreign competitors are typically associated with more resources

and capabilities (Wiersema & Bowen, 2008). They have advanced technology and skilled human resources compared to local SMEs in emerging economies. However, the liability of foreignness creates certain difficulties for foreign competitors (Zaheer, 1995; Zhou & Guillen, 2015), making SMEs more advantageous. For instance, foreign firms need to adjust their rules and regulations following a host country (Zhou & Guillen, 2015). These create extra costs and attention for foreign firms especially when these competitors operate in service sector. Service firms require extensive customization and customer contact, which make things more costly to manage (Goerzen & Makino, 2007). Therefore, certain advantages of SMEs can sometimes make such firms more advantageous over foreign competitors. In addition, small firms typically tend to be less diversified and not have multiple service lines. For that reason, these firms have a higher chance of operating in the same market with their informal competitors (Chang & Xu, 2008). This is also explained with Iriyama et al.'s (2016) study suggesting that undiversified firms perceive a higher level of competition from informal competitors than diversified firms. This means that small firms are likely to take informal competitors as a bigger threat compared to foreign competitors. Therefore;

Hypothesis 2: In service SMEs, informal competitors have a stronger impact on innovation performance than foreign competitors.

Competitor groups and export performance of service SMEs

With the globalization service firms have started to seek market opportunities beyond their national borders (Cavusgil, Knight & Riesenberger, 2020). Consulting, advertising, and banking companies are examples for service firms that are likely to undertake cross-border businesses. Exporting is one of the important ways for firms to cross borders. It is considered as a quick, less costly, and less risky approach to cross national borders (Golovko & Valentini, 2011). Despite these benefits, firms can face difficulties in the exporting process, provoking negative attitudes towards exporting (Leonidou, 1995; Tesfom & Lutz, 2006). In particular, small firms can have lack of capital and competent personal required for exporting. In addition, small firms can have more difficulties in exporting process as often these firms cannot offset the negative impact of domestic market environment such as uncertainty due to resource scarcity (Tefom & Lutz, 2006). Exporting process requires managers to direct firms' resources, such as financial, managerial, and personnel to exporting (Navarro, Losada, Ruzo & Diez, 2010). Managers need to be committed

and risk-taking in this challenging process. Therefore, since exporting requires a great level of resources and capabilities, the exporting process can be challenged by the existence of informal competitors and improved by the presence of foreign competitors.

Informal competitors become advantageous over formal firms because this competitor type has cost advantages and flexibility regarding their operations (Godfrey, 2011; Williams & Martinez-Perez, 2014). Doing business for emerging economy firms - i.e., the operations and activities of formal firms - can be disrupted by informal competitors (Mendi & Costamagna, 2017; Webb, Tihanyi, Ireland & Sirmon, 2009). The threat coming from informal competitors exerts restrictions on formal firms' exporting activities due to increased operational and transactional costs. Informal competition increases operational costs because it creates an uncertain environment by avoiding governmental regulations and rules. Formal firms' managers need to devote their time and effort to deal with the informal business environment (Bu, Luo & Zhang, 2022). They need to spend greater time and cost in order to scan, analyze, and adapt to the informal competitors' activities. More importantly as they serve same customers, informal competition is an important factor that influences the success of formal firms (Stevens, Xie & Peng, 2016). In addition, transaction costs can increase because formal firms can take non-market strategies such as lobbying to avoid delay in bureaucracies (Iriyama, Kishore & Talukdar, 2016; Krammer, 2019). Overall, the threat of informal competition imposes substantial transaction costs particularly on service firms' internationalization procedures (Goerzen & Makino, 2007). Formal firms therefore direct their attention to the home market and passively adopt an international strategy (Manopolulos, Chatzopoulou & Kottaridi, 2018; Wan, 2005). It means that additional costs of operating at home with informal firms can decrease the level of exporting. Therefore;

Hypothesis 3: In service SMEs, competition from informal competitors negatively affects focal firms' export performance.

Local firms can lack certain capabilities to succeed in international markets (Singh & Gaur, 2013). Foreign competitors become important for local firms' activities and operations because foreign competitors' knowledge can be transferred to these firms (Araujo & Salerno, 2015). That is, foreign competitors can help local formal firms improve their performance (Zhang,

Li, Li & Zhou, 2010). Local firms can observe foreign competitors' knowledge and technology and develop similar products thereby increasing their chance of success in international markets (Cui, Meyer & Hu, 2014). In fact, foreign competitors are associated with their best management practices that make them successful in the home and host countries. Local firms can adopt these best practices in their activities and operations. In doing so, the gap in technological and management capabilities between foreign and local firms decreases, making local formal firms more successful in foreign markets (Chen, Zeng, Wu & Fu, 2021).

Moreover, firms in emerging economies are linked with liability of foreignness when these firms enter into foreign markets (Zaheer, 1995). By interacting with these foreign competitors, local firms can have a chance of obtaining important information to develop basic capabilities to succeed in exporting activities (Nuruzzaman, Singh & Pattnaik, 2019). These competitors can also help local formal firms to learn about competitors' countries, thereby increasing their success in foreign market expansion activities (Chen, Zeng, Wu & Fu, 2021). Hence;

Hypothesis 4: In service SMEs, competition from foreign competitors positively affects focal firms' export performance.

METHODS

Data

The data comes from the 2009 version of the Business Environment and Enterprise Performance Surveys (BEEPS), a survey by the World Bank. Scholars interested in management studies have used this data extensively (e.g., Lee, Mutlu & Lee, 2023; Qi & Nguyen, 2021). This survey provides information about firm characteristics and institutional environment. This data is very comprehensive firm level data to explore emerging economy firms' competitive environment. The total number of valid responses after removing missing observations is 9132 firms. The sample consists of 3340 service SMEs in 30 Eastern European and Central Asian countries. This research focuses on firms with less than 250 employees, thus complying with the European Commission (2003) definition of SMEs.

Variables

Dependent variables: To measure *innovation performance*, this study utilizes two variables from the survey. The first is a binary variable. The survey asks

respondents whether their firms introduced new services in the last three years. Respondents answer this question with 'yes' or 'no'. The responses then are coded as 1 if they answer yes, and the ones answer no are coded as 0. The second variable is the percent of annual sales in 2007 accounted for by new services introduced during 2005 - 2007. In order to obtain a fuller picture of innovation performance, this research uses both the binary variable and the ratio for innovative sales. *Export performance* is measured as the percentage of a firm's export volume over total sales. The values range from 0 to 100.

Independent variables: This paper follows prior studies to measure competitive pressures (Mendi & Costamagna, 2017; Nuruzzaman, Singh & Pattnaik, 2019; Perez, Kunc, Durst, Flores & Geldes, 2018). *Informal competition* is measured with a binary variable. The survey questionnaire asks respondents whether they compete against informal firms. The respondents answer this question with 'yes' or 'no'. Respondents are coded as 1 if they respond yes, and as 0 if they answer no. *Foreign competition* is measured with a four point Likert scale. The survey asks respondents to indicate the importance of pressure from foreign competitors firms perceive regarding to developing new services and markets.

Control variables: This study controls for *firm size* since size of the firms can be important in the success of innovation and exporting. This variable is the logged number of workers. *Top manager industry experience* is controlled as the logged years that top manager has experience in its industry. In addition, *firm age* is controlled since more experienced firms can be better at dealing with the competition. It is the logged number of years since the founding date of the firm. Business group is measured with a value of 0 and 1, for whether the firm is a part of a group. *Employee education intensity* is the percent of employee with a university degree. This study also controls for ownership to understand whether firms have *foreign ownership* or *government ownership* share in the focal firm. They are measured in the form of percentages. *Domestic competitor* variable is also controlled with responses for pressure from domestic competitors with respect to developing new services. In addition, *started unregistered* is controlled by a binary variable. The questionnaire collects data about whether their firms were formally registered when they started operations. Finally, this study includes seven *industry effects* and thirty *country effects* into the regression models.

RESULTS

Table 1 provides details of the summary statistics. As it can be seen, 45% of firms compete against informal firms. On average 50% of firms compete against foreign firms. On average 84% of firms compete against domestic competitors. The average firm age is 14 years old and the average firm has 54 workers. The average level of

foreign and government ownership is 6.21% and 1.86% respectively. Table 2 provides the details of correlations for the examined variables. According to the correlations, interested variables are correlated with each other.

Table 3 reports regression results about the innovation performance of service SMEs. Since the innovation dependent variables are both binary and percentage

Table 1. Summary statistics

Variables	Min.	Max.	Mean	Std. Dev.
Size	10	249	54.10	53.07
Age	0	124	14.56	12.47
Top manager experience	1	60	16.72	9.97
Employee education intensity	0	100	24.79	25.49
Unregistered firms	0	1	0.96	0.18
Foreign ownership	0	100	6.21	22.41
Government ownership	0	100	1.86	10.65
Business group	0	1	0.11	0.31
Domestic competition	1	4	2.76	1.04
Service innovation	0	1	0.51	0.49
Percentage of sales from service innovation	0	100	13.64	22.06
Export intensity	0	100	5.51	18.01
Export intensity (only exporters)	1	100	33.46	32.15
Informal competition	0	1	0.45	0.49
Foreign competition	1	4	1.93	1.08

Table 2. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Service innovation	1.00													
2. Percentage of service innovation	0.59*	1.00												
3. Export intensity	0.04*	0.02	1.00											
4. Informal competition	0.06*	0.04*	-0.04*	1.00										
5. Foreign competition	0.11*	0.07*	0.20*	0.11*	1.00									
6. Domestic competition	0.08*	0.04*	-0.02	0.16*	0.28*	1.00								
7. Size	0.02	-0.01	0.05*	-0.04*	0.05*	0.04*	1.00							
8. Age	-0.00	-0.07*	0.01	0.04*	0.03	0.05*	0.18*	1.00						
9. Top manager experience	0.00	-0.02	0.05*	0.01	0.04*	0.06*	0.04*	0.32*	1.00					
10. Employee education intensity	0.07*	0.07*	-0.00	-0.02	-0.04*	-0.09*	-0.05*	-0.13*	-0.10*	1.00				
11. Unregistered firms	-0.03*	-0.01	0.00	-0.02	-0.00	0.02	0.06*	-0.05*	-0.01	0.02	1.00			
12. Foreign ownership	0.08*	0.08*	0.12*	-0.05*	0.11*	0.00	0.10*	-0.06*	-0.03*	0.09*	0.00	1.00		
13. Government ownership	-0.01	-0.02	0.00	-0.03*	-0.00	-0.06*	0.11*	0.10*	-0.00	-0.02	0.00	-0.03	1.00	
14. Business group	0.03*	0.07*	-0.01	-0.02	0.04*	0.00	0.11*	-0.03	-0.07*	0.05*	0.00	0.18*	0.11*	1.00

Note: *p<0.05.

Table 3. Predictors of innovation performance

	Service Innovation (Logit regression - 0,1)		Service Innovation (Tobit regression - Percent of sales)	
	Model 1	Model 2	Model 1	Model 2
Size	.149*** (.045)	.155*** (.045)	.011 (.008)	.012 (.008)
Age	-.046 (.064)	-.057 (.064)	-.033*** (.012)	-.034*** (.012)
Top manager industry experience	.086 (.061)	.094 (.061)	.011 (.011)	.011 (.011)
Employee education intensity	.006*** (.001)	.006*** (.001)	.001*** (.000)	.001*** (.000)
Unregistered firms	-.404* (.220)	-.377* (.220)	-.047 (.034)	-.041 (.034)
Foreign ownership	.005*** (.001)	.005*** (.001)	.000*** (.000)	.000*** (.000)
Government ownership	.003 (.003)	.003 (.003)	.000 (.000)	.000 (.000)
Business group	.029 (.123)	.021 (.122)	.050** (.023)	.049** (.023)
Domestic competition	.152*** (.037)	.097** (.039)	.021*** (.007)	.013* (.007)
Predictors				
Informal competition		.369*** (.079)		.058*** (.014)
Foreign competition		.111*** (.038)		.018*** (.006)
Country effects	Inc.	Inc.	Inc.	Inc.
Industry effects	Inc.	Inc.	Inc.	Inc.
Number of firms	3340	3340	3340	3340
Pseudo R-squared	0.1004	0.1076	0.1034	0.1106
Log likelihood	-2080.89	-2064.42	-1633.28	-1620.15

Note: *p<0.1; **p<0.05; ***p<0.01.

of sales, this study uses Logit and Tobit estimations, respectively. The latter estimation method is censored between 0 and 100 because sales of new services can only be zero or positive. Model 1 regresses the control variables on the innovation performance. The results suggest that larger and younger firms produce service innovations. Firms with foreign ownership invest in innovation. Additionally, firms which have employees with a university degree are more into innovation. Domestic competition has also significant impact on innovation performance, suggesting that firms having pressure from domestic competitors are more into service innovation. The Model 2 shows that the coefficient of informal competition ($\beta = 0.369$; $p < 0.01$; $\beta = 0.058$; $p < 0.01$)

is significant and positive. Likewise, the coefficient of foreign competition is significant and positive ($\beta = 0.111$; $p < 0.01$; $\beta = 0.018$; $p < 0.01$). This shows that service SMEs facing competitive threats from informal and foreign competitors are more into service innovation, supporting the Hypothesis 1. The coefficient of informal competition is greater than the coefficient of foreign competition, providing support for the Hypothesis 2 (model 2).

Table 4 reports regression results regarding service SMEs' export performance. Since the export performance is the percentage of sales, this study uses Tobit estimation. Model 1 regresses the control variables on the export performance. The findings suggest that larger and younger firms cross national borders with

Table 4. Predictors of export performance

	Export intensity (exporters and non-exporters)		Export intensity (only exporters)	
	Model 1	Model 2	Model 1	Model 2
Size	6.27*** (1.78)	5.09*** (1.71)	-.245 (1.43)	-.846 (1.41)
Age	-3.12 (2.51)	-2.77 (2.45)	-3.87* (2.11)	-3.740* (2.09)
Top manager industry experience	7.70*** (2.66)	6.77*** (2.56)	-2.32 (2.41)	-2.94 (2.41)
Employee education intensity	.352*** (.072)	.293*** (.072)	-.014 (.061)	-.038 (.063)
Unregistered firms	.568 (10.20)	2.61 (9.91)	-14.35 (8.93)	-12.92 (8.28)
Foreign ownership	.206*** (.059)	.153*** (.058)	.160*** (.043)	.140*** (.043)
Government ownership	.053 (.157)	.001 (.147)	.003 (.128)	-.011 (.124)
Business group	-1.97 (4.96)	-3.66 (4.78)	-10.03*** (3.68)	-11.71*** (3.49)
Domestic competition	-4.51*** (1.59)	-7.86*** (1.66)	-5.24*** (1.34)	-6.75*** (1.41)
Predictors				
Informal competition		-8.42*** (3.04)		-5.09** (2.57)
Foreign competition		13.71*** (1.45)		5.75*** (1.23)
Country effects	Inc.	Inc.	Inc.	Inc.
Industry effects	Inc.	Inc.	Inc.	Inc.
Number of firms	3330	3330	549	549
Pseudo R-squared	0.0860	0.0989	0.0280	0.0329
Log likelihood	-3631.51	-3580.31	-2608.72	-2595.47

Note: *p<0.1; **p<0.05; ***p<0.01.

exporting. Foreign owned firms also engage in exporting. Additionally, firms which have university degree of employees and more experienced managers are more likely to increase their exporting. Firms, a part of business group, negatively affect export performance. Domestic competition has also negative impact on exporting, suggesting that firms having pressure from domestic competitors are less likely to export. Model 2 suggests that informal competition has significant and negative impact on exporting ($\beta = -8.42$; $p < 0.01$). The results also show that it has negative impact on export performance

for the model which is run for only exporters (see model 2 in Table 4). This result suggests that service SMEs facing informal competition are less likely to export, providing support for the Hypothesis 3. Model 2 also demonstrates that foreign competition has significant and positive impact on exporting ($\beta = 13.71$; $p < 0.01$). It has also positive impact on export performance for only exporters, supporting the Hypothesis 4.

CONCLUSION

This research examines to what extent informal and foreign competition affect innovation and export performance of service SMEs. The results showed that service SMEs benefit from both informal and foreign competition to increase their innovation performance, with the former competition having a greater effect on innovation than the latter competition group. Further, the findings revealed that service SMEs do not benefit from informal competition to increase export performance whereas foreign competition becomes effective for exporting.

This paper contributes to the existing literature on competitive rivalry by exploring service SMEs. The influence of informal competition on innovation and firm performance has been investigated from the perspective of manufacturing firms (Abbas, Adaba, Sheridan & Azeem, 2022; McCann & Bahl, 2017; Miocevic, Arslanagic-Kalajdzic & Kadic-Maglajlic, 2022). Likewise, prior studies on foreign competition have mainly investigated the impact of such competition on innovation performance (Elejalde, Ponce & Roldan, 2022; Iriyama, Kishore & Talukdar, 2016; Nuruzzaman, Singh & Pattnaik, 2019). In fact, these studies are very comprehensive, covering all sectors and different sized firms together. It is important to differentiate between manufacturing and service firms when examining the influence of competition since both sectors vary in terms of their features. Additionally, it is important to differentiate small firms from large ones when investigating the influence of competitive rivalry groups (Ozturk Kose, 2023). Therefore, this research extends prior studies by explicitly focusing on service SMEs to explore how competition from informal and foreign firms influences their innovation and export performance. The findings suggest that service SMEs take the innovation action to fight against informal competitors, confirming the previous studies (McCann & Bahl, 2017; Miocevic, Arslanagic-Kalajdzic & Kadic-Maglajlic, 2022; Perez, Yang, Bai, Flores & Heredia, 2019). The findings also show that informal competitors pose significant challenges to exporting process of service SMEs. More interestingly, this research shows that informal competitors can be both the source of competitive advantage and also the detrimental effects on the prospects of growth, such as exporting (Narula, 2019). In line with the previous studies, the findings on foreign competition suggest that the threats coming from foreign firms

push service SMEs to be innovative and active in international markets (Nuruzzaman, Singh & Pattnaik, 2019).

Despite these positive findings, this study has some limitations that need to be addressed. First of all, this research has focused on the consequences of informal and foreign competition. Future studies can examine contextual factors that shape the link between competition and firm performance. Second, this study is also limited in that it is based on cross-sectional data. Hence, it would be good if future studies would conduct longitudinal studies to further investigate the relations examined in this research over years. Third, the data is drawn from an older version of the survey. Hence, future studies can examine these relationships with a more recent data. Finally, this research has focused on SMEs. However, the differentiation between small and medium sized firms would be important since these firms differ from each other in terms of resources and capabilities.

REFERENCES

- Abbas, S., Adapa, S., Sheridan, A., & Azeem, M.M. (2022). Informal competition and firm level innovation in South Asia: The moderating role of innovation time off and R&D intensity. *Technological Forecasting and Social Change*, 181, 121751.
- Amin, M. (2023). Does competition from informal firms hurt job creation by formal manufacturing SMEs in developing and emerging countries? Evidence using firm-level survey data. *Small Business Economics*, 60, 1659-1681.
- Araujo, B.C., & Salerno, M.S. (2015). Technological strategies and learning-by exporting: The case of Brazilian manufacturing firms 2006–2008. *International Business Review*, 24(5), 725-738.
- Barrett, M., Davidson, E., Prabhu, J., & Vargo S.L. (2015). Service innovation in the digital age. *MIS Quarterly*, 39(1), 135-154.
- Bowen, H.P., & Wiersema, M.F. (2005). Foreign-based competition and corporate diversification strategy. *Strategic Management Journal*, 26, 1153-1171.
- Bu, J., & Cuervo-Cazurra, A. (2020). Informality costs: Informal entrepreneurship and innovation in emerging economies. *Strategic Entrepreneurship Journal*, 14(3), 329-368.
- Bu, J., Luo, Y., & Zhang, H. (2022). The dark-side of informal institutions: How crime, corruption, and informality influence foreign firms' commitment. *Global Strategy Journal*, 12(2), 209-244.
- Cavusgil, S. T., Knight, G., & Riesenberger, J. (2020). *International Business: The New Realities* (Subscription), 5th Edition (5th ed.). Pearson.
- Chang, S.J., & Xu, D. (2008). Spillovers and competition among foreign and local firms in China. *Strategic Management Journal*, 29(5), 495-518.
- Chen, M.J. (1996). Competitor analysis and interfirm rivalry: Toward a theoretical integration. *Academy of Management Review*, 21(1), 100-134.
- Chen, M.J., & MacMillan, I.C. (1992). Nonresponse and delayed response to competitive moves: the roles of competitor dependence and action irreversibility. *Academy of Management Journal*, 35(3), 539-570.
- Chen, H., Zeng, S., Wu, C., & Fu, H. (2021). The dual effect of foreign competition on emerging market firms' internationalization. *Management Decision*, 59(9), 2264-2285.
- Cui, L., Meyer, K.E., & Hu, H.W. (2014). What drives firms' intent to seek strategic assets by foreign direct investment? A study of emerging economy firms. *Journal of World Business*, 49(4), 488-501.
- Darbi, K., Hall, C.M., & Knott, P. (2018). The informal sector: a review and agenda for management research. *International Journal of Management Review*, 20(2), 301-324.
- Distinguin, I., Rugemintwari, C., & Tacneng, R. (2016). Can informal firms hurt registered SMEs' access to credit? *World Development*, 84, 18-40.
- Elejalde, R. Ponce, C., & Roldan, F. (2022). Multidimensional innovation responses and foreign competition. *Industrial and Corporate Change*, 31(6), 1397-1427.
- European Commission. (2003). Recommendation 2003/361/EC. Bruxelles.
- Fu, X. (2012). Foreign direct investment and managerial knowledge spillovers through the diffusion of management practices. *Journal of Management Studies*, 49(5), 970-999.
- Fu, X., Pietrobelli, C., & Soete, L. (2011). The role of foreign technology and indigenous innovation in the emerging economies: technological change and catching-up. *World Development*, 39(7), 1204-1212.
- Gaur, A.S., Ma, X., & Ding, Z. (2018). Home country supportiveness/ unfavorableness and outward foreign direct investment from China. *Journal of International Business Studies*, 49(3), 324-345.
- Godfrey, P.C. (2011). Toward a theory of the informal economy. *Academy of Management Annals*, 5(1), 231-277.
- Goerzen A., & Makino, S. (2007). Multinational corporation internationalization in the service sector: A study of Japanese trading companies. *Journal of International Business Studies*, 38(7), 1149-1169.
- Gokalp, O.N., Lee, S.H., & Peng, M.W. (2017). Competition and corporate tax evasion: An institution-based view. *Journal of World Business*, 52(2), 258-269.

- Golovko, E., & Valentini, G. (2011). Exploring the complementarity between innovation and export for SMEs' growth. *Journal of International Business Studies*, 42(3), 362-380.
- Gonzalez, A.S., & Lamanna, F. (2007). Who fears competition from informal firms? Evidence from Latin America. Policy Research Working Paper 4316, The World Bank, Washington, DC.
- Helkkula, A., Kowalkowski, C., & Tronvoll, B. (2018). Archetypes of service innovation: Implications for value cocreation. *Journal of Service Research*, 21(3), 284-301.
- Hipp, C., & Grupp, H. (2005). Innovation in the service sector: The demand for service specific innovation measurement concepts and typologies. *Research Policy*, 34(4), 517-535.
- Iriyama, A., Kishore, R., & Talukdar, D. (2016). Playing dirty or building capability? Corruption and HR training as competitive actions to threats from informal and foreign firm rivals. *Strategic Management Journal*, 37(10), 2152-2173.
- Kotabe, M. (1989). "Hollowing-out" of US multinationals and their global competitiveness: An intrafirm perspective. *Journal of Business Research*, 19(1), 1-15.
- Krammer, S.M.S. (2019). Greasing the wheels of change: Bribery, institutions, and new product introductions in emerging markets. *Journal of Management*, 45(5), 1889-1926.
- Krammer, S.M.S., Strange, R., & Lashitew, A. (2018). The export performance of emerging economy firms: The influence of firm capabilities and institutional environments. *International Business Review*, 27(1), 218-230.
- Lam, H.K.S., Ding, L., & Dong, Z. (2022). The impact of foreign competition on domestic firms' product quality: Evidence from a quasi-natural experiment in the United States. *Journal of Operations Management*, 1-22.
- Lee, M., Mutlu, C., & Lee, S. (2023). Bribery and firm growth: Sensemaking in CEE and Post-Soviet countries. *Journal of International Management*, 29(1), 100975.
- Leonidou, C.L. (1995). Empirical research on export barriers: Review, assessment, and synthesis. *Journal of International Marketing*, 3(1), 29-43.
- Li, Y., & Vanhaverbeke, W. (2009). The relationships between foreign competition, absorptive capacity and pioneering innovation: An empirical investigation in Canada. *International Journal of Innovation Management*, 13, 105-137.
- Manolopoulos, D., Chatzopoulou, E., & Kottaridi, C. (2018). Resources, home institutional context and SMEs' exporting: Direct relationships and contingency effects. *International Business Review*, 27(5), 993-1006.
- McCann, B.T., & Bahl, M. (2017). The influence of competition from informal firms on new product development. *Strategic Management Journal*, 38(7), 1518-1535.
- McGahan, A.M. (2012). Challenges of the informal economy for the field of management. *Academy of Management Perspective*, 26(3), 12-21.
- Mendi, P., & Costamagna, R. (2017). Managing innovation under competitive pressure from informal procedures. *Technological Forecasting and Social Change*, 114, 192-202.
- Miocevic, D., Arslanagic-Kalajdzic, M., & Kadic-Maglajlic, S. (2022). Competition from informal firms and product innovation in EU candidate countries: A bounded rationality approach. *Technovation*, 110, 102365.
- Narula, R. (2019). Enforcing higher labor standards within developing country value chains: Consequences for MNEs and informal actors in a dual economy. *Journal of International Business Studies*, 50(9), 1622-1635.
- Navarro, A., Losada, F., Ruzo, E., & Diez J.A. (2010). Implications of perceived competitive advantages, adaptation of marketing tactics and export commitment on export performance. *Journal of World Business*, 45(1), 49-58.
- Nichter, S., & Goldmark, L. (2009). Small firm growth in developing countries. *World Development*, 37(9), 1453-1464.
- Nuruzzaman, N., Singh, D., & Pattnaik, C. (2019). Competing to be innovative: Foreign competition and imitative innovation of emerging economy firms. *International Business Review*, 28(5), 101490.
- Oviatt, B., & McDougall, P.P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25, 45-64.

- Ozturk Kose, E. (2023). The influence of informal and foreign competition on innovation: Does size matter? *European Journal of International Management*, 19(1), 117-136.
- Perez, J.A.H., Kunc, M.H., Durst, S., Flores, A., & Geldes C. (2018). Impact of competition from unregistered firms on R&D investment by industrial sectors in emerging economies. *Technological Forecasting and Social Change*, 133, 179-189.
- Perez, J.A., Yang, X., Bai, O., Flores, A., & Heredia, W. (2019). How does competition by informal firms affect the innovation in formal firms? *International Studies of Management & Organization*, 49(2), 173-190.
- Qi, S., & Nguyen, D.D. (2021). Government connections and credit access around the world: Evidence from discouraged borrowers. *Journal of International Business Studies*, 52(2), 321-333.
- Santamaria, L. Nieto, M.J., & Miles I. (2012). Service innovation in manufacturing firms: Evidence from Spain. *Technovation*, 32(2), 144-155.
- Schneider, F. (2002). Size and measurement of the informal economy in 110 countries around the world. Paper presented at a Workshop of Australian National Tax Centre, ANU, Canberra, Australia.
- Schneider, F., & Williams, C.C. (2013). *The Shadow Economy*. London: Institute of Economic Affairs.
- Singh, D., & Gaur, A.S. (2013). Governance structure, innovation and internationalization: Evidence from India. *Journal of International Management*, 19(3), 300-309.
- Stevens, C.E., Xie, E., & Peng, M.W. (2016). Toward a legitimacy-based view of political risk: The case of Google and Yahoo in China. *Strategic Management Journal*, 37(5), 945-963.
- Tesfom, G., & Lutz C. (2006). A classification of export marketing problems of small and medium sized manufacturing firms in developing countries. *International Journal of Emerging Markets*, 1(3), 262-281.
- Tian, Y., Wang, Y., Xie, X., Jiao, J., & Jiao. H. (2019). The impact of business-government relations on firms' innovation: Evidence from Chinese manufacturing industry. *Technological Forecasting and Social Change*, 143, 1-8.
- Wadho, W., & Chaudhry, A. (2018). Innovation and firm performance in developing countries: The case of Pakistani textile and apparel manufactures. *Research Policy*, 47(7), 1283-1294.
- Wan, W.P. (2005). Country resource environments, firm capabilities, and corporate diversification strategies. *Journal of Management Studies*, 42(1), 161-182.
- Webb, J.W., Tihanyi, L., Ireland, R.D., & Sirmon, D.G. (2009). You say illegal, I say legitimate: entrepreneurship in the informal economy. *Academy of Management Review*, 34(3), 492-510.
- Wellalage N.H., & Locke, S. (2016). Informality and credit constraints: Evidence from sub Saharan African MSEs. *Applied Economics*, 48(29), 2756-2770.
- Wiersema, M.F., & Bowen, H.P. (2008). Corporate diversification: The impact of foreign competition, industry globalization, and product diversification. *Strategic Management Journal*, 29, 115-132.
- Williams, C., & Martinez, A. (2014) Entrepreneurship in the informal economy: A product of too much or too little state intervention? *The International Journal of Entrepreneurship and Innovation*, 15(4), 227-237.
- Williams, C., & Kosta, B. (2020). Evaluating the Impact of Informal Sector Competition on the Performance of Formal Enterprises: Evidence From Bosnia and Herzegovina. *Journal of Developmental Entrepreneurship*, 25(2), 1-15.
- Williams, C., & Martinez-Perez, A. (2014). Why do consumers purchase goods and services in the informal economy? *Journal of Business Research*, 67(5), 802-806.
- Xia, T., & Liu, X. (2017). Foreign competition, domestic competition and innovation in Chinese private high-tech new ventures. *Journal of International Business Studies*, 48(6), 716-739.
- Xie, Z., & Li, J. (2018). Exporting and innovating among emerging market firms: The moderating role of institutional development. *Journal of International Business Studies*, 49(2), 222-245.
- Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management Journal*, 38(2), 341-363.

Zhang, Y., Li, H., Li, Y., & Zhou, L. (2010). FDI spillovers in an emerging market: The role of foreign firms' country origin diversity and domestic firms' absorptive capacity. *Strategic Management Journal*, 31(9), 969-989.

Zhou, N., & Guillen, M.F. (2015). From home country to home base: A dynamic approach to the liability of foreignness. *Strategic Management Journal*, 36(6), 907-917.

Authentic Leadership: A Systematic Review and Research Agenda

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ABSTRACT

There has been a growing interest in authentic leadership as a distinctive style of leadership and a dynamic research topic. In this direction, the aim of this study is multifaceted. First, we focus on providing a comprehensive overview of research on authentic leadership (AL), which has attracted substantial research interest in the last few years. Second, we outline the theoretical and nomological network of AL, highlighting antecedents, outcomes, moderators, and mediators. Third, we offer an elaborated future research agenda to enable advances in theory and empirics. We systematically reviewed 182 articles issued in the business management and psychology literature between 2005 and 2021. Interest in AL is growing, and 2020 is the golden year. Developed countries dominate the field. After a rigorous review, we offer a future research agenda with four key themes. The study highlights that AL is critical to the emergence and growth of valuable behaviours, attitudes, and performance at individual, team, and organisational levels. The study provides new research ideas and further conceptualization of AL. We also provide a comprehensive review of why managers should continue to practice AL, where the literature has been, and where it may be headed in the future.

Keywords: Authentic Leadership, Leadership, Authenticity, Systematic Literature Review.

JEL Classification Codes: M12, M54

Referencing Style: APA 7

INTRODUCTION

Leadership has become an active area of conceptualization and study, providing a more scientific and evidence-based background to foster long-term interest in the phenomenon among researchers and professionals. Thus, for more than six decades, researchers have been striving to unravel the black box in the field of knowledge in order to find more effective ways to lead individuals, work environments, and organizations (Polat et al., 2024). Throughout the history of leadership, countless efforts have been made to clarify why and how certain leadership approaches might be more effective in different work environments and industries. However, there are still no satisfactory answers in this area, so scholars are striving to uncover many dark sides in this field (Gordon & Yukl 2004).

In the wake of ethical scandals in businesses, governments, and nonprofit organizations, people are wondering what is wrong with our leaders (Brown & Treviño 2006). The AL approach emerged from the

misbehavior of leaders in several organizations because traditional leadership styles are no longer sufficient for a hopeful solution to these problems (Margiadi & Wibowo 2020). Therefore, AL has become a key element of positive leadership research in recent years. As a valuable and relatively new contemporary leadership style (Alilyania et al., 2018), AL has become the focus of researchers and practitioners over the past decade. Since its inception, AL theory has benefited from critical refinements, and the number of empirical studies examining AL has increased, "most notably" (Banks et al., 2016).

While the number of studies on AL has grown impressively, there are few comprehensive literature reviews on this approach to leadership. The few studies that have been published that have examined AL using a systematic literature review (SLR) do not show the whole picture, but only part of the picture. For example, Intesarach & Ueasangkomsate (2021) focused on the antecedents of AL; Maziero et al. (2020) identified and analyzed the positive aspects of AL in nurses' work process. In addition, Margiadi & Wibowo (2020)

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conducted a bibliometric literature review but did not provide data on mediators, facilitators, antecedents, and outcomes. To our knowledge, the Gardner et al. (2011) study is the only systematic review that provides a general picture of AL, while the Alilyyana et al. (2018) study focuses on healthcare.

It is therefore timely to provide an in-depth and comprehensive review of studies on AL. By describing such results, this study aims to answer these questions:

1. What are the theoretical frameworks used in the research of AL?
2. What are the antecedents, outcomes, facilitators, and moderators of this research?
3. What is the future of research at AL?

This study conducts an SLR on AL and contributes significantly to the existing literature. First, such an analysis is valuable because it reveals the big picture of AL. Thus, this study brings to light current developments on AL. Systematic reviews provide an opportunity to find, analyze, evaluate, and report on the “best” evidence-based practices that may be useful to practitioners. Based on this exploration, practitioners can make more consistent decisions about whether or not to adopt a practice. Second, this study contributes to practitioners by identifying key antecedents and outcomes, facilitators, and moderators of AL. Third, our study contributes to theorists by presenting the big picture of the knowledge domain, identifying gaps in research on AL, and suggesting directions for future research.

LITERATURE REVIEW

What is authentic leadership?

Authenticity is a concept that is of concern to both practitioners and scholars (Walumbwa et al., 2008), and derives from the ancient Greek philosophy “Be true to yourself” (Avolio & Gardner 2005). Positive psychologists refer to authenticity as owning personal experiences (thoughts, feelings or beliefs) and behaving according to one’s authentic self (Luthans & Avolio 2003). Simply put, the core of authenticity is “knowing oneself, accepting oneself, being true to oneself” (Avolio et al., 2004) and acting accordingly (Gardner et al. 2011).

One of the most important and primary requirements for leadership is that individuals have a cultivated self and understand themselves (Luthans & Avolio 2003). Regarding the role that people’s inner selves play in leadership, Vries (1994) suggested that we all have an inner theater and are

motivated by a particular inner scenario. This inner theater plays an important role in shaping our behavior and leadership style throughout our lives. For these reasons, it is best not to view the concept of authenticity as an either/or construct, but to accept that it exists with continuity and is determined to the extent that people remain true to their core human values, identities, preferences, or feelings (Avolio et al. 2004).

The explanation of authenticity above most closely describes the kind of positive leadership required in today’s world. In this sense, research from AL has reached a significant point in recent years in the studies of positive leadership (Banks et al. 2016; Margiadi & Wibowo 2020). AL is explained by Walumbwa et al. (2008, p. 94) as “*draws on and fosters positive psychological skills and a positive ethical climate to promote greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders in working with their followers to support positive self-development.*”

Comprehensive interpretations could be drawn from an integrated literature review (Oh et al., 2018) to explain what constitutes AL. However, it appears that they are examined under four main interrelated concepts (Avolio & Gardner 2005): (i) self-knowledge, (ii) internalized moral perspective, (iii) morally balanced processing, and (iv) relational transparency. Firstly, AL requires a high level of self-awareness consistent with the importance of authenticity (Avolio & Gardner 2005). Self-awareness is related to how leaders understand their strengths, weaknesses, and motivations and recognize others’ views of their leadership. It includes inner and outer capacity. Inner capacity symbolises self-awareness of the leader’s states of mind, such as beliefs, wishes and emotions, while outer capacity means that the leader reflects the self-image that others perceive. Leaders who are high in self-awareness use self-knowledge and self-image to improve their leadership efficiency (Arici et al., 2020).

Internalized moral perspective/self-regulation is the second component of AL. It involves efforts to self-regulate in three ways: (i) setting internal moral standards, (ii) assessing inconsistencies between internal standards and actual/potential outcomes, (iii) discovering intentional actions to resolve inconsistencies. Self-regulation can also be seen as the alignment of an authentic leader’s values with their intentions and actions (Gardner et al. 2011). In self-regulation, individuals have the power to control when others can influence them. As a result, there is a consistent composition between the leader’s moral perspective, actions, and beliefs (Margiadi & Wibowo 2020).

The third term, balanced processing, used by Kernis (2003) unbiased processing, represents an objective analysis of all relevant information before a decision is made (Neider & Schriesheim 2011). According to Kernis (2003, p. 14), it means “not denying, distorting, exaggerating, or ignoring private knowledge, internal experience”, and external evaluative information. It is at the heart of a person’s integrity and character and plays an essential role in shaping decisions and actions (Luthans & Avolio 2003).

The final component is relational transparency, which concerns showing one’s genuine self to other people and providing information about one’s true thoughts and feelings in a clear but honest way (Avolio et al. 2004). Relationships become transparent when people share their primary emotions, ideas, and tendencies with each other (Margiadi & Wibowo 2020). Authentic leaders therefore rely on openness and self-disclosure in their close relationships with others (Banks et al. 2016).

Previous Reviews on Authentic Leadership

Following the political and corporate crises of the early 21st century (e.g., Enron, WorldCom), authenticity in leadership is a popular topic in the business management literature (Hoch et al. 2018). Luthans & Avolio’s definition of AL in 2003, followed by theoretical models (Avolio et al. 2004) and inter-disciplinary meetings held by the Gallup Leadership Institute in 2004 and 2006, has focused attention on AL.

The number of studies on this topic is growing, and we are seeing SLR or meta-analysis studies exploring the development and evolution of the structure of AL, as well as the broad picture of its antecedents and outcomes

(Table 1). Researchers (Gardner et al. 2011; Margiadi & Wibowo 2020; Strom 2020; Intesarach & Ueasangkomsate 2021) have conducted review studies in all disciplines using criteria such as year, country, author, journal, and research method. Studies have also been conducted frequently in health sciences such as public health (Alilyyani et al. 2018) and nursing (Maziero et al. 2020; Valle et al., 2021). Alilyyani et al. (2018) focused on the antecedents and consequences of AL; Valle et al. (2021) AL -structural empowerment relationship; Maziero et al. (2020) reviewed the studies on the positive aspects of AL.

Also of note are studies that use meta-analysis techniques to evaluate AL. Zhang et al. (2021) evaluated the antecedents and outcomes of AL. Hoch et al. (2018) analysed the results of authentic, transformational, servant leadership; Banks et al. (2016) compared authentic and transformational leadership. Miao et al. (2018) examined the association between AL and emotional intelligence.

METHODOLOGY

Data Collection

SLR is a methodology that involves the systematic and comprehensive gathering, organisation and evaluation of existing literature in a field of study (Polat et al., 2023). In this context, we decided that conducting an SLR was the most appropriate approach to advance existing AL research in the field and improve understanding and practical application of AL. The review process followed the protocols for SLRs used in previous studies (Polat et al., 2024). First, the database was identified. Scopus was selected due to its high reputation, trust, and large journal pool. Second, ‘Authentic Leadership’ was identified as a keyword in light of previous

Table 1. Previous reviews on AL

Author	Research Method	Years Interval	# of Studies Examined
Gardner et al. (2011)	SLR	up-to-December 2010	91
Intesarach/Ueasangkomsate (2021)	SLR	2010-2018	21
Margiadi/Wibowo (2020)	Bibliometric Analysis	2003-2018	122
Alilyyani et al. (2018)	SLR	up-to-January 2017	38
Valle et al. (2021)	SLR	2012-2018	5
Maziero et al. (2020)	SLR	June-September 2018	17
Strom (2020)	SLR	2003–2018	15
Hoch et al. (2018)	Meta-Analysis	up-to-November 2015	41
Banks et al. (2016)	Meta-Analysis	up-to-September 2014	74
Zhang et al. (2021)	Meta-Analysis	not specified	214
Miao et al. (2018)	Meta-Analysis	not specified	11

studies (Gardner et al. 2011; Alilyyani et al. 2018; Margiadi & Wibowo 2020). There are two primary options for keyword selection (Chen & Xiao 2016): (1) at the macro level, using all keywords to determine the structural features of domain knowledge, (2) at the micro level, using “essential” keywords to explore a large research field and their relationships. We adopted for the second option. Third, AL was scanned in article titles, keywords, and abstracts. Articles from 2005 to 2021, June 1, were considered. We began in 2005 because, following the research calls of Luthans & Avolio (2003) and The Leadership Quarterly “AL Development- Getting to the Root of Positive Forms of Leadership,” the first research papers were published that year. In addition, only SSCI-indexed journal articles in English and the subject areas of (i) business, management, and accounting (BMA) and (ii) psychology were considered. The result was 263 articles. Fourth, to ensure that the articles were related to the topic, two researchers independently coded each article by reading the title, abstract, and (if necessary) full texts. In this way, the coders questioned whether or not the articles focused precisely on AL. Throughout the process, any ambiguity regarding the appropriateness of an article was discussed to establish consensus among the researchers. As a result, 81 articles were excluded due to unrelated research and 182 were included in the sample.

Finally, the researchers transferred the data into an Excel spreadsheet to create a coding book. In this book, each article was individually categorized by two researchers in terms of descriptive characteristics and theories, scales used in AL surveys, antecedents, outcomes, mediators, and moderators of AL. To ensure the reliability of the categorization, the coding process focused on complete consistency. In this regard, the

coding done by the researchers was mutually reviewed and differences were negotiated.

Data analysis

The Oxford English Dictionary describes review studies as a study that summarises recent literature or developments on a particular topic. As one of the review typologies (Kim et al., 2018), SLR aims to identify, analyze, and evaluate existing studies on a given topic within a given framework. In this regard, researchers understand the development and evolution of the topic in question and identify salient trends. The SLR approach was used because the interest of this study was to capture the prospects of AL studies according to different criteria.

FINDINGS

Overview of the Authentic Leadership Studies

Publications by Year

Figure 1 illustrates the number of studies issued between 2005 and 2021. The results show that only 27.5% of studies (n=50) were published between 2005 and 2013, with most published since 2013 (72.5%, n=132). Therefore, we examined AL -focused studies by considering two time periods: (1) 2005-2013 and (2) 2014-2021. The year 2005 stands out in the initial time period. The main reason could be derived from the studies in the special issue of The Leadership Quarterly. More importantly, 2020 is the golden year with the highest number of articles for AL. However, in 2021, there were 18 studies published in the first five months, which shows a growing interest.

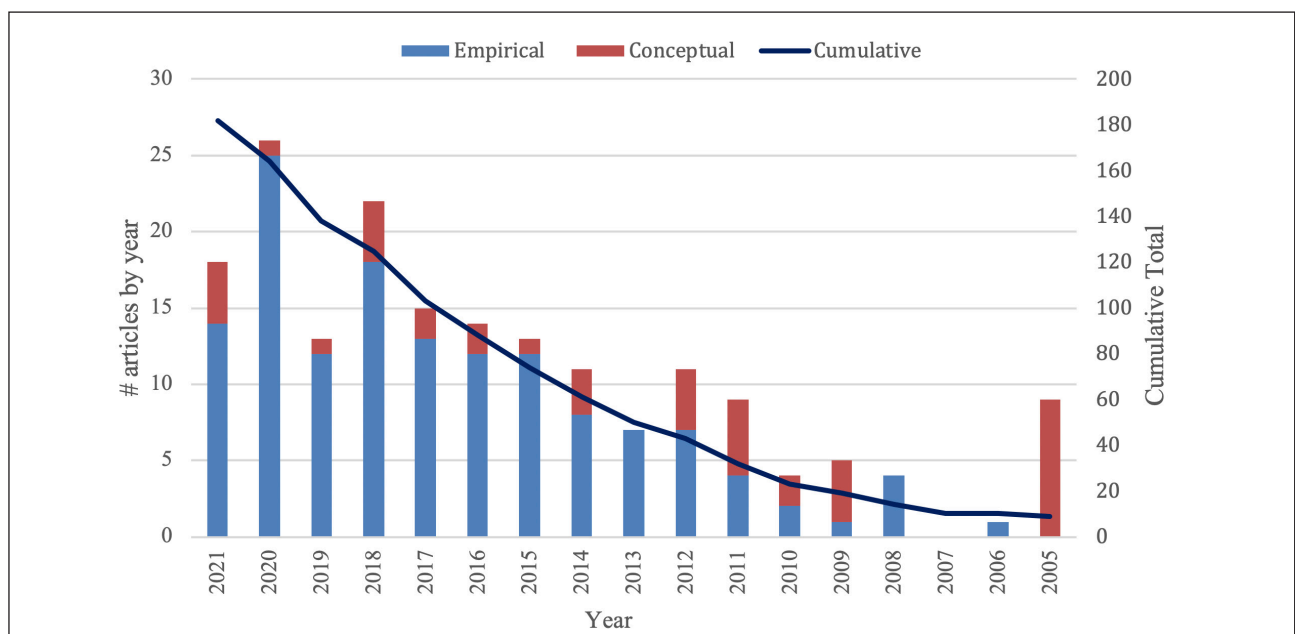


Figure 1: Number of studies over time
 Note: The first five months of 2021 were considered.

Table 2. Journals (selected) publishing AL research

Journal	Frequency	%
Leadership & Organization Development Journal (LODJ)	38	20.8
The Leadership Quarterly (TLQ)	31	17.03
Journal of Business Ethics (JBE)	18	9.8
Leadership	16	8.8
Journal of Leadership and Organizational Studies	14	7.7
European Journal of Work and Organizational Psychology (EJWOP)	8	4.4
International Journal of Contemporary Hospitality Management (IJCHM)	6	3.3
Journal of Organizational Behavior (JOB)	5	2.75
Journal of Management (JM)	4	2.2
Academy of Management Annals (Annals)	1	0,54

Publications by the method

The results show that the researchers mainly used empirical analysis to study AL and its constructs. Thus, there were 140 (76.9%) empirical papers and 42 (23.1%) conceptual papers in the sample. 24 (57.1%) of the conceptual studies were conducted in the first period, and 18 (42.9%) in the second period. In the first period, researchers mainly conducted conceptual studies to strengthen the theoretical foundations of AL and examine its distinguishing features from other leadership approaches. In the second period, researchers sought to contribute to the development of AL from various theoretical perspectives. Meanwhile, researchers also addressed the academic concerns and critiques of AL (Gardner et al. 2021). Other conceptual studies during this period were interested in developing new propositions and guidelines to help managers better understand and apply the newly developed leadership style and its practices in their organizations (Gill et al., 2018).

Scholarly attention has moved from conceptual studies to empirical analyzes in the second period, following satisfactory progress in conceptualization. All studies in Eastern Europe are empirical. This development might be due to the fact that journal editors and reviewers give more priority to empirical studies. Another factor could be the need to generalize leadership style and its potential impact on organizations and followers. Among the empirical studies, the quantitative research method predominated (87.8%); the rest adopted a qualitative approach (9.3%) or a mixed method of quantitative and qualitative methods (2.9%). Correlative field studies predominate among the quantitative research on AL, with six meta-analyzes and six studies using an experimental

design. In addition, 14 of the quantitative studies include three or two waves, and 90% of the studies are cross-sectional.

In contrast, the qualitative studies focused on single-case studies, primarily interviews (58.4%). For the individual-level studies, samples ranged from 3 to 97 employees (mean=25.25, median=17.25). Two studies chose a longitudinal design and investigated in three waves over a period of 15 months and one year. In addition, we find studies using secondary data (newspaper archives), observations, and auto-ethnographic design. Surprisingly, only 16.6% of the qualitative research was theory-driven; the majority of the remaining studies sought to understand how AL developed within an organization. Leadership was the top journal (50%) in which qualitative AL research was published.

To better understand why the phenomenon emerged and developed, limited mixed methods research on AL generally consisted of surveys followed by interviews. These studies collected qualitative data via semi-structured interviews, focus group discussions, role-playing, observation, and scenario-based voluntary blog posts. Quantitative data, on the other hand, were collected through questionnaires and an experimental design. In contrast to qualitative research, 50% of the studies were based on theories.

Publications by journal

Authentic leadership research has been published in a variety of journals (Table 2). The LODJ has dominated the knowledge space, followed by TLQ and JBE. In addition, since 2005, research papers have increasingly been published in high impact factor journals, such as *Annals*

and *JM*. In addition, high-impact journals in organizational behavior, hospitality, or psychology, including *IJCHM*, *JOB*, and *EJWOP*, have also published several papers on AL. Finally, the overwhelming majority of studies were conducted in the discipline of BMA (85.2%).

Publications by country

Figure 2 illustrates the distribution of articles by country. AL has been present on the global stage for many years thanks to the multinational structure of 21st century organizations and the positive leadership styles adopted worldwide. In total, studies on AL have been conducted in 42 different countries. Most of the studies of AL have been conducted in developed countries, for example the US, the UK, Australia, and Canada. Over the past 20 years, ethical scandals around the world, particularly in the US and several European countries, have led to AL being discussed and studied in these countries more than others. Studies have been conducted in Eastern Europe; four in Poland and one in Serbia.

SIT is the most used theory. It has been used to describe how authentic leaders develop strong bonds with employees and create a sense of partnership between employees and the organization or leader. When strong bridges are built between followers and the organization, leader, or team, positive behaviors increase, and negative ones decrease. For instance, when followers’ identification with the leader is improved, employees’ organizational commitment (Lux et al., 2019), level of organizational identification (Gigol 2021), voting behavior (Niu et al. 2018), or perceived support of the leader (Arici 2018) increases. Moreover, in this way, the level of identification with the team (Azanza et al., 2015) and team performance increases (Lin & Chen 2016), while turnover intention decreases (Azanza et al. 2015).

Second, SET appears frequently. This theory is also prominent in studies in Eastern European countries. It assumes that the leader-follower relationship involves a continuous process of resource exchange and contributes to the explanation of the employee observing the AL

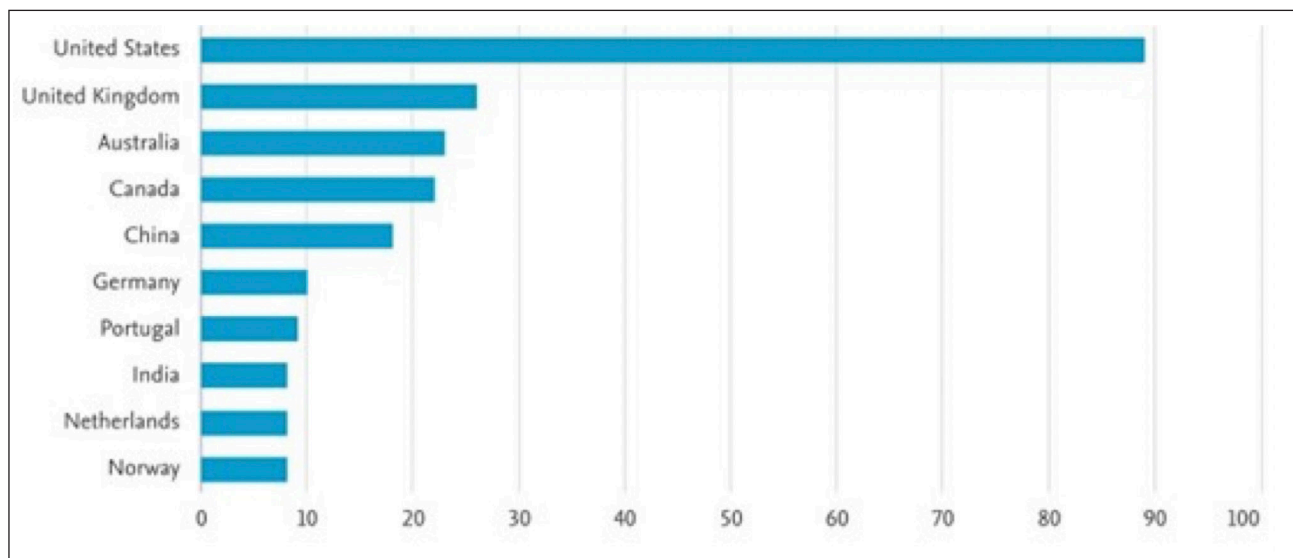


Figure 2: Distributi on of AL studies by country

Theories related to Authentic Leadership

We analyzed the literature to emphasize the theoretical viewpoints researchers have highlighted. Researchers have used 72 theories, and no single theory is dominant in the AL literature. Instead, it can be said that social-based theories are more prevalent than others as a category (social identity theory (SIT)=14; social exchange theory (SET)=12; social learning theory (SLT)=8; social information processing theory=6; social cognitive theory=3; social contagion theory=3).

style in their leader and feeling obligated to respond with increasing positive and decreasing negative behaviors (Duarte et al., 2021). From this perspective, according to the principle of reciprocity, employees have better performance (Duarte et al. 2021), the intensity of leader-member exchange (LMX) (Hirst et al., 2016), and work engagement (WE) increases. Finally, they exhibit more Organisational Citizenship Behaviours (OCB) (Farid et al., 2020).

Another theoretical framework, SLT, assumes that individuals learn behaviors, values, and attitudes by observing, imitating, and modeling appropriate and trustworthy role models. In an organization, authentic

leaders are imitated by their followers as reliable role models. Based on this explanation, studies show that followers achieve higher individual performance (Duarte et al. 2021), OCB (Fortin et al., 2017), or helping behavior (Hirst et al. 2016) by imitating their leaders' behavior.

The second popular group of theories is motivation-based, which proposes strategies to motivate followers to achieve desired behavioral, attitudinal, and performance outcomes. These theories include self-determination theory (n=7), resource maintenance theory (n=5), psychological capital theory (n=4), extension and building theory (n=2), and intrinsic motivation theory (n=1). On the other hand, studies based on motivational theories emphasize the antecedents of AL more than those based on social science theories. For example, self-determination theory asserts that individuals adopt the values or behaviors they encounter in their social lives through intrinsic and extrinsic motivational mechanisms (Ryan & Deci 2000). In this context, Peus et al. (2012) examined whether self-determination is a prerequisite for AL.

Some studies focus on self-driven theories such as self-categorization (n=2), self-efficacy (n=3), self-regulation (n=2), self-consistency (n=1), or self-enhancement (n=1) theories. Moreover, leadership theories such as LMX (n=5) and implicit leadership theory (n=2) can also be noticed.

Antecedents of Authentic Leadership

We identified 17 empirical studies that test the antecedents of AL. These studies generally focus on the leader's personality and personal resources and contribute to the model of AL development (see Figure 3).

In studies attempting to determine the antecedents of AL, researchers asked leaders to rate their personality traits and followers to rate their supervisor's leadership style to determine whether a leader's personality predicts AL behaviors. Shahzad et al. (2021) discovered that conscientiousness, openness to experience, extraversion, and agreeableness were positively associated with AL, whereas neuroticism was negative. Zhang et al. (2020a) examined whether mindfulness was related to AL and found positive effects. Petersen & Youssef (2018) linked AL to leaders' strengths (psychological capital) and organizational context (psychological climate - trust, support, autonomy, etc.) and found positive relationships between these constructs.

Steffens et al. (2021) show that personal and group self-awareness are essential factors in employees' perceptions of AL. In addition, they indicate that a

leader's self-awareness has a more decisive influence on the perception of AL than group self-awareness. Similarly, the leader's authentic personality (Liang 2017) and self-awareness or self-consistency (Peus et al. 2012) are related to followers' perceptions of AL. Leaders who pay attention to being authentic are motivated to act in a way or have an attitude consistent with their behaviors, such as self-knowledge and authentic personality.

The leader's resources and skills may also affect the level of AL perceived by followers. Based on political influence theory, Mehmood et al. (2020) found that apparent sincerity makes the leader appear more authentic. Because employees can only test leaders based on their visible behavior. This way, leaders with apparent high sincerity are perceived as more authentic. Researchers have also linked networking ability to AL. Accordingly, networking ability and AL have a negative correlation. However, this is only true for female leaders and suggests that gender is the moderating variable in this relationship. Gender stereotypes suggest that women should worry about positive relationships and social cohesion, while men success and status. On the other hand, networking ability is not problematic for men because it is more associated with success and status. Still, it creates a contradictory situation for women and makes them appear less authentic.

Instead of a rival out-group, inner group-oriented behaviors help followers view leaders more positively and are perceived as more authentic. For instance, Steffens et al. (2016) show that a leader who advocates for collective interests is more authentic and more likely to be followed by employees. In this context, LMX influences perceptions of AL (Azanza et al., 2018). As this interaction has a positive effect on the relational transparency dimension of AL, followers perceive the leader as more authentic.

Regarding gender, three studies show no consensus. Azanza et al. (2018) reported that female leaders were likelier to exhibit AL behaviors than males. They claimed this was because women have a higher internal moral perspective. In contrast, Monzani et al. (2015a, 2015b) reported that male leaders were likelier to exhibit AL behaviors. Monzani et al. (2015a) state that although women are more likely to exhibit AL behaviors, women's leadership behaviors may be attributed to gender roles rather than leadership roles due to role conflict in the workplace. Thus they may perceive themselves as less authentic. Studies are needed that show correlation between AL and the leader's gender, age, education level, and tenure in the future.

Outcomes of Authentic Leadership

Most empirical research on AL has concentrated on how leaders affect follower outcomes and the processes that explain these connections. Appendix.1-(Tables I-II-III) and Fig. 3 provide a comprehensive overview of these connections.

Behavioral Outcomes

The most widely addressed connection in AL research is that between AL and OCB. This research focused on employees studying different sectors such as hospitality (Qiu et al., 2019), banking (Farid et al. 2020) or education (Fortin et al. 2017), and their immediate leaders (Wei et al., 2018). AL is also found to be positively related to voice-(Liang 2017), helping behaviors (Hirst et al. 2016), organization's core values (Oh et al. 2018); negatively related to stress- and stress symptoms (Rahimnia & Sharifirad 2015), workplace bullying (Laschinger & Fida 2014), and workplace deviance behavior (Liu et al., 2018).

Attitudinal Outcomes

Given the nature of AL, it is positively associated with a broad variety of work-related attitudinal outcomes. WE (Liu et al. 2018), affective commitment (Milic et al., 2017), organizational commitment job satisfaction (Monzani et al. 2015b), and psychological capital (Hu et al., 2018) are the most critical outcomes. An emerging body of literature has also verified that AL is positively associated with personal (Lux et al., 2019), workgroup (Steffens et al. 2016), team (Lin & Chen 2016), or organizational identification (Niu et al. 2018). Also, it is stated that AL is more effective in relationship-based employee governance than paternalistic and democratic leadership (Ahmed et al., 2018).

Additionally, research shows that AL is negatively associated with turnover intention, risk perception (Nielsen et al., 2013), emotional exhaustion and cynicism (Laschinger & Fida 2014), role conflicts and role-ambiguity (Kalay et al. 2020), and job insecurity (Wang & Xie 2020).

Performance Outcomes

The literature shows that AL predicts several levels of performance, including employee (Qu et al. 2019), team (Lin & Chen 2016), and organizational (Hmieleski et al. 2012). A significant performance outcome of AL is employee creativity (Xu et al., 2017). Most of the studies on this subject are prepared at the individual level, and there is only one study at the team level (Lei et al., 2021). There is also a developing literature that links AL to

innovation (Cerne et al., 2013), sales (Rego et al., 2015), and oriented outcomes. Further, it has been discovered that AL is more effective in service innovation than paternalistic and democratic leadership (Ahmed et al. 2018).

Leader-Related Outcomes

Regarding leader-related outcomes, the most researched variable is LMX (Hsiung 2012; Xu et al. 2017). Moreover, research has revealed correlations between AL and leader effectiveness (Nichols & Erakovich, 2013); supervisor identification (Liu et al., 2018); trust in the leaders (Zhang et al., 2020b); and leader behavioral integrity (Leroy et al., 2012).

Moderators in Authentic Leadership Research

Thirty-six studies focused on moderators. In 12 studies, AL was examined as a moderator. These studies focused on how AL affects followers' attitudes and found that positive relationships between variables were strengthened while negative ones were weakened. For example, Xu et al. (2017) discovered that the relationship between LMX and employee flourishing becomes stronger at higher AL levels; Arici et al., (2020) found the relationship between nepotism and tolerance of workplace incivility becomes weaker at higher AL levels. In studies where AL is the moderator variable, the moderating effects of AL on interpersonal relationships at the individual, team, and organizational levels of analysis have also been examined. The individual level of analysis is the most common (see Appendix.1-Table IV and Figure 3)

The remaining 24 studies analysed the relationship between AL and its outcomes under the influence of different moderators. The moderators can be divided into employee- and workplace-related moderators (e.g., gender, role clarity), leadership-related moderators (e.g., LMX, leader mindfulness emotions), team-related moderators (team prototypicality), and climate- and organisation-related moderators (e.g., organisation size). On the other hand, many different moderators were proposed and tested only once in studies. For this reason, it is not possible to provide a concise summary. Therefore, future studies consistently examine the effects of moderator variables.

Measures of Authentic Leadership

Henderson & Hoy (1983) made the first attempt to functionalise the AL construct. They concentrated on the concept and functionalisation of AL and created the

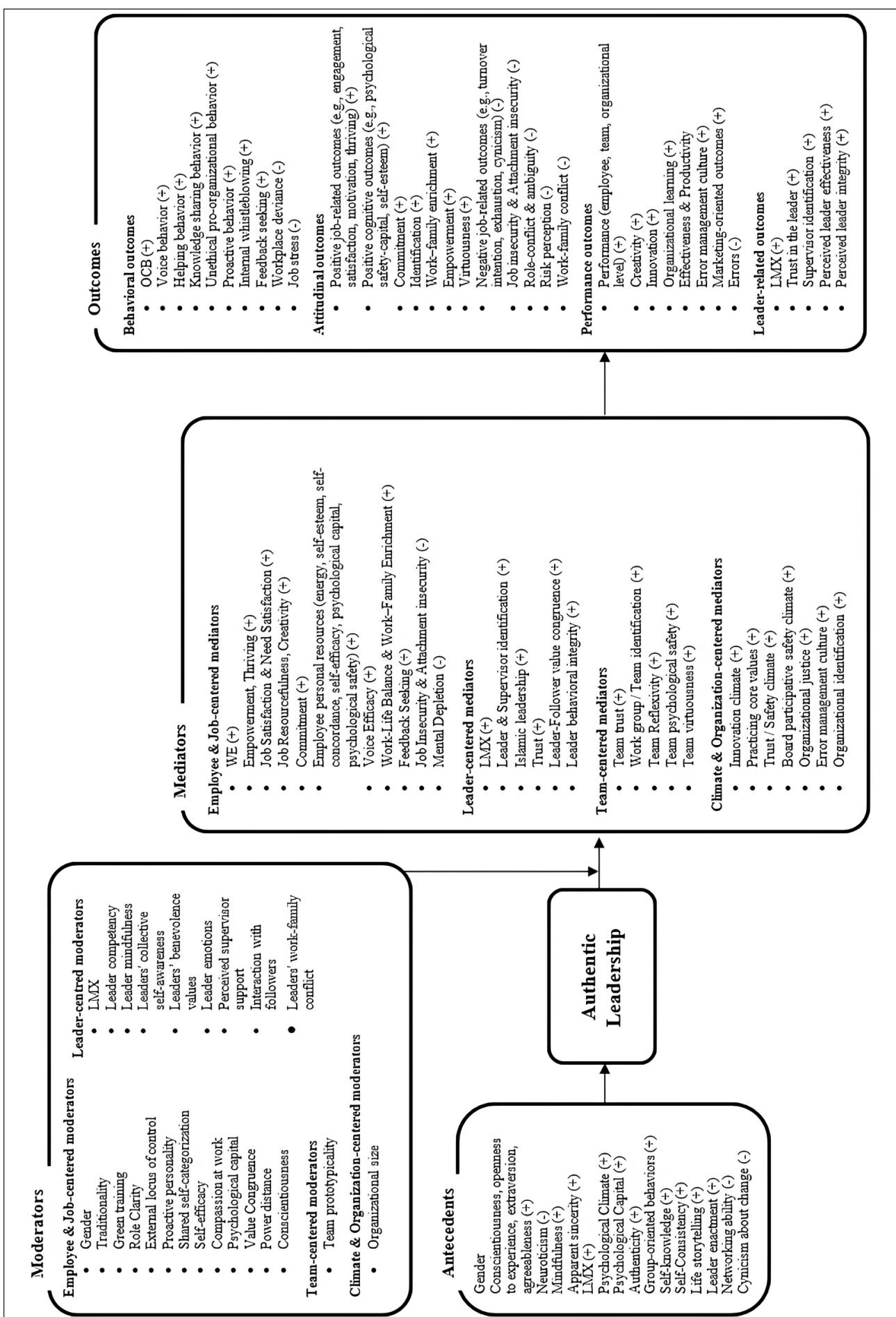


Figure 3: Outline of mediator & moderator variables and antecedents & outcomes of AL

Leader Authenticity Inventory, a 32-item scale that can be used to assess AL (Gardner et al. 2011).

Following Luthans & Avolio (2003)'s call for research, scholarly interest in AL has resurfaced, and researchers have attempted to develop the construct of AL. Since then, different tools have been developed for measuring AL. A summary of the measurement tools that emerged in the studies is presented in Appendix.1-(Table V).

Before the introduction of ALQ, ALI, or AL-IQ, researchers faced several challenges and tried different ways to measure AL. For instance, Jensen & Luthans (2006) measured by combining three different scales: the Multifactor Leadership Questionnaire (MLQ), the ENTRESALE (Entrepreneurial Orientation), and the Ethical Climate Questionnaire. Similarly, Tate (2008) created a measurement tool based on George's (2003) conceptual dimensions with 17 items and three subscales (self-discipline and ethical standards—9 items; establishing positive relationships—4 items; and passion for purpose—4 items).

Walumbwa et al.'s (2008) ALQ is the most widely used scale in studies. Neider & Schriesheim's (2011) ALI was the other tool used to measure AL. While the ALQ is more widely used than the ALI, the ALI has better internal consistency and reliability than the ALQ (Oh & Oh 2017).

On the other hand, Levesque-Côté et al. (2018) determined that there are problems in some factor items of ALQ and ALI through the exploratory structural equation modelling (ESEM) technique, which has emerged as a new analytical approach. Thus, they created a new tool (AL-IQ) by combining some items of both measurement tools with the ESEM. Only Levesque-Côté et al.'s (2021) study has used this tool.

Scenario-based studies were conducted for AL measurement. For example, Nichols & Erakovich (2013) investigated how AL affects leader effectiveness and prepared two different scenarios, and measured AL scores according to answers given to these scenarios. In addition, in one experimental study (Monzani et al. 2015b), participants were shown an initial manipulation with a 5-minute video in which the CEO gave a welcoming speech in an authentic style (displaying a high level of self-awareness, moral perspective, balanced information processing, and relational transparency), and AL measurements were made accordingly. There is currently a lack of scenario-based and experimental research in the literature. For future research, this area contains a critical gap.

DISCUSSION

Through a review of 182 articles, this article provides a comprehensive overview of AL and suggests avenues for further investigation. First, it shows that academic interest in the study of AL and its consequences has increased. All of the articles reviewed in this article were published in the last 15 years.

The substantial increase in research from 2020 reflects the significant progress of studies focused on AL contemporary leadership styles and introduces important management practices. Although some researchers have studied AL and its importance, the academic understanding of AL in management is still in its infancy. To fill this knowledge gap, scholars need to focus on the fundamental concepts and themes identified in our research.

The results show that developed countries (e.g., the U.S., the U.K., Australia) explored AL more than their Eastern counterparts. This means that researchers from Western countries are focusing more on the principle of authenticity in leading their organizations and followers, with a growing number of scientific experiments focusing on creating a trust-based climate in the work environment. This significant finding may encourage scientists from Eastern and developing countries to focus more on AL and its associated outcomes. However, they cannot ignore the growing scientific interest in this approach, as illustrated in Figure 2.

The mediating and moderating constructs that have been used to examine how and when AL affects various outcomes are discussed below, and the main variables used are presented. The employee- and leader-centered (e.g., WE, empowerment, LMX) and team- and organization-centered variables, such as team trust, safety climate, and identification, have often been used as intervening constructs to probe the mechanisms underlying the effects of AL on various levels of outcomes. This taxonomy provides a beneficial way to clarify the mediating mechanisms that link AL to different outcomes (e.g., behavioral, attitudinal, and performance outcomes). Moderating constructs were grouped into four categories (employee- and workplace-centered, leadership-centered, team-centered, and climate- and organization-centered) to help researchers better understand the nature of the boundary conditions within the link between AL and its outcomes.

Table 3. Future research questions

Foci	Research question
General	Does AL estimate follower, team, and organizational outcomes beyond transformational, servant, instrumental, or ethical leadership?
	Is AL empirically separate from transformational, ethical, or servant leadership?
	How do authentic leaders' and followers' relationships improve over time?
	How do home-office, work-home conflict and/or work stress affect AL behaviors?
	What can be the other behavioral and attitudinal antecedents of AL?
Leader	Does AL affect the leader's promotion?
	Is leadership training effective in gaining authentic leadership (or sub-dimensions) skills?
	Do authentic leaders need to regulate their emotions or engage in emotional effort in the workplace?
	Is AL an effective tool in reducing the leader-follower value incongruence?
	Is an interdisciplinary approach combining history and leadership research possible? Can we learn something different from historical figures about AL? What can these add today's AL principles?
Follower/ Employee	Do employees perceive AL as an extraordinary leadership style or as standard behavior?
	Does investing resources in employees result in a loss of resources for the authentic leader?
	Does AL affect information share behavior among followers?
	Which sub-dimension of AL gains importance according to different generations (e.g., Gen X-Y-Z) of employees?
Organizational	Does organizational culture affect the relationship between AL and its outcomes?
	Does the type of organization (e.g., entrepreneurial, bureaucratic, non-profit, organic) moderate the relationship between AL and its antecedents and outcomes?
	Does perceived organizational support lead to the emergence or development of AL?
	Is AL influence higher-level outcomes (e.g., customers' evaluations of the firm, firm performance & profit)
Industry	Do the relationships between AL and its antecedents and consequences differ by industries?
Culture	Is AL an effective leadership style in countries with high power distance/masculinity?
	Is AL perceived as a lack of self-confidence in individualistic cultures?
Research method	Do longitudinal research or experimental designs ensure a better explanation about the correlational or casual relationship between AL and its antecedents and outcomes?
	Does experience sampling method be applied to protect against common method bias in the study domain?
	Can AL scales specific to sectors be developed?
	Do conducting mixed-methods research approaches contribute to strengthening the reliability of the data in the study domain?

The results show that conceptual research dominated in the first period, while scholarly efforts focused on empirical analyzes in the second period, when the desired developments in the conceptualization of AL were completed. In this period, quantitative research has dominated. Most quantitative studies have used correlative case studies. However, because this field is still in its infancy, there appears to be a need for more empirical analyzes, particularly experimental designs or at least mixed-methods research, to demonstrate and confirm the role of AL in developing organisational resources and effectiveness. Scholars can therefore focus on developing study models that incorporate

hypothesized relationships that can empirically test the proposed relationships and generalize the importance of AL. Future academic efforts could also focus on conducting mixed and longitudinal designs to provide better statistical and experimental results for this leadership style.

Walumbwa et al.'s (2008) measurement scale has been used extensively in leadership research as a scale to test AL (Appendix.1-Table V). However, as Levesque-Côté et al. (2018) noted, some problems with the factor loadings of the scale items required additional experimentation to develop new scales. This could

encourage researchers to develop a new scale by considering different characteristics of organizations from different sectors, as each group could have different and unique structures and characteristics.

Researchers have used various theories to study AL, and no one theory dominates the knowledge domain. SIT is the most commonly used theory by researchers, followed by SET and SLT. Social information processing theory also emerges in research examining the role of AL. These findings suggest that there is no dominant theory that conceptually underpins AL research. This theoretical gap is an important impetus for further research in this area.

We offered avenues for future studies in four main areas based on the significant findings. Based on these areas, we also pose future research questions that might encourage leadership researchers to conduct further research in this area (Table 3).

FUTURE RESEARCH AGENDA

Research Methods

Although the studies in our database focus primarily on causal relationships, most of these papers were unsuitable for this purpose because they did not choose an appropriate study design and/or had problems with endogeneity. Therefore, we make several methodological suggestions to increase the likelihood of future research that focuses more on causal issues.

First, researchers need to abandon cross-sectional studies in favor of longitudinal studies and rely on a longer time period. Most studies to date (87.8%) have used survey methods, the limitations of which make the results unlikely to contribute to a better theoretical underpinning of leadership styles. Similarly, the academic attention given to AL is characterized by a lack of mixed methods. In an area of research that is still in the developmental stage, robust mixed methods research could help present meaningful results and accurately guide future academic efforts. Therefore, we encourage further studies in this area.

Regarding the issue of research methods, we suggest developing multilevel designs that examine AL as a group- or organization-level variable. Such an investigation can enrich leadership development, as leaders often address attitudes directed at work units rather than individual employees, and employees working in the same department or work unit tend to be more affected by group- or organization-level leadership (Arici 2018; Arici et al. 2020).

Moderating and Mediating Variables

This study has clarified various moderators and mediators used to explain the influences of AL on various outcomes. Regarding moderating constructs, many studies have not presented a theoretical rationale for using a particular moderator in the research framework. Therefore, further research can provide a theoretical framework to classify and justify moderating constructs used as buffer effects between AL and worker- and firm-level outcomes. Similarly, future studies should theoretically underpin the link between AL and the boundary conditions for its consequences.

In addition, team-, organization-, and leadership-related attributes were examined to moderate the association between AL and outcomes. Results in published articles also show that AL has a stronger impact when the team or organization is prototypical (Monzani et al. 2015a), the organization is large (Oh & Oh 2017), and the leader acts as a moderator, including the values of benevolence, collective self-perception, and leader emotion (Yagil & Medler-Liraz 2014). This is in tune with Gardner et al.'s (2021) directive that there are many competitive moderators, or norms that point in different channels, such as flexibility, and restraint of strong opinions. These conditions might provide a better rationale for when AL has a greater or lesser impact on its consequences. We therefore encourage further research in this direction.

The results also point to a moderating role of employee characteristics on the impact of AL. Given the labor-intensive characteristics of the service industry, employees play an active role in shaping management practices. Therefore, it is worthwhile to examine employee perceptions of AL behavior.

In our mediation analysis, we used a four-group classification for mediating constructs. These mediating constructs should be further explored in future research to expand understanding of how AL influences various outcomes (e.g., behavior, attitude, performance, and leadership-related outcomes). For example, it would be worthwhile to analyze the potential effects of innovation climate, error management culture, and team youthfulness on performance outcomes as mediating constructs in a parallel mediation model. Further studies could also focus on clarifying the effects of leader-centered mediators on the relationship between AL and behavioral outcomes.

Our four-category taxonomy recommends that further studies assess mediating constructs using the following categorizations: employee-centered, leader-centered, team-centered, climate-centered, and organization-

centered. While this taxonomy is based on the current literature on these mechanisms, it also contains important directions for further research. To illustrate, as part of their research design, researchers should determine which mechanism is most appropriate for their research problem (e.g., whether to rely on employee-, leader-, team-, or climate- and organization-level constructs). Researchers should review each factor in the chosen intervening category and determine the most appropriate factor. This paper also suggests that researchers select a new mediating construct from a different categorization to further examine the appropriateness and justification of the selected mediators. By categorizing mediators, we suggest a way for researchers to identify the mechanisms within and between groups that are most closely associated with AL and individual outcomes. This paper invites researchers to use a conceptually designed taxonomy to guide the selection of variables and to conduct rigorous investigations, and expand understanding with the ultimate goal of developing more rigid, rigorous, and functional models for AL and the outcomes.

Measures

Our review found a lack of studies that consider the lower order factors of AL as separate constructs. For example, Bass & Avolio (1997) originally developed the AL scale with four components: intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration, with four items for each subcomponent. However, researchers who have studied the AL have not considered possible differences among these subconstructs and have mostly treated the AL as a single factor. For a better understanding of AL, studies that focus on the variances between the effects of each subconstruct are a prerequisite. Further research should examine each dimension and its effects as a single factor. Possible further steps consist of conducting studies to uncover differences among these subconstructs that could help implement more effective dimensions of AL.

Theoretical background

Our review shows that no single theory dominates the field of knowledge. AL Researchers have mostly adopted social-based theories, such as SIT, SET, SLT. The most popular theory is SIT, which describes the role of AL in developing strong bonds with followers and creating a sense of partnership between followers and organizations.

The concept of “empowerment” could enhance to the theoretical background of AL. Kanter (1993) suggested that the features of the work setting influence work

attitudes and behaviours. “Power” is the ability to mobilize resources and achieve goals (Kanter 1993). Consequently, employees are considered to be empowered when their work setting enables them to achieve the ‘desired power’ to accomplish work tasks and goals. AL could be considered as a key approach that provides employees with the necessary power to achieve common goals. Therefore, empowerment theory has the potential to identify the role of AL in inspiring followers to achieve common organizational goals.

The studies of AL can also be considered within a possible theoretical framework of green-focused theories. For example, senior leadership theory could serve as a guide for AL researchers seeking to examine the role of AL in achieving green goals.

These frameworks can potentially improve the theoretical foundation and guidance for explaining the impact of AL on outcomes. Specifically, AL researchers could use upper echelon theory to focus more on the role of AL in developing new green ideas. Using this theoretical framework, future researchers can investigate the impact of AL on green innovation and green creativity in service organizations. These academic experiments may require an environmental AL approach to this leadership style to achieve green outcomes in organizations. Thus, our review invites researchers to adapt AL to green practices that require the development of new measurement scales based on environmental priorities. In addition, researchers conducting such studies can make important contributions to the conceptual development and interdisciplinary study of leadership and sustainability.

LIMITATIONS

Our study has some limitations, although it offers crucial new insights into the current landscape of AL. The data are limited to the (i) BMA and (ii) psychology literature, and the dataset was generated by searching articles from academic journals indexed in Scopus. Therefore, the generalizability of our results may be problematic. Furthermore, due to our study’s subjective and interpretive nature, future researchers will need to use different approaches to obtain alternative results and suggestions for further research. In this context, for example, meta-analysis studies can eliminate this subjectivity. Furthermore, meta-analysis studies are valuable because they allow us to see the effect size from a wider perspective in relation to the antecedents and outcomes that have been put forward in this study. Finally, bibliometric studies should also be considered by future researchers as they eliminate this subjectivity and show the intellectual structure of AL.

REFERENCES

- Ahmed, F. *et al.* (2018). Roles of leadership styles and relationship-based employee governance in open service innovation. *LODJ*, 39(3), 353–374.
- Alilyyania, B., Wong, C., & Cummings, G. (2018). Antecedents, mediators, and outcomes of authentic leadership in healthcare. *International Journal of Nursing Studies*, 83, 34–64.
- Arici, H., Arasli, H., & Cakmakoglu, A. (2020). The effect of nepotism on tolerance to workplace incivility: mediating role of psychological contract violation and moderating role of authentic leadership. *LODJ*, 41(4), 597–613.
- Avolio, B. & Gardner, W. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly*, 16(3), 315–338.
- Avolio, B. *et al.* (2004). Unlocking the mask: a look at the process by which authentic leaders impact follower attitudes and behaviors. *The Leadership Quarterly*, 15(6), 801–823.
- Azanza, G. *et al.* (2015). The effects of authentic leadership on turnover intention. *LODJ*, 36(8), 955–971.
- Azanza, G. *et al.* (2018). Influencing salespeople's work outcomes through authentic leadership. *LODJ*, 39(7), 926–944.
- Banks, G. *et al.* (2016). A meta-analytic review of authentic and transformational leadership. *The Leadership Quarterly*, 27(4), 634–652.
- Bass, B. & Avolio, B. (1997). Full range leadership development: Manual for the multifactor leadership questionnaire. Palo Alto: Mind Garden.
- Brown, M. & Treviño, L. (2006). Ethical leadership: A review and future directions. *The Leadership Quarterly*, 17(6), 595–616.
- Cerne, M., Jaklic, M. & Skerlavaj, M. (2013). Authentic leadership, innovation and creativity. *Leadership*, 9(1), 63–85.
- Chen, G. & Xiao, L. (2016). Selecting publication keywords for domain analysis in bibliometrics. *Journal of Informetrics*, 10(1), 212–223.
- Duarte, A. *et al.* (2021). Authentic Leadership and Improved Individual Performance: Affective Commitment and Individual Creativity's Sequential Mediation. *Frontiers in Psychology*, 12, 1660.
- Farid, T. *et al.* (2020). The Impact of Authentic Leadership on Organizational Citizenship Behaviors. *Frontiers in Psychology*, 11, 9.
- Fortin, C., Doucet, O., & Hennebert, M. (2017). Relative influence of authentic and transformational leadership of local union representatives on the adoption of union citizenship behaviors. *LODJ*, 38(6), 794–811.
- Gardner, W. *et al.* (2011). Authentic leadership: A review of the literature and research agenda. *The Leadership Quarterly*, 22(6), 1120–1145.
- Gardner, W. *et al.* (2021). Authentic leadership theory: The case for and against. *The Leadership Quarterly*, 101495.
- George, B. (2003). *Authentic leadership: Rediscovering the secrets to creating lasting value*, Wiley: Jossey-Bass.
- Gigol, T. (2021). Leadership, religiousness, state ownership of an enterprise and unethical proorganizational behavior. *PLoS ONE*, 16(5), e0251465.
- Gill, C. *et al.* (2018). Using theory on authentic leadership to build a strong human resource management system. *Human Resource Management Review*, 28(3), 304–318.
- Gordon, A. & Yukl, G. (2004). The future of leadership research. *German Journal of Human Resource Management*, 18(3), 359–365.
- Henderson, J. & Hoy, W. (1983). Leader authenticity: The development and test. *Educational and Psychological Research*, 3(2), 63–75.
- Hirst, G. *et al.* (2016). A Multi-level Investigation of Authentic Leadership as an Antecedent of Helping Behavior. *JBE*, 139(3), 485–499.
- Hmieleski, K., Cole, M., & Baron, R. (2012). Shared Authentic Leadership and New Venture Performance. *Journal of Management*, 38(5), 1476–1499.

- Hoch, J. *et al.* (2018). Do Ethical, Authentic, and Servant Leadership Explain Variance Above and Beyond Transformational Leadership? *Journal of Management*, 44(2), 501–529.
- Hsiung, H. (2012). Authentic Leadership and Employee Voice Behavior. *JBE*, 107(3), 349–361.
- Hu, Y. *et al.* (2018). Authentic Leadership and Proactive Behavior: The Role of Psychological Capital and Compassion at Work. *Frontiers in Psychology*, 9, 2470.
- Intesarach, R. & Ueasangkomsate, P. (2021). Conceptualization and Research Trends on Authentic Leadership, in *2021 Joint International Conference on Digital Arts, Media and Technology*, 69–72.
- Kalay, E. & Ilan, Y. & Kantor, J. (2020). Authentic leadership outcomes in detail-oriented occupations: Commitment, role-stress, and intentions to leave, *Journal of Management & Organization*, 26(5), 832–849.
- Kanter, R. (1993). *Men and women of the corporation: New edition*. Basic books, New York.
- Kernis, M. (2003). Toward a Conceptualisation of Optimal Self-Esteem, *Psychological Inquiry*, 14(1), 1–26.
- Kim, C. *et al.* (2018). A systematic analysis of review papers in the hospitality and tourism literature, *International Journal of Hospitality Management*, 70, 49–58.
- Laschinger, H. & Fida, R. (2014). A time-lagged analysis of the effect of authentic leadership on workplace bullying, burnout, and occupational turnover intentions, *EJWOP*, 23(5), 739–753.
- Lei, S. *et al.* (2021). The impact of authentic leadership on individual and team creativity. *LODJ*, 42(4), 644–662.
- Leroy, H., Palanski, M., & Simons, T. (2012). Authentic Leadership and Behavioral Integrity as Drivers of Follower Commitment and Performance. *JBE*, 107(3), 255–264.
- Levesque-Côté, J. *et al.* (2018). Refining the Assessment of Authentic Leadership Using Exploratory Structural Equation Modeling (ESEM). *Journal of Business and Psychology*, 33(5), 611–628.
- Levesque-Côté, J. *et al.* (2021). On the motivational nature of authentic leadership practices: a latent profile analysis based on self-determination theory, *LODJ*, 42(2), 178–194.
- Liang, S. (2017). Linking leader authentic personality to employee voice behaviour: a multilevel mediation model of authentic leadership development, *EJWOP*, 26(3), 434–443.
- Lin, C. & Chen, Y. (2016). Modeling Team Performance: The Moderating Role of Passion, *Journal of Leadership & Organizational Studies*, 23(1), 96–107.
- Liu, Y. *et al.* (2018). Linking authentic leadership to subordinate behaviors. *LODJ*, 39(2), 218–233.
- Luthans, F., & Avolio, B. (2003). Authentic Leadership Development, in K.Camararon, J.Dutton, R.Quinn, (Eds.), *Positive Organizational Scholarship: Foundations of a New Discipline* (pp. 241–258). USA: Berrett-Koehler.
- Lux, A., Grover, S., & Teo, S. (2019). Reframing commitment in authentic leadership. *Journal of Management & Organization*, pp. 1–19.
- Margiadi, B., Wibowo, A. (2020). Authentic Leadership: A Bibliometric Analysis, In W.Barnett, B.Sergi, (Eds) *Advanced Issues in the Economics of Emerging Markets* (pp. 49-62). Emerald.
- Maziero, V. *et al.* (2020). Positive aspects of authentic leadership in nursing work. *Revista Brasileira de Enfermagem*, 73(6), e20190118.
- Mehmood, Q., Hamstra, M., & Schreurs, B. (2019). Employees' perceptions of their manager's authentic leadership. *Personnel Review*, 49(1), 202–214.
- Miao, C., Humphrey, R., & Qian, S. (2018). Emotional intelligence and authentic leadership. *LODJ*, 39(5), 679–690.
- Milic, B., Nesic, L., Kuzmanović, B., & Delic, M. (2017). The influence of authentic leadership on the learning organization at the organizational level: The mediating role of employees' affective commitment. *Journal of East European Management Studies*, 22(1), 9-38.
- Monzani, L. *et al.* (2015a). The Synergistic Effect of Prototypicality and Authenticity in the Relation Between Leaders' Biological Gender and Their Organisational Identification. *JBE*, 132(4), 737–752.
- Monzani, L., Ripoll, P., & Peiró, J. (2015b). The moderator role of followers' personality traits in the relations between leadership styles, two types of task performance and work result satisfaction, *EJWOP*, 24(3), 444–461.
- Neider, L., & Schriesheim, C. (2011). The Authentic Leadership Inventory (ALI): Development and empirical tests. *The Leadership Quarterly*, 22(6), 1146–1164.
- Nichols, T., & Erakovich, R. (2013). Authentic leadership and implicit theory. *LODJ*, 34(2), 182–195.

- Nielsen, M. *et al.* (2013). Authentic leadership and its relationship with risk perception and safety climate. *LODJ*, 34(4), 308–325.
- Niu, W. *et al.* (2018). Authentic leadership and employee job behaviors: The mediating role of relational and organisational identification and the moderating role of LMX. *Current Psychology*, 37(4), 982–994.
- Oh, J., Cho, D., Lim, D. (2018). Authentic leadership and work engagement: the mediating effect of practicing core values, *LODJ*, 39(2), 276–290.
- Oh, J. & Oh, S. (2017). Authentic leadership and turnover intention: does organisational size matter? *LODJ*, 38(7), 912–926.
- Petersen, K. & Youssef, C. (2018). The “left side” of authentic leadership: contributions of climate and psychological capital. *LODJ*, 39(3), 436–452.
- Peus, C. *et al.* (2012). Authentic Leadership: An Empirical Test of Its Antecedents, Consequences, and Mediating Mechanisms, *JBE*, 107(3), 331–348.
- Polat, E., Çelik, F., Ibrahim, B., & Köseoglu, M.A. (2023). Unpacking the power of user-generated videos in hospitality and tourism: a systematic literature review and future direction. *Journal of Travel & Tourism Marketing*, 40(9), 894-914.
- Polat, E., Çelik, F., Ibrahim, B., & Gursoy, D. (2024). Past, present, and future scene of influencer marketing in hospitality and tourism management. *Journal of Travel & Tourism Marketing*, 41(3), 322-343.
- Qiu, S. *et al.* (2019). The effects of authentic leadership on trust in leaders, organisational citizenship behavior, and service quality. *Journal of Hospitality and Tourism Management*, 40, 77–87.
- Qu, Y. *et al.* (2019). Should Authentic Leaders Value Power? A Study of Leaders' Values and Perceived Value Congruence. *JBE*, 156(4), 1027–1044.
- Rahimnia, F. & Sharifirad, M. (2015). Authentic Leadership and Employee Well-Being: The Mediating Role of Attachment Insecurity. *JBE*, 132(2), 363–377.
- Rego, A., Júnior, D. & Cunha, M. (2015). Authentic Leaders Promoting Store Performance: The Mediating Roles of Virtuousness and Potency. *JBE*, 128(3), 617–634.
- Ryan, R. & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Shahzad, K., Raja, U. & Hashmi, S. (2021). Impact of Big Five personality traits on authentic leadership. *LODJ*, 42(2), 208–218.
- Steffens, N. *et al.* (2016). True to what We stand for: Championing collective interests as a path to authentic leadership, *The Leadership Quarterly*, 27(5), 726–744.
- Steffens, N. *et al.* (2021). Personal and collective self-awareness enhances authentic leadership and leader endorsement. *The Leadership Quarterly*, 101498.
- Strom, T. (2020). Authentic leadership and relational power increasing employee performance: A systematic review of “leadership and power”. *Journal of Small Business Strategy*, 30(3), 86–101.
- Valle, R. *et al.* (2021). The relationship between the authentic leadership of nurses and structural empowerment. *Revista da Escola de Enfermagem*, 55, e03667.
- Vries, M. (1994). The leadership mystique, *Academy of Management Perspectives*, 8(3), 73–89.
- Walumbwa, F. *et al.* (2008). Authentic Leadership: Development and Validation of a Theory-Based Measure, *Journal of Management*, 34(1), 89–126.
- Wang, Z. & Xie, Y. (2020). Authentic leadership and employees' emotional labour in the hospitality industry. *IJCHM*, 32(2), 797–814.
- Wei, F. *et al.* (2018). The Interactive Effect of Authentic Leadership and Leader Competency on Followers' Job Performance. *JBE*, 153(3), 763–773.
- Xu, B. *et al.* (2017). Authentic leadership and employee creativity: testing the multilevel mediation model. *LODJ*, 38(3), 482–498.
- Yagil, D. & Liraz, H. (2014). Authentic Leadership, Emotional Expression, and Employee Authenticity. *Journal of Leadership & Organizational Studies*, 21(1), 59–70.
- Zhang, J. *et al.* (2020a). Follower Mindfulness and Well-Being: The Mediating Role of Perceived Authentic Leadership and the Moderating Role of Leader Mindfulness, *Frontiers in Psychology*, 11, 879.
- Zhang, Z., Liang, Q., & Li, J. (2020b). Understanding managerial response to employee voice: a social persuasion perspective, *International Journal of Manpower*, 41(3), 273–288.
- Zhang, Y. *et al.* (2021). Antecedents and outcomes of authentic leadership across culture: A meta-analytic review, *Asia Pacific Journal of Management*. doi:10.1007/s10490-021-09762-0.

Appendix.1**Table I.** AL and behavioral outcomes

Level	Mediator	Outcome	Authors
Individual	Effective-Based Trust	OCB	Farid et al. (2020)
Individual	Cognitive-Based Trust	OCB	
Individual	Psychological Empowerment	OCB	Joo & Jo (2017)
Individual	Work Engagement (WE)	OCB	Wei et al. 2018
Individual	Member-Representative Value Congruence	OCB (union)	Fortin-Bergeron et al. (2017)
Individual	Trust in Leader	Customer Oriented OCB	Qiu et al. (2019)
Individual	Job Insecurity	Surface Acting	Wang & Xie (2020)
Individual	Relational Energy	Deep Acting	
Individual	Attachment Insecurity	Stress	Rahimnia & Sharifrad (2015)
Individual	Attachment Insecurity	Stress Symptoms	
Individual	Mental Depletion	Job Stress	Weiss et al. (2018)
Group	Employee Positive Mood	Voice Behavior	Hsiung (2012)
Group	LMX	Voice Behavior	
Group	Self-Esteem	Voice Behavior	Liang (2017)
Individual	Organizational identification	Unethical pro-organizational behavior	Gigol (2021)
Individual	WE	Unethical pro-organizational behavior	Gigol (2020)
Individual	Psychological Capital	Proactive Behavior	Hu et al. (2018)
Individual	Supervisor Identification→ Psychological Safety→ WE	Proactive Behavior	Liu et al. (2018)
Individual	Supervisor Identification→ Psychological Safety→ WE	Workplace Deviance Behavior	
Individual	Voice Efficacy	Speaking Up	Xu et al. (2021)
Individual	Voice Efficacy	Speaking Out	
Individual	Optimism	Extra Role Behavior	Srivastava & Dhar (2019)
Group	Intra-Team Trust	Helping Behavior	Hirst et al. (2016)
Individual	Self-Concordance	Helping Behavior	
Group	Innovation Climate	Knowledge Sharing Behavior	Steffens et al. (2016)
Group	Work Group Identification	Knowledge Sharing Behavior	
Group	Team Psychological Safety	Internal Whistleblowing	Liu et al. (2015)
Individual	Personal Identification with Leader	Internal Whistleblowing	
Individual	Moral Perspective	Guilt Related to Unethical Act	Cianci et al. (2014)
Individual	Perceived Cost of Feedback Seeking	Feedback Seeking	Qian et al. (2012)
Individual	Perceived Value of Feedback Seeking	Feedback Seeking	

Table II. AL and attitudinal outcomes

Level	Mediator	Outcome	Authors
Individual	Job Satisfaction	WE	Wirawan et al. (2020)
Individual	Psychological Empowerment	WE	Towsen et al. (2020)
Individual	Mental Depletion	WE	Weiss et al. (2018)
Individual	Practicing Core Values	WE	Oh et al., 2018
Individual	Message meaningfulness	WE	Shulga (2021)
Individual	Supervisor Identification → Psychological Safety	WE	Liu et al. (2018)
Individual	Trust Climate	WE	Ling et al. (2017)
Individual	WE	Career Satisfaction	Kaya & Karatepe (2020)
Individual	Work-Life Balance	Job Satisfaction	Braun & Peus (2018)
Individual	Attachment Insecurity	Job Satisfaction	Rahimnia & Sharifrad (2015)
Group	Team Virtuousness	Affective Commitment	Rego et al. (2013)
Individual	Personal Identification	Affective Commitment	Lux et al. (2019)
Individual	Affect-Based Trust	Affective Commitment	
Individual	Perceptions of Leader Behavioral Integrity	Affective Commitment	Leroy et al. (2012)
Individual	Board Participative Safety Climate	Affective Commitment	Guerrero et al. (2015)
Individual	Trust Climate	Organizational Commitment	Ling et al. (2017)
Individual	Organizational Justice	Organizational Commitment	Kiersch & Byrne (2015)
Individual	Predictability	Organizational Commitment	Peus et al. (2012)
Individual	Affective Commitment	Turnover Intention	Kalay et al. (2020); Ribeiro et al. (2020b); Oh & Oh (2017)
Individual	Organizational Commitment	Turnover Intention	Ausar et al. (2016)
Individual	WE	Turnover Intention	Azanza et al. (2015)
Individual	Organizational Justice	Turnover Intention	Kiersch & Byrne (2015)
Individual	Affective Commitment	Sportsmanship	Schriesheim & Liu (2018)
Individual	Value Internalization	Sportsmanship	
Individual	Safety Climate	Risk Perception	Nielsen et al. (2013)
Individual	Board Participative Safety Climate	Pro-Organizational Motivation	Guerrero et al. (2015)
Individual	Affective Commitment	Role-Conflicts	Kalay et al. (2020)
Individual	Affective Commitment	Role-Ambiguity	
Individual	Positive Work Climate	Psychological Capital	Woolley et al. (2011)
Individual	Supervisor Identification	Psychological Safety	Liu et al. (2018)
Individual	Speaking Up	Psychological Ownership	Xu et al. (2021)
Individual	Job Satisfaction	Social Exchange with Organization	Chiaburu et al. (2011)
Individual	Self-Efficacy	Sense of Meaningfulness in Work	Chaudhary (2020)
Individual	LMX → Work-Family Enrichment	Work-Family Balance	Lyu et al. (2019)
Individual	LMX	Employee Thriving	Xu et al. (2017)
Individual	Psychological safety	Employee Thriving	
Individual	Affective Commitment	Customer Orientation	Ribeiro et al. (2020a)

Table III. AL and performance outcomes

Level	Mediator	Outcome	Authors
Individual	Job Resourcefulness	Performance	Semedo et al. (2016)
Individual	Creativity	Performance	
Individual	Organizational Commitment	Performance	Nasab & Afshari (2019)
Individual	Affective Commitment → Individual Creativity	Performance	Duarte et al. (2021)
Individual	Sportsmanship	Performance	Schriesheim & Liu (2018)
Individual	LMX	Job Performance	Wang et al. (2014)
Individual/Group	Basic Need Satisfaction	Work-Role Performance	Leroy et al. (2012)
Individual	Psychological Capital	Contextual Performance	Malik & Dhar (2017); Malik (2018)
Group	Team Identity	Team Performance	Lin & Chen (2016)
Group	Team Affective Tone	Firm Performance	Hmieleski et al. (2012)
Individual	WE	Task Performance	Wei et al. 2018
Individual	WE	Adaptive Performance	Kaya & Karatepe (2020)
Individual	LMX → Employee Thriving	Creativity	Xu et al. (2017)
Individual	Psychological Safety → Employee Thriving	Creativity	
Individual	Support for Innovation	Creativity	Černe et al. (2013)
Individual	Psychological Capital	Creativity	Rego et al. (2012)
Individual	Commitment	Creativity	Imam et al. (2020)
Individual	Empowerment	Creativity	
Individual	Affective Commitment	Creativity	Semedo et al. (2016); Ribeiro et al. (2020a)
Individual	Job Resourcefulness	Creativity	Semedo et al. (2016)
Individual	Hope	Creativity	Rego et al. (2014)
Group	Innovation Atmosphere	Team Creativity	Lei et al. (2021)
Individual	Affective commitment	Organizational Learning	Milić et al. (2017)
Individual	Organizational Identification	Innovation Behavior	Niu et al. (2018)
Individual	Relational Identification → Org. Identification	Innovation Behavior	
Individual	Psychological Capital	Service Innovation	Schuckert et al. (2018)
Individual	Relationship-based employee governance	Service Innovation	Ahmed et al. (2018)
Individual	Islamic leadership	Organizational Innovation	Galanou & Farrag (2015)
Individual	Team Reflexivity	Team Effectiveness	Lyubovnikova et al. (2017)
Group	Team Reflexivity	Team Productivity	
Individual	Predictability	Extra Effort	Peus et al. (2012)
Individual	Team Virtuousness	Team Potency	Rego et al. (2013)
Organizational	Internal branding	Sustainability	Srivastava et al. (2020)
Individual/ Organizational	Group virtuousness → Group potency	Sales achievement	Rego et al. (2015)
Individual	Trust in Management	Sales Growth	Clapp-Smith et al. (2009)
Individual	Error Management Culture	Errors	Farnese et al. (2019)

Table IV. Moderators of AL

Level	Antecedent	Moderator	Outcome	Authors
<i>Follower behaviors</i>				
Individual	Socially responsible human resource practices	AL	Job crafting	Luu (2021)
Individual/ Organizational	Food safety consciousness	AL	Food safety prohibitive voice	Yu et al. (2021)
Individual	Positive emotions	AL	Authentic behavior	Yagil & Medler-Liraz (2014)
Individual	AL	Traditionality	Voice Efficacy	Xu et al. (2021)
Individual	AL	Traditionality	Speaking out	
Individual	AL	Traditionality	Speaking up	
Individual	AL	Traditionality	LMX	Lyu et al. (2019)
Individual	AL	Compassion at work	Proactive behavior	Hu et al. (2018)
Leader	AL	Leader competency	OCB	Wei et al. (2018)
Group	AL	Proactive personality	Silence	Guenter et al. (2017)
<i>Follower attitudes</i>				
Individual	LMX	AL	Employee thriving	Xu et al. (2017)
Individual	Person-organization fit	AL	Personal growth initiative	Joo et al. (2020)
Individual	Nepotism	AL	Tolerance to workplace incivility	Arici et al. (2020)
Individual	Department-level high-performance work systems	AL	Employee-perceived high-performance work systems	Cao et al. (2020)
Individual	PsyCap	AL	Work empowerment	Joo et al. (2016)
Individual/Group	Authentic followership	AL	Basic need satisfaction	Leroy et al. (2012)
Individual	Promotive voice	AL	Leader receptivity	Zhang et al. (2019)
Individual	Prohibitive voice	AL	Leader receptivity	
Individual	Temptation	AL	Ethical decision	Cianci et al. (2014)
Leader	AL	Collective self-awareness	Personal self-awareness	Steffens et al. (2021)
Individual	AL	Role Clarity	WE	Towsen et al. (2020)
Individual	AL	Self-efficacy	Work meaningfulness	Chaudhary (2020)
Individual	AL	Compassion at work	PsyCap	Hu et al. (2018)
Leader	AL	LMX	Employee relational identification	Niu et al. (2018)
Individual	AL	Perceived supervisor support	Turnover intention	Arici (2018)
Leader	AL	Interaction with followers	Depletion	Weiss et al. (2018)
Leader	AL	Work-Family Conflict	Followers' Work-Family Conflict	Braun & Nieberle (2017)
Individual	AL	Organizational size	Commitment	Oh & Oh (2017)
Individual	AL	Conscientiousness	Satisfaction	Monzani et al. (2015b)
Individual	AL	Self-categorization	Collective Identity Advancement	Steffens et al. (2016)
Individual	AL	Power distance	Perceived value	Qian et al. (2012)
Individual	AL	Gender	Positive work climate	Woolley et al. (2011)
Individual	AL	Leader emotions	Followers' unbiased self-presentation	Yagil & Medler-Liraz (2014)
<i>Performance related outcomes</i>				
Group	Creative self-efficacy	AL	Individual-level creativity	Lei et al. (2021)
Leader/Group	AL	Leaders' high benevolence values	Followers' Performance	Qu et al. (2019)
Individual	AL	External locus of control	Performance	Abbas et al. (2020)
Organizational	AL	Green training	Internal branding	Srivastava et al. (2020)
Individual	AL	PsyCap	Performance	Wang et al. (2014)
Individual	AL	Value Congruence	Cynicism about change	Williams et al. (2012)

Table V. Summary statistics from commonly used AL scales

Study	# of items and dimensions	# of studies used
Walumbwa et al. (2008) AL Questionnaire (ALQ)	16 items; Self-awareness (4 items), Relational transparency (5 items), Internalized moral perspective (4 items), and balanced processing (3 items).	74
Neider & Schriesheim (2011) AL Inventory (ALI)	14 items; Self-awareness (3 items), Relational transparency (3 items), Internalized moral perspective (4 items), and balanced processing (4 items).	19
Avolio et al. (2007) ALQ (Copyright 2007 by Bruce J. Avolio, William L. Gardner, and Fred O. Walumbwa. All rights reserved in all media. Distributed by Mind Garden, Inc.	16 items; Self-awareness (4 items), Relational transparency (4 items), Internalized moral perspective (4 items), and balanced processing (4 items).	12
Levesque-Côté et al. (2018) AL Integrated Questionnaire (AL-IQ)	14 items; Self-Awareness (3 items, all from the ALQ), Balanced Processing (4 items, all from the ALI), Relational Transparency (3 items, 1 from the ALQ; 2 from the ALI), Moral Perspective (4 items, all from the ALQ).	2
Xu et al. (2017)	8 items; Based on Walumbwa et al.'s (2008) ALQ authors used eight-item measure, subscales self-awareness (2 items), relational transparency (2 items), internalized moral perspective (2 items), and balanced processing (2 items).	1
Zhou/Yang (2013)	17 items; (1) Honesty (5 items), (2) leadership qualities (4 items), (3) subordinate-oriented (4 items), (4) internalized moral perspective (4 items)	1
Bass/Avolio (1997)	16 items; Intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration.	1

Exploring the Factors Affecting Shared Biking Perception: Insights from Türkiye

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ABSTRACT

Understanding consumer perception regarding shared biking services requires the analysis of psychological factors underlying the late diffusion of shared biking services. In this regard, by scrutinizing these underlying factors, we aim to uncover insights that can inform the development of targeted business strategies that better align with users' preferences and needs, thereby overcoming barriers to adoption and facilitating the wider dissemination of shared biking systems. Findings show that as consumers perceive shared biking services as useful and hedonic, their attitudes become more favorable. Importantly, highlighting the mediating role of compatibility, this study emphasizes the congruence among shared biking services, consumers' lifestyles, and their traveling habits. Findings also suggest that perceived complexity has a negative impact on shared biking attitudes. Interestingly, no significant relationship was found between perceived risk and shared biking attitude. The findings provide further support for innovation diffusion and theory of reasoned action. The suggested theoretical framework integrates variables related to both barriers and drivers, thus guiding future studies on the sharing economy. The study also provides insights that contribute to the development of service design and marketing strategies that respond better to users' needs, and also, facilitate the spread of these mobility systems.

Keywords: Shared biking services, Shared biking adoption, Psychological factors, Structural Equation Modeling.

JEL Classification Codes: L91, O33

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INTRODUCTION

With the rise of the shared economy, there has been a sharp shift from the "ownership" model to the "shareholder" status in all aspects of the global economy, particularly in transportation and mobility (Politis et al., 2020). Shared mobility is a representative example of the sharing economy, which refers to the shared use of bicycles, motorcycles, cars, or other means of transport and contributes to a range of social, environmental, and cost-related benefits (Lou et al., 2021). We focus on shared biking as a form of micro-mobility, encompassing lightweight vehicles operating at speeds below 25 km/h. Although micro-mobility decreased significantly with the pandemic, it made a strong recovery once the effects of the COVID-19 pandemic subsided (McKinsey, 2020). It is now considered less risky than other shared modes of transportation, and almost 70 percent of customers are reported to be willing to use micro-mobility for their daily transport needs (McKinsey, 2021) due to benefits such as reducing congestion, pollution, and transportation costs (Standing et al., 2021). Currently, bike sharing ranks as one of the fastest-growing transportation

innovations in many cities worldwide and is transforming consumer mobility behavior (Nikitas, 2019). China has the most bikes in the world, followed by France (Mete, Cil & Özceylan, 2018). It can also be seen that revenue from bike sharing is expected to show an annual growth rate of 11.48%, resulting in a projected market volume of US\$12.29 bn by 2026 (Statista, 2022).

In the past decade, the sharing economy has matured and grown significantly, especially in emerging markets (Basukie, Wang & Li, 2020; Maalouf, Abi Aad & El Masri, 2021; Hussain et al., 2023). The accumulation of knowledge within this field has proven to be of utmost importance in navigating the unique challenges and presents valuable opportunities for further development and exploration, particularly in the context of emerging markets, where the sharing economy continues to evolve rapidly (Chen & Wang 2019; Rojanakit, de Oliveira & Dulleck, 2022). Also, the pursuit of expertise in this domain holds immense potential for unlocking additional value and driving innovation in these emerging markets (Li & Schoenherr, 2023; Hussain et al., 2023).

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Türkiye, as an emerging market, has promoted sustainable transport through pedestrianization projects, safe bike lanes, bike-sharing systems, and integrating these with public transport systems. Seventeen out of 81 cities successfully maintain the bike-sharing system in Türkiye (WRI Türkiye, 2018) and the country expanded its bike lane network to 1,643 km (1020 miles) in 2023 (MEF, 2023). Most bike-sharing models in Türkiye adopt a mobile technology-based docked service model, allowing users to pick up and return their bikes at docking stations (Eren & Uz, 2020). Despite the increasing number of bike-sharing services, paths, and lanes in Türkiye, the use of bicycles in metropolitan cities could not exceed 1-2% (TCPNMP, 2021). There is still limited user penetration, with only 6.6% in 2022 in Türkiye as compared with other countries, India at 12.1%, and China at 31.6% (Statista, 2022) providing a unique research field characterized by a transition phase, during which consumers are likely to experience either hesitation or anticipation over new solutions. There may be several reasons for the different diffusion of innovative sharing services. Therefore, understanding consumer perception regarding shared biking services requires the analysis of psychological factors underlying the late diffusion of shared biking services. This approach alone has the potential to develop new business strategies that better respond to users' needs and facilitate the spread of these mobility systems.

In the existing literature on bike-sharing behavior, several studies have investigated individual psychological factors and their relationships with actual use, shift, and intention behaviors (Wei, Mo & Liu, 2018; Ma et al., 2018; Gao et al., 2019; Ma, Cao & Wang, 2019; Ji et al., 2021; Xue et al., 2022). However, none of these studies have explored these psychological factors while simultaneously considering perceived benefits and perceived risks in an emerging market context, akin to a benefit-cost concept as proposed by Wang et al. (2019). Furthermore, the mediating role of the compatibility factor, recognized as a driver of innovation adoption (Lou & Li, 2017) and as an important sociocultural indicator (Rogers, 1983), has not been thoroughly investigated. Compatibility, in this context, pertains to the degree to which an innovation aligns with the individual and social values, prior experiences, and requirements of potential adopters (Tornatzky & Klein, 1982; Kim, Mirusmonov & Lee, 2010).

In this way, the study gives insights into the complex interplay of variables that influence individuals' intentions to use bike-sharing services by giving insights about the

user's overall evaluation of what is received (perceived benefits or gains) in terms of perceived usefulness and hedonic value and what is given (perceived sacrifices or costs) in terms of complexity and risks. With the mediating role of compatibility here, our study emphasized how well the concept of shared biking aligns with the psychological factors and preferences of potential users.

In line with these, we formulated our research questions as follows:

RQ1) Do the perceived usefulness and hedonic value affect the behavioral perception toward the use of bike-sharing services?

RQ2) How do delivery risk perception and perceived complexities affect the behavioral perception toward using bike-sharing services?

RQ3) Do attitudes affect the intention to use bike-sharing services?

RQ4) Does compatibility have a mediating role between bike-sharing attitude and intention?

The remainder of this paper is organized as follows. We first present the literature on bike-sharing systems and then provide the theoretical framework for the hypothesis development. In the methodology part, we explain our data collection procedures, sampling, and measures. Subsequently, we elaborate on the results of the analysis in the findings. In conclusion, we underscore the managerial and theoretical implications by addressing future research avenues and limitations.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Bike Sharing Services Literature

A burgeoning body of studies investigated influencing factors of bike-sharing adoption. Some researchers addressed the benefits of bike sharing (convenience, environmental, economic, and health benefits) (e.g. Franckle et al., 2020; Tao & Zhou, 2021; Teixeira, Silva & e Sá, 2021; Chen, 2022) while the others emphasized the role of perceived emotional, functional, and security values (e.g. Franckle et al., 2020; Wahab et al., 2020; Kim et al., 2020; Zhang et al., 2021). Other factors acting as determinants of attitudes and intentions for bike-sharing use include special promotions and public transport subsidies, service quality, and commuting distance (Ma et al., 2020a; Shen, Zhang & Zhao, 2018); the perceived risk and safety issues (e.g. Gao et al., 2019; Wahab et al., 2020; Rahimi et al., 2021); performance,

effort expectancy, and price value (Chopdar, Lytras & Visvizi, 2022). Previous studies show that demographic (e.g. population and climate) and infrastructural factors are also important in the adoption of bike sharing systems (El-Assi, Salah Mahmoud & Nurul Habib, 2017; Shen et al., 2018; Böcker et al., 2020; Eren & Uz, 2020; Ma et al., 2020b; Bergantino, Intini & Tangari et al., 2021; Guo et al., 2022; Jiao, Lee & Choi, 2022; Ye et al., 2022). Apart from these, psychosocial factors (e.g. Qin et al., 2018; Huang et al., 2020; Wang et al., 2021; Lin & Lin, 2022; Li, Krishna Sinniah & Li, 2022; Irawan, Bastarianto & Priyanto, 2022), subjective well-being (Ma et al., 2018), consciousness (Halvadia et al., 2022), and personality traits (e.g. Ge et al., 2020) all have effects on bike-sharing behavior.

Delving into the realm of psychological factors in particular, the literature offers some studies conducted in emerging markets. For instance, Cheng, OuYang & Liu (2019) uncovered factors that affect bike-sharing services' continuance intentions by considering the mediating effect of perceived usefulness, perceived risks, and perceived ease of use between user confirmation and intention. Likewise, Gao, Li & Guo (2019) revealed that perceived usefulness, facilitating conditions, and perceived risks were significant determinants influencing the adoption of bike-sharing systems. On the other hand, perceived ease of use and social influence did not exhibit significant positive impacts on users' behavioral intention to use bike-sharing systems. Similarly, Wahab et al. (2020) indicated that while safety, comfort, and enjoyment were the decisive determinants of bike-sharing acceptance, availability and costs had no significant impact. Wang, Douglas & Hazen (2021) showed that some attributes (i.e., complexity and observability) influenced switching intention through perceived risk, while other attributes (i.e., relative advantage and compatibility) directly influenced switching intention. Lately, Chopdar, Lytras & Visvizi (2022) revealed that performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, and price value are the salient variables that affect users' intentions to participate in bike sharing.

By taking into account the multifaceted nature of users' perceptions and preferences about shared biking systems, we offer valuable insights into the holistic decision-making processes of potential adopters and contribute to a more informed approach to promoting the effective adoption of shared biking systems in emerging markets.

Theories and Hypothesis Development

Innovation is defined as an idea, service, or object that is perceived as new by an individual (Rogers, 2003). As shared biking services are still in their infancy in emerging countries, they are considered forms of innovative services that need wider consumer penetration. Thus, we examine the factors influencing consumers' decisions to use shared biking services through the theoretical lenses of Innovation Diffusion Theory (IDT), with the proposed conceptual framework shown in Figure 1. IDT theory has been used in public biking system adoption studies (e.g. Therrien et al., 2014; Wang, Douglas & Hazen, 2021). This theory helps to understand the acceptance and spread of innovation of new products or services (Rogers, 2003). According to the IDT theory, acceptance of innovation is based on individuals' knowledge and experiences with innovative services (Talke & Heidenreich, 2014). Knowledge or experience related to functions or attributes of innovation may influence consumers' decisions. Herein, as the attributes of innovation, we investigate the effects of usefulness, compatibility, and complexity. Perceived usefulness is defined as the external motive in the decision to use the system regarding efficiency and benefits (Kim & Kim, 2020). For usefulness, it is important to identify in which ways the innovation is perceived as better or more advantageous than existing options (Hashem & Tann, 2007). In the literature, several researchers investigated the perceived usefulness of shared biking services, referring to benefits such as time efficiency and convenience (e.g. Kim & Kim, 2020; Irawan et al., 2022; Li & Lin, 2022). Some studies found that perceived usefulness had a positive effect on satisfaction, attitude, and continuance intention (Chen & Lu, 2016; Cheng et al., 2019), but others found that it did not affect perceived value and trust (e.g. Kim & Kim, 2020). We suggest that perceived usefulness has a positive effect on consumers' attitudes, as bike-sharing services contribute to commuting performance by reducing the time needed and mitigating traffic congestion. Herein, with the hypothesis below, we argue that consumers may have stronger attitudes toward shared biking services as they perceive shared biking systems to be more advantageous.

H1: Perceived bike-sharing usefulness positively affects attitude toward bike sharing.

In addition to perceived usefulness, hedonic value may emerge from feelings towards a service and the resulting affection (Boksberger & Melsen, 2011). Fun

and enjoyment as intrinsic motivation elements may create positive attitudes, and individuals may be more willing to exert higher levels of effort for use (Gumussoy, 2016). Hedonic values such as enjoyment and fun were found to be influential in bike-sharing intention and adoption (Wahab et al., 2020; Kim & Kim, 2020; Zhang et al., 2021; Chopdar, Lytras & Visvizi, 2022). Ma et al. (2018) found that consumers' fun and hedonic values lead to more favorable trust attitudes toward shared biking service systems. We assume that when consumers perceive shared biking as a source of fun, excitement, and enjoyment, they develop more favorable attitudes. Based on these arguments, we posit the hypothesis below:

H2: Perceived hedonic value positively affects attitude toward bike sharing.

Complexity is the degree to which the individual perceives any form of innovation as difficult to understand and use (Rogers, 1995). In the literature, both perceived ease of use and complexity are used to define the difficulty level of shared biking services. In these systems, complexity derives from factors including registration, payment, or lending/return phases. The first phase of the bike-sharing system is registration, which starts with the use of a mobile application and/or a credit card at the stations. Users who have a member card apply for the card on the parking unit sensor and enter their password. If accepted, the bike becomes unlocked and ready for use. Also, non-members may perform rental transactions with an active credit card or Public Transport Card (PTC), subject to a certain amount of returnable deposit. Bike management panels, smart lock visuals, and card use can be perceived as complex. As the main features and registration processes have yet to be discovered or understood, they may be considered complex. In line with the previous literature (e.g. Cheng et al., 2019; Chen & Lu, 2016), consumers who perceive the use of such systems to be complex are likely to be more resistant and are expected to have an unfavorable attitude toward shared biking services. Thus, the following hypothesis is proposed:

H3: Perceived complexity of bike sharing systems has a negative effect on attitude toward bike sharing.

The perceived risk may constitute an important factor in the perception of bike-sharing service. Previously, the impacts of perceived risk factors (financial, physical, time, privacy, and psychological

risks) on bike sharing adoption and continuance intention were investigated under different aspects (e.g., Cheng et al., 2019; Gao et al., 2019; Kim & Kim, 2020). Perceived risks are found to create resistance to the adoption of bike-sharing systems (Gao et al., 2019). Herein, we argue that, when individuals perceive risks related to information privacy and health safety, they will have less favorable attitudes toward bike-sharing services. Therefore, we propose the following risk-related hypothesis:

H4: Perceived risk has a negative effect on attitude toward bike sharing.

According to Ajzen & Fishbein (1980), the overall evaluations are determined by the beliefs and perceptions regarding the results of behavior. Therefore, we propose that favorable bike-sharing attitudes lead to a higher level of bike-sharing intention, following the premises of The Theory of Reasoned Action (Ajzen & Fishbein, 1980) and the Theory of Planned Behavior (Ajzen, 1985), and grounding on the previous studies on shared biking attitude-intention links (Ji et al., 2021; Li et al., 2022; Irawan et al., 2022; Chen, 2022).

H5: Attitude toward bike sharing has a positive effect on the intention to use bike-sharing systems.

Herein, compatibility refers to the degree to which the innovation is perceived as congruent to the individual's lifestyle, experiences, needs, or values (Lu & Yu-Jen Su, 2009). Despite the importance of congruence, there is very limited research in the field. In terms of transport style compatibility, people may decide to take into consideration several attributes, such as traveling distance and multi-modal traveling options (e.g. Wang et al., 2021). Wang et al. (2021) found that when the public bicycle system is perceived as compatible with the prospective users' lifestyles or traveling habits, they are more likely to switch to public biking from other transportation modes. In line with self-congruence theory and the previous literature, we assume that the link between attitude and intention is affected by the extent to which consumers find their traveling habits and lifestyles congruent with bike-sharing services. Therefore, the following hypothesis is suggested:

H6: Compatibility mediates the relationship between bike sharing attitude and intention.

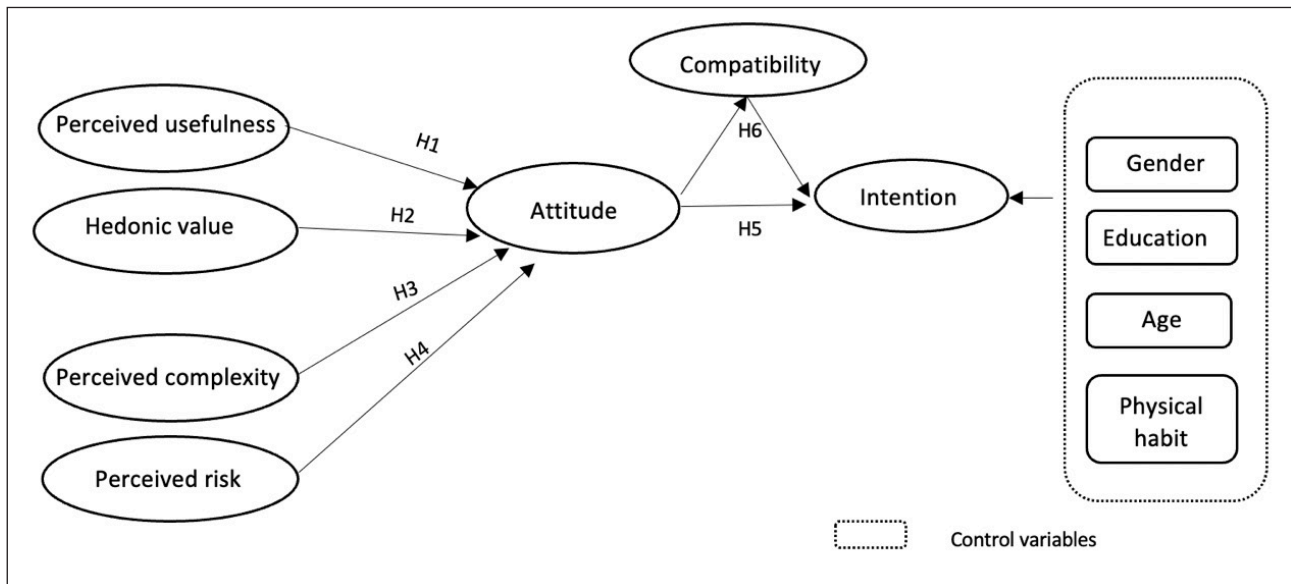


Figure 1: Proposed Conceptual Framework

METHODOLOGY

Web-based questionnaires were employed through multiple online platforms. The data collection approach used in this study is an online convenience sampling technique due to its facilitating role in reaching a larger population and its straightforwardness (Taherdoost, 2016). The questionnaire was divided into three sections. In the first section, to achieve construct validity, we explained the purpose of the research and defined shared biking. We also informed the participants about the confidentiality of the responses. The second section conveyed demographic information on age, gender, education, and physical habits. The final section of the survey included the measurement items in Table I. The adopted items were professionally translated into Turkish, and a pilot study was conducted to check the comprehensibility of the items. A total of 330 responses were received between 2021 and 2022 through online surveys. To test for common method bias, we conducted Harman's one-factor test. The one-factor test resulted in a single factor accounting for 38.498 % of the variance, significantly lower than the recommended threshold of 50 %.

Consumers' adoption and utilization decisions for innovative services were found to be strongly influenced by knowledge or experience related to the functions or attributes of innovation (Hwang, Huang & Wu, 2016). Therefore, in this paper, we investigated the effects of usefulness, compatibility, and complexity as attributes of innovation. Similarly, we investigated hedonic value including fun,

entertaining, and exciting content, as a major driver of behavioral intention (Jahn & Kunz, 2012). Finally, we measured perceived risks as people's uncertainty about using a new service, which strongly impacts their willingness to adopt it. This includes worries about potential injuries and privacy concerns. We utilized the scales of perceived usefulness (Cheng et al., 2019), perceived complexity (Wang et al., 2021), hedonic value (De Vries & Carlson, 2014), perceived risk (Cheng et al., 2019), compatibility (Wang, 2021), and physical activity (Peeters et al., 2015). We also used the attitude and intention scales of Cheng et al. (2019). For measuring all, we used a five-point Likert scale from "Strongly disagree" (1) to "Strongly agree" (5). For the data analysis, we conducted Structural Equation Modelling (SEM), which has been frequently utilized to explain and predict the interactions in multivariate data sets and has been proven to be a useful technique for examining the link between latent and observable variables (Hair et al., 2011; Grotzinger et al., 2019).

Sample

The participants' profiles and sample statistics are summarized in Table II. A total of 330 acceptable responses were obtained. Over 60% of the participants were female. The sample comprised participants from five age groups with a dominant share of younger people (between 18 and 25 years). Additionally, the majority have higher education (59.7% have at least bachelor's degrees).

Table I. Constructs, Measurement Items, and Sources

Construct	Measure	Items	Source
Perceived Usefulness (USFL)	USFL1	Using bike-sharing systems would enable me to get to my destination more quickly.	Cheng et al. (2019)
	USFL2	Using bike-sharing systems would improve my commute performance.	
	USFL3	Using bike-sharing systems can mitigate traffic congestion.	
	USFL4	Using bike-sharing systems can reduce greenhouse gas emissions and energy consumption.	
Perceived Complexity (CPLX)	CPLX1	I think that the process of borrowing and returning public bicycles is complex.	Wang et al. (2021)
	CPLX2	The lack of public bicycle stations makes the rental process complex.	
	CPLX3	I think the registration process is complex.	
Hedonic Value (HDN)	HDN1	The use of a shared bike is fun.	De Vries & Carlson (2014)
	HDN2	The use of the shared bike is exciting.	
	HDN3	The use of the shared bike is pleasant.	
Perceived Risk (RISK)	RISK1	I am concerned that my personal information will be shared or sold to others when I enter the bike-sharing systems platform.	Cheng et al. (2019)
	RISK2	I am concerned that the bike-sharing systems platform collects too much personal information about me.	
	RISK3	I am concerned that riding is not a safe way to trip.	
	RISK4	I am concerned that bad air conditions will influence my physical health when using bike-sharing systems.	
Compatibility (CMPA)	CMPA1	The public bicycle will fit well with how I travel.	Wang et al. (2021)
	CMPA2	The public bicycle will fit well with my lifestyle.	
Attitude (ATT)	ATT1	Using bike-sharing systems would be a good idea.	Cheng et al. (2019)
	ATT2	Using bike-sharing systems would be a wise idea.	
	ATT3	I like the idea of using bike-sharing systems.	
	ATT4	Using bike-sharing systems would be a pleasant experience.	
Intention (INT)	INT1	I plan to use bike-sharing systems.	Cheng et al. (2019)
	INT2	I intend to use bike-sharing systems.	
	INT3	I predict that I will use bike-sharing systems as long as I have access to it.	
Physical Activity (PHYH)	PHYH1	Doing some kind of physical activity is a habit for me.	Peeters et al. (2015)
	PHYH2	In the last 2 years, I have been involved in regular physical activity at one time or another.	
	PHYH3	I have always done some kind of physical activity.	

Table II. Sample Characteristics

		Frequency	Percent
Gender	Female	215	65.2
	Male	115	34.8
	Total	330	100
Age	18-25	152	46.1
	26-35	46	13.9
	36-45	35	10.6
	46-55	57	17.3
	55+	40	12.1
	Total	330	100
Education	Middle school	2	0.6
	High school	107	32.4
	Associate degree	24	7.3
	Bachelor's degree	147	44.5
	Master's degree	29	8.8
	Doctorate	21	6.4
	Total	330	100

DATA ANALYSIS AND RESULTS

Confirmatory Factor Analysis

To test the data-model fit, we employed a confirmatory factor analysis. We found that the normed chi-squared value was $\chi^2/df = 1.809$ ($df=180$, $p=0.000$) and the root mean square error of approximation (RMSEA) was 0.05. We also obtained good fitness levels for the comparative fit index (CFI)= 0.975, the goodness of fit index (GFI)= 0.916, the normed fit index (NFI)= 0.946, Tucker-Lewis Index (TLI)= 0.968, and adjusted goodness of fit index (AGFI)= 0.882.

We deleted two items from the perceived risk construct, one from perceived complexity and one from usefulness due to low factor loadings. The remaining factor loadings of all items were above 0.645. All the average variance

extracted (AVE) values of the constructs exceeded the 0.5 threshold level. We also conducted the Fornell & Larcker (1981) test to determine whether the constructs were distinct from each other. The square roots of AVE values were greater than the constructs' correlation coefficients and greater than the construct's shared variance with other constructs (MSV and ASV values). Thus, convergent and discriminant validity were ensured. Additionally, to assess convergent validity, critical ratio values (Crs), in other words, t-values were found to be greater than 1.96 and significant at the 0.05 level (Carr & Pearson, 1999). Composite reliability (CR) measures the internal consistency and homogeneity of the scale items (Churchill, 1979). Herein, all constructs exceeded the recommended level of 0.60 (Hair et al., 1998) (Table III).

Table III. Validity and Reliability

	CR	AVE	MSV	MaxR	PHYH	USFL	HDN	CPLX	CMPA	ATT	INT	RISK
PHYH	0.931	0.818	0.176	0.941	0.905							
USFL	0.820	0.607	0.375	0.856	0.313	0.779						
HDN	0.929	0.814	0.686	0.937	0.288	0.512	0.902					
CPLX	0.734	0.580	0.378	0.743	0.005	-0.037	-0.078	0.762				
CMPA	0.857	0.751	0.508	0.882	0.419	0.515	0.492	-0.026	0.866			
ATT	0.922	0.747	0.686	0.924	0.367	0.612	0.828	-0.140	0.641	0.864		
INT	0.931	0.819	0.573	0.956	0.343	0.521	0.570	-0.021	0.713	0.757	0.905	
RISK	0.878	0.783	0.378	0.880	-0.001	0.017	-0.120	0.615	-0.022	-0.066	0.004	0.885

PHYH: Physical habit, USFL: Perceived usefulness, HDN: Hedonic value, CPLX: Complexity, CMPA: Compatibility, ATT: Attitude, INT: Intention, RISK: Perceived risk, CR: Composite reliability, AVE: Average variance extracted

Path Analysis

Through structural equation modeling, we ran a path analysis with AMOS 28. The research model had good fit index values with the normed chi-square value of 2.097 (df= 107, p= 0.000). While the Goodness-of-fit index (GFI) was found to be 0.925, the adjusted goodness-of-fit (AGFI) was 0.893. The RMSEA was 0.058, the Comparative fit index (CFI) was 0.974; NFI = 0.951, and TLI= 0.967 all indicating a desirable fit.

H1 suggested that the perceived bike-sharing usefulness has a positive effect on attitudes toward bike-sharing. We found a significant relationship between these two variables (β : 0.353; e: 0.067; p: 0.000), and thus H1 was supported. Also, the findings supported hypothesis 2, proposing that perceived hedonic value has a positive effect on attitude toward bike sharing (β : 0.657; e: 0.049; p: 0.000). Moreover, we also found that the perceived complexity of bike-sharing systems has a negative effect on attitude toward bike sharing (β : -0.113; e: 0.054; p: 0.035), and therefore H3 was supported. However, hypothesis 4, stating that perceived risk has a negative effect on attitude toward bike sharing, was not supported (β : 0.075; e: 0.043; p: 0.079). Parallel to the utilized theory, with hypothesis 5, we assumed that

attitude toward shared biking has a positive effect on intention toward bike sharing, and this was supported (β : 1.025; e: 0.067; p: 0.000). The results of the path analysis are given in Table IV.

We also inserted control variables into our research model to assess the impact of gender, education, age, and physical activity habits. Among these control variables, we found that gender (p= 0.016) affected the attitude toward shared biking. However, in the further Anova analysis, no significant difference was found between males and females regarding attitude (p=0.345). Additionally, physical activity had a positive effect on attitudes toward shared biking (p=0.022). No significant effect on intention was observed in the control checks.

Mediation Analysis: Direct, Indirect, and Total Effects

With hypothesis 6, we tested whether compatibility had a mediating role in the relationship between attitude and intention toward shared biking. Since the research model suggests a mediating effect with hypothesis 6, we employed the bootstrapping method recommended by Zhao et al. (2010). Through 5000 times of bootstrapping, we reached the 95% bias-corrected confidence interval

Table IV. Results of Path Analysis

	Unstand. Estimate	Standardized factor loading	S.E.	t values (C.r.)	P
USFL→ATT	0.353	0.260	0.067	5.244	0.000
HDN →ATT	0.657	0.689	0.049	13.371	0.000
CPLX→ATT	-0.113	-0.122	0.054	-2.106	0.035
RISK →ATT	0.075	0.095	0.043	1.758	0.079
ATT →INT	1.025	0.750	0.067	15.299	0.000

USFL: Perceived usefulness, HDN: Hedonic value, CPLX: Complexity, ATT: Attitude, INT: Intention, RISK: Perceived risk, S.E.: standard error, C.r.: critical ratio value, P: significance value

Table V. The direct, Indirect, and Total Effects

Relationship	Direct Effect	Indirect Effect	Confidence Interval		P
			Lower Bound	Upper Bound	
Att->Cmpa->Int	0.709 (0.000)	0.331	0.214	0.472	0.000

CMPA: Compatibility, ATT: Attitude, INT: Intention, P: significance value

and two-tailed significance value of the effect. The results indicated that compatibility partially mediates the relationship between shared biking attitude and intention. Table V presents the direct, indirect, and total effects.

CONCLUSION AND DISCUSSION

Theoretical Implications

From a theoretical perspective, our paper contributes to the literature by analyzing the factors influencing consumer attitudes and intention to use shared biking services. Our study contributes both to the shared biking services literature and to the managerial field dealing with the management and design of shared biking services in emerging markets.

The IDT theory provides a fundamental base for examining the factors for innovative transportation services. By following the premises of IDT theory, we investigated the factors that may influence shared biking attitudes. The perceived complexity of shared biking service systems negatively influences consumer attitudes. As the customers view registering and borrowing / returning as difficult, they develop negative attitudes toward shared biking services. These findings contribute to the existing body of literature on perceived complexity (e.g. Chen & Lu, 2016; Cheng et al., 2019; Wang et al., 2021). The current study expands on these findings by establishing a strong link between shared biking services and technology, which customers may perceive as complex because all service operations are carried out via websites, smartphone applications, and smart lock screens.

Another finding, in line with the prior research (Chen et al., 2014; Cheng et al., 2019; Gao et al., 2019), was that perceived usefulness positively affects attitudes toward bike-sharing services. Benefits related to commuting performance and overcoming traffic congestion appear to be influential in forming positive attitudes toward shared biking. Additionally, perceived hedonic value has a positive effect on attitude. Hedonic values such as fun, excitement, and entertainment contribute to favorable attitudes and thus are significant in adoption and acceptance, as previously discussed in the literature (e.g. Kim et al., 2020; Zhang et al., 2021; Chopdar, Lytras & Visvizi, 2022). Interestingly, we found that perceived risk has no significant effect on shared biking attitude. Although perceived risk was previously found to have a negative impact in some contexts (e.g. Cheng et al., 2019; Song et al., 2021), in Türkiye, we understand that

perceived risk concerns are much less influential. In this respect, this study adds to the growing body of literature on the cultural contingency of attitudes towards shared mobility services. It suggests that the impact of perceived risk on shared biking attitudes is not universal but rather context-specific.

Compatibility partially mediates the relationship between attitude and intention to use bike sharing. As self-congruence theory posits (Sirgy et al., 1991), during service acceptance, consumers seek a fit with their self-schema values. To promote self-esteem and maintain self-consistency, people engage in activities or products/ services that are consistent with their self-concept, and a higher degree of congruence may lead to more favorable intentions. When service consumers find the service congruent with their lifestyle and travel habits, they are more inclined to use it. This finding supports the previous finding by Wang et al. (2021), stating that compatibility has a significant effect on mode switching. As for the control variables, it is found that physical activity has a positive impact on the intention of the shared biking systems, which gives insights from the Theory of Planned Behavior and Social Cognitive Theory, supporting the idea that engaging in regular physical activity can positively influence one's attitudes towards adopting shared biking (Mars, Ruiz & Arroyo, 2018; Mikiki, Oikonomou & Katartzis, 2021).

Managerial Implications

The findings of this research have important implications for shared service providers in both the private and public transport sectors. This study will provide insights with the potential to contribute to the development of service design and service marketing strategies that respond better to users' needs, and also, facilitate the spread of these mobility systems.

To facilitate the diffusion of shared biking services, cooperation is needed between service providers and public transport policymakers to use marketing channels to promote the usefulness and hedonic value that are generated through shared biking service experiences. Benefits and hedonism-oriented awareness campaigns initiated by public institutions may help to change consumers' perceptions. Especially in big, traffic-congested cities, it is important to emphasize commuting performance and speed. Calling to mind the joyful and fun side of cycling may make a difference since many in Türkiye regard shared biking as a form of entertainment rather than a means of transportation (Uslu et al., 2012).

The degree to which an individual finds the offered service or product to be a match to his or her lifestyle and ideals is referred to as compatibility. In this way, it is significantly tied to potential adopters' socio-cultural values, beliefs, past and current experiences, and needs (Karahanna, Agarwal & Angst, 2006). The partial mediation role of compatibility shows that when consumers perceive shared biking services as compatible with these aspects, they develop the intention to use shared biking services. This finding is crucial since it highlights the role of the individual's assessment of bike-sharing system compatibility. Lifestyle marketing efforts and awareness campaigns initiated by public institutions can influence consumers' compatibility perceptions. With a wider network of shared biking services encompassing terminal hubs in diverse transportation modes, consumers may find the shared biking services more congruent to their existing commuting styles. Municipality-driven effective marketing strategies, such as promoting bike-to-work policies through incentive programs and establishing bike-connected intermodal models in public transportation policies are ways to attract more interest.

Service providers should find new ways for reducing the perceived complexity of the technical aspects of the shared biking systems, particularly registration and borrow/return processes. Moreover, informative campaigns would help to constitute more favorable shared biking attitudes. The borrow and return processes should be explained with infomediaries and communicated through the media. Interfaces for technology in these phases, like bike management panels, visuals for smart locks, and card usage, might be seen as intricate by both existing and prospective users of shared biking services. The complexity concerns can also be diminished through extensive customer services via websites or call centers accessible to the users.

Lastly, understanding the link between physical activity and shared biking attitudes can be beneficial in promoting shared biking. As people engage in physical activity, they will have more favorable attitudes towards shared biking since it is a health-enhancing urban mobility option. Also, promoting shared biking as a physical activity would be helpful to attract attention among those who engage in physical activity. Therefore, policymakers and urban planners can design strategies that encourage the integration of physical activity and shared biking, contributing to healthier and more sustainable cities.

Future Research and Limitations

The limitations of this study provide directions for future research. First, this study was done in an emerging country and the respondents were restricted to those living in Türkiye. Second, as discussed in the introduction and managerial implications of our research, the compatibility element is indeed country and cultural-specific and can be influenced by various factors unique to each location. In this regard, a multi-country comparative study may allow us to explore the differences and similarities in compatibility across different settings which can increase the generalizability of the study. Second, in future research, observations or interviews can be added to the investigation, along with the consideration of other theories and variables that can identify further factors affecting the intention or behavior to use shared biking. Finally, although this study was very focused on the bike-sharing system, not all possible aspects were considered, which leaves opportunities for focus on other relevant concepts in future studies, including actual behavior, personality traits, environmental concerns, and social and cultural differences in bike-sharing adoption.

Data Availability Statement

The data that support the findings of this study are available from SÖ, upon reasonable request.

REFERENCES

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In R. Schwarzer (Ed.), *Action control* (pp. 11-39). Springer.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice Hall.
- Altin Gumussoy, C. (2016). Acceptance of the virtual item auctioning system in online games: The role of intrinsic motivation, extrinsic motivation, and trust. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 26(5), 627-637.
- Basukie, J., Wang, Y., & Li, S. (2020). Big data governance and algorithmic management in sharing economy platforms: A case of ridesharing in emerging markets. *Technological Forecasting and Social Change*, 161, 120310.
- Bergantino, A. S., Intini, M., & Tangari, L. (2021). Influencing factors for potential bike-sharing users: An empirical analysis during the COVID-19 pandemic. *Research in Transportation Economics*, 86, 101028.
- Böcker, L., Anderson, E., Uteng, T. P., & Throndsen, T. (2020). Bike sharing use in conjunction to public transport: Exploring spatiotemporal, age and gender dimensions in Oslo, Norway. *Transportation Research Part A: Policy and Practice*, 138, 389-401.
- Boksberger, P. E., & Melsen, L. (2011). Perceived value: A critical examination of definitions, concepts, and measures for the service industry. *Journal of Services Marketing*, 25(3), 229-240.
- Carr, A. S., & Pearson, J. N. (1999). Strategically managed buyer-supplier relationships and performance outcomes. *Journal of Operations Management*, 17(5), 497-519.
- Chen, S. Y., & Lu, C. C. (2016). A model of green acceptance and intentions to use bike-sharing: YouBike users in Taiwan. *Networks and Spatial Economics*, 16(4), 1103-1124.
- Chen, X. (2022). Predicting College Students' Bike-Sharing Intentions Based on the Theory of Planned Behavior. *Frontiers in Psychology*, 13.
- Chen, Y., & Wang, L. (2019). Commentary: Marketing and the sharing economy: Digital economy and emerging market challenges. *Journal of Marketing*, 83(5), 28-31.
- Chen, Z., van Lierop, D., & Ettema, D. (2020). Dockless bike-sharing systems: What are the implications? *Transport Reviews*, 40(3), 333-353.
- Cheng, P., OuYang, Z., & Liu, Y. (2019). Understanding bike sharing use over time by employing extended technology continuance theory. *Transportation Research Part A: Policy and Practice*, 124, 433-443.
- Chopdar, P. K., Lytras, M. D., & Visvizi, A. (2022). Exploring factors influencing bicycle-sharing adoption in India: A UTAUT 2 based mixed-method approach. *International Journal of Emerging Markets*.
- Churchill Jr, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.
- Conner, M., & Norman, P. (2022). Understanding the intention-behavior gap: The role of intention strength. *Frontiers in Psychology*, 13, 923464.
- Davlembayeva, D., Papagiannidis, S., & Alamanos, E. (2020). Sharing economy: Studying the social and psychological factors and the outcomes of social exchange. *Technological Forecasting and Social Change*, 158, 120143.
- De Vries, N. J., & Carlson, J. (2014). Examining the drivers and brand performance implications of customer engagement with brands in the social media environment. *Journal of Brand Management*, 21(6), 495-515.
- Dütschke, E., & Peters, A. (2017). Why are individuals likely to change to sustainable modes of transport like carsharing and electric vehicles? An empirical analysis (No. S06/2017). *Working Paper Sustainability and Innovation*.
- Eccarius, T., & Lu, C. C. (2020). Adoption intentions for micro-mobility—Insights from electric scooter sharing in Taiwan. *Transportation Research Part D: Transport and Environment*, 84, 102327.
- El-Assi, W., Salah Mahmoud, M., & Nurul Habib, K. (2017). Effects of built environment and weather on bike sharing demand: a station level analysis of commercial bike sharing in Toronto. *Transportation*, 44(3), 589-613.
- Eren, E., & Uz, V. E. (2020). A review on bike-sharing: The factors affecting bike-sharing demand. *Sustainable Cities and Society*, 54, 101882.

- Fishman, E., & Schepers, P. (2016). Global bike share: What the data tells us about road safety. *Journal of Safety Research, 56*, 41-45.
- Fishman, E., Washington, S., & Haworth, N. (2012). Barriers and facilitators to public bicycle scheme use: A qualitative approach. *Transportation Research Part F: Traffic Psychology and Behaviour, 15*(6), 686-698.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.
- Franckle, R. L., Dunn, C. G., Vercammen, K. A., Dai, J., Soto, M. J., & Bleich, S. N. (2020). Facilitators and barriers to bikeshare use among users and non-users in a socioeconomically diverse urban population. *Preventive Medicine Reports, 20*, 101185.
- Gaes, G. G., Kalle, R. J., & Tedeschi, J. T. (1978). Impression management in the forced compliance situation: Two studies using the bogus pipeline. *Journal of Experimental Social Psychology, 14*(5), 493-510.
- Gao, F., Li, S., Wu, Z., Lv, D., Huang, G., & Liu, X. (2019). Spatial-temporal characteristics and the influencing factors of the ride destination of bike sharing in Guangzhou city. *Geographical Research, 38*(12), 2859-2872.
- Gao, S., Li, Y., & Guo, H. (2019). Understanding the adoption of bike sharing systems: By combining technology diffusion theories and perceived risk. *Journal of Hospitality and Tourism Technology.*
- Ge, Y., Qu, W., Qi, H., Cui, X., & Sun, X. (2020). Why people like using bikesharing: Factors influencing bikeshare use in a Chinese sample. *Transportation Research Part D: Transport and Environment, 87*, 102520.
- Gerrard, P., & Cunningham, J. B. (2003). The diffusion of internet banking among Singapore consumers. *International Journal of Bank Marketing.*
- Grotzinger, A. D., Rhemtulla, M., de Vlaming, R., Ritchie, S. J., Mallard, T. T., Hill, W. D., ... & Tucker-Drob, E. M. (2019). Genomic structural equation modelling provides insights into the multivariate genetic architecture of complex traits. *Nature Human Behaviour, 3*(5), 513-525.
- Guo, Y., Yang, L., & Chen, Y. (2022). Bike share usage and the built environment: A review. *Frontiers in Public Health, 10*.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River.
- 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.
- Halvadia, N. B., Bhatt, K., Sharma, M., Sharma, A., & Dash, S. (2022). Consumers' intention to use bicycle-sharing services: The role of consumer consciousness. *Cleaner and Responsible Consumption, 100076*.
- Huang, D., Liu, Y., Wang, M., Yang, H., Huang, Q., & Li, C. (2020). How to promote users' adoption behavior of dockless bike-sharing? An empirical study based on extended norms activation theory. *Transportation Letters, 12*(9), 638-648.
- Hussain, H. I., Kamarudin, F., Anwar, N. A. M., Ali, M., Turner, J. J., & Somasundram, S. A. (2023). Does income inequality influence the role of a sharing economy in promoting sustainable economic growth? Fresh evidence from emerging markets. *Journal of Innovation & Knowledge, 8*(2), 100348.
- Hwang, B. N., Huang, C. Y., & Wu, C. H. (2016). A TOE approach to establish a green supply chain adoption decision model in the traffic semiconductor industry. *Sustainability, 8*(2), 168.
- Irawan, M. Z., Bastarianto, F. F., & Priyanto, S. (2022). Using an integrated model of TPB and TAM to analyze the pandemic impacts on the intention to use bicycles in the post-COVID-19 period. *IATSS Research.*
- Jahanshahi, D., Van Wee, B., & Kharazmi, O. A. (2019). Investigating factors affecting bicycle sharing system acceptability in a developing country: The case of Mashhad, Iran. *Case Studies on Transport Policy, 7*(2), 239-249.
- Jahn, B., & Kunz, W. (2012). How to transform consumers into fans of your brand. *Journal of Service Management, 23*(3), 344-361.
- Jamšek, S., & Culiberg, B. (2020). Introducing a three-tier sustainability framework to examine bike-sharing system use: An extension of the technology acceptance model. *International Journal of Consumer Studies, 44*(2), 140-150.

- Ji, W., Lu, C., Mao, J., Liu, Y., Hou, M., & Pan, X. (2021). Public's intention and influencing factors of dockless bike-sharing in central urban areas: A case study of Lanzhou City, China. *Sustainability*, 13(16), 9265.
- Jia, L., Liu, X., & Liu, Y. (2018). Impact of different stakeholders of bike-sharing industry on users' intention of civilized use of bike-sharing. *Sustainability*, 10(5), 1437.
- Jiao, J., Lee, H. K., & Choi, S. J. (2022). Impacts of COVID-19 on bike-sharing usages in Seoul, South Korea. *Cities*, 130, 103849.
- Karahanna, E., Agarwal, R., & Angst, C. M. (2006). Reconceptualizing compatibility beliefs in technology acceptance research. *MIS Quarterly*, 781-804.
- Khajehshahkoobi, M., Davoodi, S. R., & Shaaban, K. (2022). Factors affecting the behavioral intention of tourists on the use of bike sharing in tourism areas. *Research in Transportation Business & Management*, 43, 100742.
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26(3), 310-322. <https://doi.org/10.1016/j.chb.2009.10.013>
- Kim, B., & Kim, D. (2020). Exploring the key antecedents influencing consumer's continuance intention toward bike-sharing services: Focus on China. *International Journal of Environmental Research and Public Health*, 17(12), 4556.
- Li, D., & Schoenherr, T. (2023). The institutionalization of sharing economy platforms in China. *Journal of Operations Management*.
- Li, R., Krishna Sinniah, G., & Li, X. (2022). The Factors Influencing Resident's Intentions on E-Bike Sharing Usage in China. *Sustainability*, 14(9), 5013.
- Li, X., & Lin, H. (2022). Using the extended acceptance model to understand continuance intention of dockless bike-sharing. *Frontiers in Psychology*, 101.
- Lou, A. T. F., & Li, E. Y. (2017). Integrating innovation diffusion theory and the technology acceptance model: The adoption of blockchain technology from business managers' perspective. *Proceedings of the International Conference on Electronic Business (ICEB), 2017-Decem*, 299-302.
- Lou, L., Li, L., Yang, S. B., & Koh, J. (2021). Promoting user participation of shared mobility in the sharing economy: Evidence from Chinese bike sharing services. *Sustainability*, 13(3), 1533.
- Lu, H., & Yu-Jen Su, P. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research*, 19(4), 442-458.
- Ma, L., Zhang, X., Ding, X., & Wang, G. (2018). Bike sharing and users' subjective well-being: An empirical study in China. *Transportation Research Part A: Policy and Practice*, 118, 14-24.
- Ma, X., Cao, R., & Wang, J. (2019). Effects of psychological factors on modal shift from car to dockless bike sharing: A case study of Nanjing, China. *International Journal of Environmental Research and Public Health*, 16(18), 3420.
- Ma, X., Ji, Y., Yuan, Y., Van Oort, N., Jin, Y., & Hoogendoorn, S. (2020b). A comparison in travel patterns and determinants of user demand between docked and dockless bike-sharing systems using multi-sourced data. *Transportation Research Part A: Policy and Practice*, 139, 148-173.
- Ma, X., Yuan, Y., Van Oort, N., & Hoogendoorn, S. (2020a). Bike-sharing systems' impact on modal shift: A case study in Delft, the Netherlands. *Journal of Cleaner Production*, 259, 120846.
- Maalouf, J. T., Abi Aad, A., & El Masri, K. (2021). Competitiveness of sharing economy companies in emerging markets. *Competitiveness Review: An International Business Journal*, 31(2), 297-309.
- Mars, L., Ruiz, T., & Arroyo, R. (2018). Identification of determinants for rescheduling travel mode choice and transportation policies to reduce car use in urban areas. *International Journal of Sustainable Transportation*, 12(8), 572-582.
- McKinsey (2020). The future of micromobility: Ridership and revenue after a crisis. [Online] Available at: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/the-future-of-micromobility-ridership-and-revenue-after-a-crisis>.
- McKinsey (2021). Why micromobility is here to stay? [Online] Available at: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/why-micromobility-is-here-to-stay?cid=always-pso-twi-mip-mck-tsp-2201-i3a&sid=61f02011041db367da0b5c54&linkId=149560086>.

- Mete, S., Cil, Z. A., & Özceylan, E. (2018). Location and coverage analysis of bike-sharing stations in university campus. *Business Systems Research: International Journal of the Society for Advancing Innovation and Research in Economy*, 9(2), 80-95.
- Mikiki, F., Oikonomou, A., & Katartzi, E. (2021). Sustainable mobility issues of physically active university students: The case of Serres, Greece. *Future Transportation*, 1(3), 777-793.
- Ngan, N. T., & Khoi, B. H. (2019). Empirical study on intention to use bike-sharing in Vietnam. *IIOAB*, 10(Suppl 1), 1-6.
- Nguyen-Phuoc, D. Q., Oviedo-Trespalacios, O., Vo, N. S., Le, P. T., & Van Nguyen, T. (2021). How does perceived risk affect passenger satisfaction and loyalty towards ride-sourcing services?. *Transportation Research Part D: Transport and Environment*, 97, 102921.
- Nikiforiadis, A., Ayfantopoulou, G., & Stamelou, A. (2020). Assessing the impact of COVID-19 on bike-sharing usage: The case of Thessaloniki, Greece. *Sustainability*, 12(19), 8215.
- Nikitas, A. (2018). Understanding bike-sharing acceptability and expected usage patterns in the context of a small city novel to the concept: A story of 'Greek Drama'. *Transportation Research Part F: Traffic Psychology and Behavior*, 56, 306-321.
- Nikitas, A. (2019). How to save bike-sharing: An evidence-based survival toolkit for policy-makers and mobility providers. *Sustainability*, 11(11), 3206.
- Panda, D. S., Tripathy, S., Choudhury, N., Singhal, D., & Tripathy, S. (2023). Bike-sharing Intention: An Empirical Study in India. In *Recent Advances in Mechanical Engineering* (pp. 331-339). Springer, Singapore.
- Peeters, G. G., Brown, W. J., & Burton, N. W. (2015). Psychosocial factors associated with increased physical activity in insufficiently active adults with arthritis. *Journal of Science and Medicine in Sport*, 18(5), 558-564.
- Plewa, C., & Palmer, K. (2014). Self-congruence theory: towards a greater understanding of the global and malleable selves in a sports-specific consumption context. *International Journal of Sports Marketing and Sponsorship*.
- Podgórnjak-Krzykacz, A., & Trippner-Hrabi, J. (2021). Motives and factors that determine city residents' use of public bicycles. The case of Lodz, Poland. *Case Studies on Transport Policy*, 9(2), 651-662.
- Politis, I., Fyrogenis, I., Papadopoulos, E., Nikolaidou, A., & Verani, E. (2020). Shifting to shared wheels: Factors affecting dockless bike-sharing choice for short and long trips. *Sustainability*, 12(19), 8205.
- Qin, H., Gao, J., Kluger, R., & Wu, Y. J. (2018). Effects of perception on public bike-and-ride: A survey under complex, multifactor mode-choice scenarios. *Transportation Research Part F: Traffic Psychology and Behaviour*, 54, 264-275.
- Rahimi, E., Shabanpour, R., Shamshiripour, A., & Mohammadian, A. K. (2021). Perceived risk of using shared mobility services during the COVID-19 pandemic. *Transportation Research Part F: Traffic Psychology and Behaviour*, 81, 271-281.
- Republic of Türkiye Ministry of Environment and Forestry (MEF), (2023), Türkiye bike network expands with over 1,600 kms of lanes, Last access: 17.03.2024, <https://csb.gov.tr/bakan-ozhaseki-nefes-alan-sehirler-ve-saglikli-insanlar-siariyla-ulkemizi-bisiklet-aglariyla-orup-havakalitesini-iyilestiriyoruz-bakanlik-faaliyetleri-38712>.
- Rogers, E. M. (1983). *Diffusion of Innovations*. Free Press, New York.
- Rogers, E. M. (1995). *Diffusion of Innovations*. 4th Edition, the Free Press, New York.
- Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York, NY: Free Press.
- Rojanakit, P., de Oliveira, R. T., & Dulleck, U. (2022). The sharing economy: A critical review and research agenda. *Journal of Business Research*, 139, 1317-1334.
- Sheeran, P., & Webb, T. L. (2016). The intention-behavior gap. *Social and Personality Psychology Compass*, 10(9), 503-518.
- Shen, Y., Zhang, X., & Zhao, J. (2018). Understanding the usage of dockless bike sharing in Singapore. *International Journal of Sustainable Transportation*, 12(9), 686-700.
- Shin, E. J. (2021). A comparative study of bike-sharing systems from a user's perspective: An analysis of online reviews in three US regions between 2010 and 2018. *International Journal of Sustainable Transportation*, 15(12), 908-923.

- Si, H., Shi, J. G., Tang, D., Wu, G., & Lan, J. (2020). Understanding intention and behavior toward sustainable usage of bike sharing by extending the theory of planned behavior. *Resources, Conservation and Recycling*, 152, 104513.
- Sirgy, M. J., Johar, J. S., Samli, A. C., & Claiborne, C. B. (1991). Self-congruity versus functional congruity: Predictors of consumer behavior. *Journal of the Academy of Marketing Science*, 19(4), 363-375.
- Song, H., Yin, G., Wan, X., Guo, M., Xie, Z., & Gu, J. (2021). Increasing Bike-Sharing Users' Willingness to Pay — A Study of China Based on Perceived Value Theory and Structural Equation Model. *Frontiers in Psychology*, 12.
- Standing, C., Jie, F., Le, T., Standing, S., & Biermann, S. (2021). Analysis of the use and perception of shared mobility: A case study in Western Australia. *Sustainability*, 13(16), 8766.
- Statista (2022). Bike-sharing - Türkiye. Last access: 09.11.2022, <https://www.statista.com/outlook/mmo/shared-mobility/shared-rides/bike-sharing/Türkiye#analyst-opinion>.
- Sun, Y. (2018). Sharing and riding: How the dockless bike sharing scheme in China shapes the city. *Urban Science*, 2(3), 68.
- Taherdoost, H. (2016). Sampling methods in research methodology; How to choose a sampling technique for research. *International Journal of Academic Research in Management*, 5, 18–27.
- Talke, K., & Heidenreich, S. (2014). How to overcome pro-change bias: incorporating passive and active innovation resistance in innovation decision models. *Journal of Product Innovation Management*, 31(5), 894-907.
- Tao, J., & Zhou, Z. (2021). Evaluation of potential contribution of dockless bike-sharing service to sustainable and efficient urban mobility in China. *Sustainable Production and Consumption*, 27, 921-932.
- TCPNMP Turkish Cycle Path Network Master Plan (2021). Last access: 14.10.2022, https://webdosya.csb.gov.tr/db/cygm/menu/turkiye_bisiklet_yolu_agi_master_plani_cilt1_20211221042955.pdf.
- Teixeira, J. F., Silva, C., & e Sá, F. M. (2021). The motivations for using bike sharing during the COVID-19 pandemic: Insights from Lisbon. *Transportation Research Part F: Traffic Psychology and Behaviour*, 82, 378-399.
- Therrien, S., Brauer, M., Fuller, D., Gauvin, L., Teschke, K., & Winters, M. (2014). Identifying the leaders: applying diffusion of innovation theory to use of a public bikeshare system in Vancouver, Canada. *Transportation Research Record*, 2468(1), 74-83.
- Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management*, (1), 28-45.
- Uslu, C., Altunkasa, F. M., Boyacıgil, O., Konaklı, N., & Salıcı, A. (2012). Bicycle master plan for Adana, Türkiye. *Journal of Urban Planning and Development*, 138(1), 62-69.
- Wahab, S. N., Hamzah, M. I., Ye, X., & Hareeah, V. (2020). Bike-sharing acceptance through the lens of the theory of routine mode choice decisions. *International Journal of Sustainable Development*, 23(1-2), 25-47.
- Wang, Y., Douglas, M., & Hazen, B. (2021). Diffusion of public bicycle systems: Investigating influences of users' perceived risk and switching intention. *Transportation Research Part A: Policy and Practice*, 143, 1-13.
- Wang, Y., Gu, J., Wang, S., & Wang, J. (2019). Understanding consumers' willingness to use ride-sharing services: The roles of perceived value and perceived risk. *Transportation Research Part C: Emerging Technologies*, 105, 504-519.
- Wang, Y., Yang, Y., Wang, J., Douglas, M., & Su, D. (2021). Examining the influence of social norms on orderly parking behavior of dockless bike-sharing users. *Transportation Research Part A: Policy and Practice*, 147, 284-296.
- Wei, X., Luo, S., & Nie, Y. M. (2019). Diffusion behavior in a docked bike-sharing system. *Transportation Research Part C: Emerging Technologies*, 107, 510-524.
- Wei, Z., Mo, H., & Liu, Y. (2018). Spatial-temporal characteristics of bike-sharing: An empirical study of Tianhe District, Guangzhou. *Sci. Technol. Rev*, 36, 71-80.
- WRI Türkiye (2018). Last access: 25.11. 2022, <https://wisehirler.org/sites/default/files/A%20Roadmap%20for%20Municipalities%20on%20Bicycle%20Transportation%20Workshop.pdf>.

- Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information & Management, 42*(5), 719-729.
- Xue, X., Wang, Z., Liu, X., Zhou, Z., & Song, R. (2022). A choice behavior model of bike-sharing based on user perception, psychological expectations, and loyalty. *Journal of Advanced Transportation, 2022*.
- Ye, X. (2022). Bike-Sharing Adoption in Cross-National Contexts: An Empirical Research on the Factors Affecting Users' Intentions. *Sustainability, 14*(6), 3208.
- Yeganeh, H. (2021). An analysis of factors and conditions pertaining to the rise of the sharing economy. *World Journal of Entrepreneurship, Management and Sustainable Development, 17*(3), 582-600.
- Yin, J., Qian, L., & Shen, J. (2019). From value co-creation to value co-destruction? The case of dockless bike sharing in China. *Transportation Research Part D: Transport and Environment, 71*, 169-185.
- Yuen, K. F., Wang, X., Ma, F., & Wong, Y. D. (2019). The determinants of customers' intention to use smart lockers for last-mile deliveries. *Journal of Retailing and Consumer Services, 49*, 316-326.
- Zhang, T., Zeng, W., Zhang, Y., Tao, D., Li, G., & Qu, X. (2021). What drives people to use automated vehicles? A meta-analytic review. *Accident Analysis & Prevention, 159*, 106270.
- Zhang, X., Wang, J., Long, X., & Li, W. (2021). Understanding the intention to use bike-sharing system: A case study in Xi'an, China. *PLoS One, 16*(12), e0258790.
- Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*(2), 197-206.
- Zhou, Z., & Zhang, Z. (2019). Customer satisfaction of bicycle sharing: studying perceived service quality with SEM model. *International Journal of Logistics Research and Applications, 22*(5), 437-448.

Heterogenous Panel Modeling on Foreign Direct Investments in E7 Countries

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ABSTRACT

With the spread of free economy conditions, the increase in the international mobility of capital has led to an increase in the number of economies that want to attract capital and the opportunities it will provide. In addition to this, capital owners have started to use free movement opportunities in order to maximize their own benefits. In this context, the factors affecting foreign direct investments including long-term capital flows have been the subject of many empirical studies. In this study which is carried out within the scope of the annual data of E7 economies for the period of 1992-2021, it is aimed to reveal the relationships between net foreign direct investment inflows and unemployment, liberal democracy, public expenditures, foreign direct investment outflows and short-term borrowing. In the study, in which the heterogeneous panel data method based on seemingly unrelated regression analysis was used, it was determined that the realizations under the influence of the selected independent variables differed by countries, but it was found that all the variables included in the analysis had a decisive role on foreign direct investment inflows.

Keywords: Foreign Direct Investment, Unemployment, Democracy.

JEL Classification Codes: O47, E25, H11

Referencing Style: APA 7

INTRODUCTION

Nowadays, rapid increase of globalization, due to the spread of liberal economic policies, countries' adaptation to free market environment has gained a new dimension which includes a must rather than a choice. In this context here, indifference to innovative practices that serve the functionality of economic growth and development dynamics has led to low developments by preventing countries from taking a place in the global market. In this framework, foreign direct investments (FDI), which is defined as international investments that allow the residents of the country to obtain a permanent share from a company located in another country have also attracted attention by taking their place in the economic environment (IMF, 2012: 86). These investments, which are of great economic importance, especially for developing countries, are vital not only for the technology transfer they provide, but also for their capacity to create employment and to be a source of financing. The functional status of FDIs which is observed to contribute to overcoming the economic problems faced by countries, has revealed the necessity of closely monitoring the behavior of the capital in question. As

a matter of fact, it is known that these investments are highly resilient to economic conjuncture, global crises, political and economic instabilities, credit ratings, terrorism, natural disasters and similar reasons. Therefore, it is of utmost importance that analyses are constantly updated and relevant policies are revised according to the current situation.

It can be said that foreign capital mobility, which has increased rapidly, especially after the 1980s, is because the control power of multinational companies over global trade has reached very high levels as a result of trade liberalization, technological innovations and globalization (UNCTAD, 2022). However, the reasons why FDIs, known to be high in developed countries, tend to these countries are significant. For developing countries, these reasons include social, economical and political stability, the environment of trust, research and development capabilities and technological infrastructure. Therefore, it has become inevitable for developing countries willing to take part in the global economy to focus on some regulations to direct the said investments to themselves. These regulations include privileges such as labor market policies, tax

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incentives and exemptions, bureaucratic conveniences, customs tariff facilities and facilitating resource supply. In addition, furthermore, many reasons such as ignorance in the labor market and the lack of legal protection create important opportunities for multinational companies and create an area of attraction for investments (Fröbel et al., 1978: 126-128). In this context regard, the need for foreign savings and the insufficiency of foreign exchange resulted in the positioning of FDIs among their priority preferences, especially in countries that have problems in financing the necessary investments due to the lack of domestic savings.

It is well-known that FDIs have some key benefits for host countries, such as having long-term financing characteristics and supporting development and economic growth, unlike portfolio investments that are "hot money" and can be withdrawn quickly (Walsh and Yu, 2010). Moreover, when there is an economic crisis in the host country, short-term portfolio investments are more likely to experience outflows than FDIs. As known, the most cooperation of FDIs in the host country is seen as a reason for the low tendency to flee the country (Busse and Hefeker, 2007). Although these investments attract attention in terms of the advantages they provide for the host country, they show a complex appearance in terms of location preferences. While the motive, type, sector and volume factors specific to the investment to be made within the said framework are highly determinative in terms of region preference, the course of economic factors may also bring different factors to the agenda. These factors, which were summarized as economic, political and business-facilitating factors in the 1998 World Investment Report, were listed comprehensively. In the report, while factors such as income per capita, market access, market volume, physical infrastructure and labor cost are expressed as economic factors, tax, political and social stability, privatization, trade policies, rules on market mobility and international agreements are stated as political factors. Business facilitation practices include policies such as social opportunities, investment incentives, and promotions (UNCTAD, 1998: 91).

Looking at the global course of FDI movements, it is observed that global FDI inflows, which were 204 billion dollars in 1990, reached 1.356 trillion dollars in 2000 and 2.06 trillion dollars in 2016. It is thought that factors such as applications facilitating free trade, accelerating technological developments and various cost advantages are effective in reaching these high figures (Santoro, 2020). A significant increase of 28% was observed in the

period from the last quarter of 2021 to the first quarter of 2022, and a significant part of this increase was recorded in OECD countries (OECD and UNCTAD, 2022).

In this context, the functional relationships between unemployment rate, liberal democracy index, public expenditures, net foreign direct investment outflows short-term debts and net foreign direct investment inflows of E7 countries are investigated for 1992-2021. The main purpose of the study was to contribute to the creation of resources for future studies and policymakers by making various evaluations about the foreign investment attracting potential of the relevant country group.

The first issue addressed in the analysis is the effect of the unemployment rate on FDIs. When an evaluation is made in terms of labor costs, the increases observed in the labor population who are willing to accept lower wages in economies with high unemployment rates should be considered as natural. It is thought that a positive effect mechanism will operate due to the cost advantage that arises in the said conditions. However, when evaluated from another point of view, a different result may be encountered if the labor factor that accepts low wages arises from unqualified and inefficient work. This means that if wage payments have a low-cost share for FDIs, a different cost element emerges than an advantage (Chakrabarti, 2001: 99). In addition, it is possible for FDIs to perceive negatively high the unemployment rates despite low labor costs, as they are one of the indicators of macroeconomic instability. Therefore, the effect of the unemployment rate variable on FDI inflows may vary.

Secondly, the high liberal democracy index, which is examined, means an increase in free economy market conditions. It is predicted that the economic growth rates realized in the countries where the said freedom is widespread will be sustainable and fast (De Haan and Sturm, 2000: 216). Moreover, the riskiness of FDIs for foreign investors might differ based on how democratic and stable the host country is. In the economies where democratic conditions are high, the risks that may arise with state intervention are reduced and private property rights are more protected (Asiedu and Lien, 2011). Therefore, this situation can contribute to the level of development and form the basis for more investment. Litigation-like situations that may arise in liberal economies where consumer rights are highly protected may cause investors to behave timidly. According to Busse (2003), the changes in the sectoral preferences of FDIs and the negative perspectives of non-governmental organizations in host countries towards foreign

investments can eliminate the influence of democratic conditions. From another perspective, transparent economic policies operating in economies with high democratic conditions have limited the advantages provided for FDI. In autocracies, the amount of FDI inflows may increase as governments provide more advantages as a result of their concerns about staying in power (Li and Resnick, 2003; Jensen, 2003).

When the possible effects of the public expenditures/GDP ratio, which is an indicator of the share of the public sector in the economy, are examined, it is possible to say that the effect of government expenditures on FDI inflows varies. For example, Othman et al. (2018) and Choong et al. (2015) observed that government expenditures had positive effects on FDI inflows, but Bénassy-Quéré et al. (2007) and Anwar (2017) found evidence that the impact direction was negative. Studies confirming the positive interaction mechanism argue that economic growth will be positively affected if public expenditures are directed towards productive economic activities, and it is stated that more FDI inflows can be realized thanks to strong structures. Moreover, in addition to the decline in public revenues, public expenditures increase as a result of the fiscal packages implemented. Open budget policies are frequently resorted to, especially during the contractionary periods of the business cycle. It is possible to say that this emerging borrowing need also plays a determining role in FDIs. In this regard, it is known that policies aimed at increasing the amount of foreign investment in the country are preferred due to the ability of FDIs to be a long-term financing source. However, As Bénassy-Quéré et al. (2007) stated, factors such as the crowding out effect of increases in public expenditures on private investments, corruption and lack of management may adversely affect FDI inflows.

FDI outflows, which are considered in the analysis, should not be considered separately from the FDI flow into the country. Investors coming to and leaving a country closely follow each other. In this context, in addition to the special opportunities followed by foreign investors, the political and economic stability in the host country is quite decisive and foreign capital may have doubts about turning to risky areas. Therefore, FDI inflows in countries where an environment of trust cannot be ensured may be lower than FDI outflows. This situation may result against the host country. An increase in capital outflows in a country is not always considered as a capital flight, but a high-level flow can be considered as a flight. In this case, it can be observed that an escape situation occurs due to reasons such as deterioration

of macroeconomic stability, overvaluation of exchange rates, open budget, high real interest rates, high inflation, and political instability (Onodugo et al., 2014: 11). Investors tend to go to safer areas by increasing their risk perceptions in times of economic crisis and uncertainty. In this case, capital outflows may cause more serious problems, especially in countries that have financing problems due to foreign debt and high current account deficits. Therefore, it can be expected that FDI outflows in any country will adversely affect the incoming capital. However, it is also possible for FDI outgoing from the country to have a positive effect on capital inflows.

Foreign borrowing is a macroeconomic resource that governments frequently utilize to increase their revenues and finance current accounts and budget deficits. However, debt crises experienced frequently in developing countries are seen as a reason for preferring open economy policies and financial liberalization. In this sense, FDIs needed to finance borrowing are expected to reduce the amount of debt. On the other hand, as Ostadi and Ashja (2014), Nonnemberg and De Mendonça (2004) and Ramirez (2006) point out, increasing external debt burden may be the cause of a possible balance of payments problem in economies. This situation may have negative consequences on FDI inflows by increasing the risk perception of foreign capital. From another point of view, the increasing debt burden may be a reason for offering cheaper investment opportunities for foreigners. As a result of increasing FDI inflows, the need for borrowing will also decrease. In this context, for this reason, it is possible to come across studies which have found that the effect of external debt on FDI is positive. Some of these studies can be listed as Chan and Gemayel (2004), Singh and Jun (1995), Bozkurt (2009), Khrawish and Siam (2010).

EMPIRICAL LITERATURE REVIEW

It is observed that there are a large number of studies in the economic literature regarding FDIs. It is known that the diversity of impact factors used in the analyses and methodological differences and deeper analysis are more closely monitored. For these reasons, in this context, the factors affecting FDI depending on country-based qualitative differences are important for the policies to be followed. A summary of selected empirical analyses in this framework is presented in Table 1.

Table 1 shows that there is no consensus on the subject. Indeed, national dynamics may have positive or negative effects on FDI attraction. Moreover, there are also findings that many variables that are thought to be effective on

Table 1. Summary of Empirical Literature

Authors	Country/ Period	Method	Results
Chakrabarti (2001)	135 Countries	EBA, Cross-Section Analysis	It is determined that foreign trade deficit has negative effects on FDI inflows. It is emphasized that real exchange rate, economic growth rate and trade openness have positive effects.
Jensen (2003)	114 Countries / 1970-1997	OLS	It has been determined that the increasing level of democracy has positive effects on the amount of FDI coming into the country.
Li and Resnick (2003)	53 Developing Countries / 1982-1995	Fixed Effects Model, Granger Causality Analysis, GEE, OLS, 3SLS	It has been stated that increases in the level of democratization create an optimum investment area and reduce the risk perception of foreign investors by contributing to the protection of property rights. Therefore, it was emphasized that democratization increased FDI inflows.
Busse (2003)	69 Developing Countries / 1972-1999	Fixed Effects Model, Granger Causality Analysis	It has been found that increasing democratization increases the amount of FDI coming into the country.
Yang (2007)	138 Countries / 1983-2002	OLS, SUR	It has been found that increases in the level of democratization are not effective in attracting FDI to the country, but more foreign investment comes if stability is achieved in autocratic administrations.
Asiedu and Lien (2011)	112 Countries / 1982-2007	GMM	According to the findings, the effect of democracy increases on FDI inflows in countries with a high natural resource content in their export structure is negative. It is concluded that this effect is positive in countries with the opposite structure.
Kuncic and Jaklic (2014)	34 OECD Countries /1990-2010	Gravity Model	It has been emphasized that a positive interaction mechanism operates on FDI inflows in countries with a liberal social structure.
Musabeh and Zouaouni (2020)	5 North African Countries/1996-2013	Driscoll-Kraay Panel Regression Analysis	It has been found that free trade developments and local investments belonging to the host country positively affect FDI inflows.

FDI inflows do not play a role contrary to expectations. In light of these findings, it is important to identify the complex relationships focused on in this study. It aims to conduct a differentiated analysis by including short-term external debt burdens and outflowing FDIs in the model.

DATASET AND MODEL

The analysis of the annual data of the E7 economies consisting of Brazil, China, India, Indonesia, Mexico,

Russia and Türkiye for the period 1992-2021 focuses on foreign direct investment inflows. The main objective is to reveal the relationship between FDI inflows and unemployment, liberal democracy, public expenditures, FDI outflows, short-term borrowing. Accordingly, it is aimed to evaluate the realizations under the influence of these variables within the framework of foreign direct investment inflows. The period of the study was constrained to harmonize the data set. In this context,

Table 2. Dataset and Summary Statistics

Variable	Description	Source					
gdyyo	Foreign Direct Investment, Net Inflows (% of GDP)	World Bank (2023)					
io	Unemployment Rate (% of Total Labor Force)						
Ide	Liberal Democracy Index	V-Dem (2023)					
kho	Government Final Consumption Expenditures (% of GDP)	World Bank (2023)					
cdyyo	Foreign Direct Investment, Net Outflows (% of GDP)						
kdbo	Short-Term Debt (% of Total External Debt)						
Summary Statistics							
Obs.	Desc. Stat.	gdyyo	io	Ide	kho	cdyyo	kdbo
210	Mean	2.066	6.816	0.400	13.682	0.691	19.198
	Max.	6.187	13.930	0.791	21.067	3.774	73.170
	Min.	-2.757	2.370	0.039	5.694	-1.244	2.756
	Std. Dev.	1.359	2.733	0.232	3.906	0.804	14.091
	Skewness	0.084	0.506	-0.193	0.162	1.790	2.117
	Kurtosis	3.5136	2.507	1.823	1.8497	6.711	7.314

the explanations and summary statistics of the variables used in the analysis are presented in Table 2.

As seen in Table 2, the proportional variables were used while creating the data set obtained within the scope of 31 years and 210 observations. No excessive deviation was found in the graphical examinations. In addition, logarithmic transformation was not applied because there was no significant difference between the maximum and minimum values of the variables that did not contain negative values.

In panel data analysis, when working with 30 and more than 30-time dimensions, the series should first be tested in terms of stationarity conditions. For the testing process, the characteristics of the variables in terms of horizontal cross-section dependence and homogeneity should be determined. In this context, Pesaran's (2015) CD cross-section dependency test, which can be used in cases where the time dimension (t) is larger than the unit dimension (n) and n is less than 10, was used in the analysis. Stating that there is a weak cross-section dependence between the panel units, H_0 The CD test results, which tested the hypothesis against the alternative hypothesis that predicted a strong correlation, are given in Table 3.

In Table 3, it is seen that the basic hypothesis of the test was rejected for all variables except the kdbo variable. Accordingly, it is observed that there is no inter-unit correlation in the kdbo variable, which may be a problem for panel units. For other variables, the presence of correlation is found.

Table 3. Cross-Sectional Dependence Test

Variable	CD Test Statistics
gdyyo	3.236 (0.001)
io	2.775 (0.006)
Ide	21.319 (0.000)
kho	21.852 (0.000)
cdyyo	8.780 (0.000)
kdbo	1.0480 (0.295)

Note: The numbers in parentheses indicate probability levels.

Homogeneity tests of the variables in the panel were carried out using Swamy (1970) and Pesaran and Yamagata (2008) delta tests. The main purpose of these tests is to determine whether there are unit-specific differences and to take this into account if there is such a structure. The relevant test results are presented in Table 4.

According to the results reported in Table 4, it is seen that the basic hypothesis predicting a homogeneous structure within the scope of the Swamy test was rejected for all variables except Ide and kho variables. However, according to the Pesaran and Yamagata test results, all model variables were found to be heterogeneous at the 99% confidence level. Therefore, the existence of a heterogeneous structure cannot be rejected. For this reason, first of all, it is necessary to determine the tests suitable for the structures of the series.

The findings in Table 4 indicate that for the stationarity analysis to be conducted for the kdbo variable, first-generation panel unit root tests that do not include

Table 4. Homogeneity Tests

Variable	Swamy S Test	Pesaran-Yamagata Δ (Delta) Test
gdyyo	chi2(6) = 119.570 (0.000)	
io	chi2(6) = 712.740 (0.000)	
lde	chi2(6) = 0.5200 (0.998)	Δ = 6.073 (0.000)
kho	chi2(6) = 0.1800 (0.999)	Δadj = 6.936 (0.000)
cdyyo	chi2(6) = 80.640 (0.000)	
kdbo	chi2(6) = 152.780 (0.000)	

Table 5. Unit-Root Tests

Variables		gdyyo	io	lde	kho	cdyyo
PANICCA TEST (Level-Constant Term)	ADF Stat.	-2.582 (0.008)	-2.827 (0.004)	-3.612 (0.000)	-1.740 (0.008)	-5.477 (0.000)
	Pa	-7.429 (0.000)	-4.291 (0.000)	-26.295 (0.000)	-34.749 (0.000)	-8.633 (0.000)
	Pb	-3.387 (0.000)	-2.252 (0.012)	-7.113 (0.000)	-9.175 (0.000)	-3.556 (0.000)
	PMSB	-1.527 (0.063)	-1.355 (0.088)	-1.562 (0.059)	-2.065 (0.019)	-1.545 (0.061)
	IPS Test (Level-Constant Term)	Variable	kdbo	W-t-bar= -1.901 (0.029)	Lag Length =1	

horizontal cross-section dependence and are sensitive to heterogeneity can be used. For all the other variables used in the research, second-generation panel unit root tests should be applied. However, before the stationarity test, it is important to determine whether the series of variables contains a trend and/or constant term. As a result of the graphical examination, no trend was observed in any of the series, but it was determined that they contained fixed terms. In this context, Im-Pesaran-Shin (IPS) (2003), which is a first-generation test that tests the null hypothesis that panel units contain unit roots, and the Panicca test, which is a second-generation panel unit root test, are utilized. Panicca test is one of the most preferred tests because it allows evaluation for common factors as well as residues (Reese and Westerlund, 2016: 971). The appropriate lag lengths for both tests are set as 1 according to the Akaike (AIC) information criterion. The results of the test applications for stationarity analyses are given in Table 5.

According to the findings of the Panicca test in Table 5, it is seen that the findings of the common factors and residues obtained for the level values of all variables are sufficient for stationarity. Similarly, the kdbo variable, in which the IPS test was applied, also provided the stationarity condition at the 5% statistical significance level.

The method to be used in heterogeneous panel regressions differs depending on whether there is a cross-sectional dependence and heterogeneous structure in the model. Therefore, it is necessary to determine the qualitative characteristics of the functional relationships that are planned to be examined. The model to be examined in this context can be expressed in closed form as follows:

$$gdyyo_{it} = \beta_0 + \beta_1 io_{it} + \beta_2 lde_{it} + \beta_3 kho_{it} + \beta_4 cdyyo_{it} + \beta_5 kdbo_{it} + \epsilon_{it} \tag{1}$$

In equation (1), t represents the time dimension, i is the cross-section units, and e is the error term. Examining the correlation coefficients and variance amplification factor (VIF) between the independent variables of the relevant model to be estimated is important in terms of a possible spurious regression problem. Based on the fact that VIF values are 10 and less than 10, it can be stated that a possible multicollinearity problem does not pose any threat to regression (Hair et al., 2002: 588). For this reason, before starting the analysis, it is necessary to predict a correlation-based problem and to test the relevant situation to determine whether the regression poses a risk that may threaten its health. The statistics are given in Table 6.

Table 6. Correlation Matrix and VIF Values

Correlation Matrix						
Variable	gdyyo	io	lde	kho	cdyyo	kdbo
gdyyo	1					
io	-0.186	1				
lde	-0.040	-0.084	1			
kho	-0.175	-0.148	-0.031	1		
cdyyo	0.274	-0.054	-0.019	-0.254	1	
kdbo	0.160	-0.201	0.033	-0.027	0.067	1
VIF Values						
Variable	VIF		1/VIF			
kho	1.10		0.905			
io	1.08		0.922			
cdyyo	1.08		0.924			
kdbo	1.05		0.954			
lde	1.01		0.990			
VIF mean	1.07					

According to the results in Table 6, both correlation and vif values clearly show that there is no multicollinearity problem. After this stage, the regression, which is planned to be carried out, should be subjected to various testing processes to predict with the help of qualitatively compatible analyses. The results of the preliminary tests conducted to determine the estimation method to be used for the model expressed in this framework are presented in Table 7.

in which the cross-sectional dependence is determined- in other words, the remains of the units are related. Although the relevant countries seem to be independent from each other, there may be an interaction between the error terms of the models of the countries. Moreover, in case of the presence of variance and autocorrelation problems in the SUR model to be estimated, the augmented version of the method can be used. Thus, the model can be made responsive to specification errors. For

Table 7. Correlation Between Unit and Homogeneity Tests

Tests	Test statistics
Breusch-Pagan (1980) LM Test	chi2(21) =46.496 (0.001)
Swamy S Test	chi2(36) =336.830 (0.000)
Pesaran-Yamagata Delta Test	$\Delta = 6.073$ (0.000) $\Delta_{adj} = 6.936$ (0.000)

According to the statistics reported in Table 6, the results of the Breusch-Pagan LM test, in which inter-unit correlation was tested, show that there is a cross-section dependence at the 99% confidence level. The results of the Swamy S and delta tests, in which homogeneity was tested, confirm that the model contains a heterogeneous structure. For the model planned to be implemented in this framework, Zellner's (1962) SUR (Seemingly Unrelated Regressions) model, which can be employed in heterogeneous structures with inter-unit correlation, can be used. The said heterogeneous model can be used when working within the scope of units smaller than 10,

this reason, some specification tests should be applied primarily within the scope of the model. The results of the tests are presented in Table 8.

When the results given in Table 7 are examined, it is seen that there is no problem of varying variance except for the 1st and 2nd countries. However, the normality test results demonstrated that the error terms of all panel units had normal distribution. The Harvey LM test shows that the null hypothesis of no autocorrelation in the model is statistically rejected for countries 1, 4 and 7. However, the same findings were not observed for

Table 8. Specification Tests for the SUR Model

Tests		Test statistics
Heteroscedasticity Test (Engle (1982) LM ARCH Test)	gdyyo1	3.909 (0.048)
	gdyyo2	11.152 (0.001)
	gdyyo3	0.115 (0.734)
	gdyyo4	2.593 (0.107)
	gdyyo5	1.384 (0.239)
	gdyyo6	0.789 (0.374)
	gdyyo7	0.396 (0.529)
Jarque-Bera (1987) Normality Test	gdyyo1	0.435 (0.805)
	gdyyo2	0.451 (0.798)
	gdyyo3	1.198 (0.549)
	gdyyo4	1.372 (0.504)
	gdyyo5	0.424 (0.809)
	gdyyo6	2.404 (0.301)
	gdyyo7	5.093 (0.078)
Harvey (1991) LM Autocorrelation Test	gdyyo1	5.329 (0.021)
	gdyyo2	3.224 (0.073)
	gdyyo3	0.005 (0.946)
	gdyyo4	8.950 (0.003)
	gdyyo5	0.023 (0.878)
	gdyyo6	0.045 (0.833)
	gdyyo7	5.947 (0.015)

other countries. A form of the SUR model that is sensitive to autocorrelation and heteroscedasticity problems was used in the analysis. The results are reported in Table 9.

According to the results in the first part of Table 9, the R2 of the panel units' values was found to be statistically significant at the 1% level. In this context, it is seen that unit-based models are sufficient in terms of explanatory power. Looking at the inter-unit correlation matrix of the model residuals, it is observed that the highest correlation value is between Russia (6) and Türkiye (7) (55%). According to the findings of the Breusch-Pagan LM test of the model, the 99% confidence level of the test statistic, confirms that there is inter-unit correlation. In other words, within the scope of the relevant test, the main hypothesis that there is no correlation between units in the model was rejected at the 1% statistical significance level.

In Table 9, it has been determined that the countries where the increase in the unemployment rate has a positive effect on the GDP are India and Russia. For Indonesia, there existed a negative interaction between the io and gdyyo variables. In other countries, no statistically significant finding was found. When

the parameter values of the determined significant relationships are examined, it is seen that the highest coefficient of effect (83%) is in Indonesia while the lowest (15%) is seen in Russia. However, it should be noted that these effects are negative for Indonesia and positive for Russia. When the effect coefficients of the liberal democracy index are examined, it is seen that the significant relations determined for Brazil and Türkiye are at a very high level. This result indicates that as the conditions of liberal democracy improve in Türkiye, FDI inflows increase, whereas they decrease in Brazil. According to the findings for the kho variable used to represent public expenditures, there is no significant finding for Brazil, China, Russia and Türkiye. It is possible to say that the relationships found to be significant are not at very high levels. The relevant results showed that the effect of the increase in the share of the public sector in the economy on the real GDP was 4% in India, 8% in Mexico, and -17% in Indonesia. Considering the significant coefficients of the foreign direct investment/GDP ratio leaving the country, it is seen that the interaction determined for India, Indonesia, Russia, and Türkiye is positive. As the direct investments leaving the country increase, the foreign direct investments coming into the country increase. According to the findings for

Table 9. Unit Results of the Robust SUR Model

Country	Dependent Variable	R ²	chi2	P>chi2
Brazil	gdyyo1	0.485	28.04	0.000
Chinese	gdyyo2	0.515	39.42	0.000
India	gdyyo3	0.822	159.29	0.000
Indonesia	gdyyo4	0.473	47.5	0.000
Mexican	gdyyo5	0.459	29.98	0.000
Russia	gdyyo6	0.744	107.88	0.000
Türkiye	gdyyo7	0.321	34.92	0.000

Correlation matrix of residuals

	gdyyo1	gdyyo2	gdyyo3	gdyyo4	gdyyo5	gdyyo6	gdyyo7
gdyyo1	1						
gdyyo2	-0.215	1					
gdyyo3	0.156	-0.056	1				
gdyyo4	-0.428	0.357	-0.032	1			
gdyyo5	0.077	0.253	0.298	0.049	1		
gdyyo6	-0.065	0.282	0.226	0.382	0.083	1	
gdyyo7	-0.190	0.365	0.015	0.487	0.103	0.554	1

Breusch–Pagan LM Test: chi2(21) = 46.757 (0.001)

Country	Independent variable	Coef.	Robust Std. Err.	P> z	95% Conf. Interval	
Brazil	io1	0.057	0.059	0.329	-0.058	0.173
	lde1	-1.880	0.875	0.032	-3.596	-0.165
	kho1	-0.016	0.047	0.728	-0.108	0.075
	cdyyo1	0.238	0.283	0.400	-0.316	0.793
	kdbo1	-0.103	0.049	0.035	-0.199	-0.008
	_cons	4.536	1.088	0.000	2.404	6.667
China	io2	-0.861	0.610	0.158	-2.056	0.334
	lde2	0.373	0.626	0.551	-0.853	1.599
	kho2	-0.052	0.045	0.246	-0.140	0.036
	cdyyo2	-0.943	0.541	0.081	-2.002	0.117
	kdbo2	-0.006	0.014	0.676	-0.033	0.021
	_cons	8.459	2.201	0.000	4.145	12.772
India	io3	0.235	0.099	0.017	0.042	0.429
	lde3	-0.249	0.195	0.218	-0.621	0.142
	kho3	0.040	0.017	0.021	0.006	0.074
	cdyyo3	1.094	0.261	0.000	0.582	1.606
	kdbo3	0.043	0.010	0.000	0.024	0.062
	_cons	-1.983	0.907	0.029	-3.760	-0.206
Indonesia	io4	-0.830	0.154	0.000	-1.132	-0.529
	lde4	-0.791	0.797	0.321	-2.352	0.771
	kho4	-0.169	0.064	0.008	-0.294	-0.045
	cdyyo4	1.142	0.219	0.000	0.713	1.570
	kdbo4	0.038	0.034	0.269	-0.029	0.105
	_cons	7.168	1.735	0.000	3.767	10.568

Mexico	io5	0.026	0.104	0.804	-0.178	0.230
	lde5	-0.072	0.356	0.840	-0.769	0.625
	kho5	0.076	0.029	0.008	0.020	0.133
	cdyyo5	0.243	0.225	0.280	-0.198	0.683
	kdbo5	-0.097	0.022	0.000	-0.141	-0.054
	_cons	2.678	0.481	0.000	1.736	3.620
Russia	io6	0.153	0.050	0.002	0.054	0.251
	lde6	0.378	0.506	0.455	-0.613	1.370
	kho6	-0.019	0.023	0.418	-0.065	0.027
	cdyyo6	0.690	0.063	0.000	0.566	0.813
	kdbo6	0.085	0.020	0.000	0.045	0.124
	_cons	-1.560	0.784	0.047	-3.096	-0.024
Türkiye	io7	-0.086	0.057	0.134	-0.198	0.027
	lde7	1.312	0.297	0.000	0.730	1.894
	kho7	-0.054	0.037	0.140	-0.126	0.018
	cdyyo7	3.833	0.677	0.000	2.506	5.160
	kdbo7	-0.046	0.025	0.069	-0.095	0.004
	_cons	2.274	0.837	0.007	0.633	3.915

Table 10. Panel Results of the Robust SUR Model

	Independent variable	Coef.	Std. Err.	Calculated t Statistic	
PANEL	io	-1.87E-01	9.31E-02	-2.00E+00	The table value of t is 1.96 for $\alpha=0.05$.
	lde	-1.31E-01	2.17E-01	-6.06E-01	
	kho	-2.77E-02	1.51E-02	-1.83E+00	
	cdyyo	9.00E-01	1.43E-01	6.29E+00	
	kdbo	-1.24E-02	1.05E-02	-1.18E+00	
	_cons	3.08E+00	4.82E-01	6.39E+00	

the kdbo ratio, the interaction, which was found to be significant for Brazil, India, Mexico and Russia, was not very high (not exceeding 10%). It is observed that when the short-term external debt ratio increases, the gddyo ratio decreases in Brazil and Mexico, but increases in India and Russia. Finally, the panel results are given in Table 10.

According to the panel findings in Table 9, the fact that the t statistic values calculated for io, lde and cdyyo variables are higher than the predicted table critical value indicates that the parameters obtained are significant at 95% confidence level. The aforementioned panel results also showed that the variable that had the most effect on the gdyyo variable was cdyyo. It was concluded that the increases in the unemployment rate and liberal democracy index had a negative effect on the GDP. The lowest effect coefficient was determined for the unemployment rate.

CONCLUSION AND RECOMMENDATIONS

E7 countries, which draw attention as economies with high growth rates, have been the subject of much research to predict their possible positions in the world economy and to reveal the sources of said rise. As a matter of fact, in addition to high growth rates, technological breakthroughs, increasing trade volumes, financial development levels and high population rates in the countries in question were effective in selecting the study sample. It may also be useful to reveal the view of FDIs, which have become one of the indispensable elements of globalization, specific to the relevant country group, to shed light on macroeconomic performance evaluations. In the study, the SUR estimator, which is the one of heterogeneous panel data models, was used to measure the effect of the unemployment rate, liberal democracy index, public expenditures, net foreign direct investment outflows, and short-term debts on net FDI inflows of E7 countries in the 1992-2021 period.

When the findings obtained are evaluated in general, it is remarkable that the variable that has the most impact on foreign direct investments entering the country is the investments leaving that country. It should also be noted that the finding that outbound foreign direct investments increase the amount of inbound investment is accepted for all statistically significant parameters. When the aforementioned result is evaluated as an indicator of foreign direct investment activity in the country, it is possible to say that a result in line with economic expectations has been reached. The second variable with a high level of influence was the liberal democracy index. However, in the results reached, it has been determined that a reverse effect mechanism works for Brazil- in other words, as the liberal democracy index increases, the *gdyyo* decreases. This situation may arise from the constraints that foreign investors must comply with. In this country, characterized by a presidential republic system, the prevalence of autocratic structures signifies an environment where substantial investment incentives are often extended, contingent upon the fragility of the government-voter rapport. Consequently, one might anticipate that rising democratization tendencies could exert a detrimental impact on FDI. On the other hand, it is possible to say that the increase in the liberal democracy index affects the *gdyyo* variable positively, and for Türkiye, it is related to the environment of trust that has emerged as a result of democratization developments. According to the findings regarding the unemployment rate variable, India and Russia were the countries where FDI inflows were positively affected, while Indonesia was the only country that was negatively affected. This result may be due to the low quality of the labor force in Indonesia, or the low opportunity cost that investors face in terms of the labor force. The observed positive correlation between India and Russia can be explained by the decreased labor expenses stemming from escalating unemployment, expanding available workforce, and appealing incentive policies.

While the coefficient results regarding the increase in the influence of the public on FDI are positive for India and Mexico, it is negative for Indonesia. The positive correlation observed may originate from heightened public expenditures directed towards critical sectors attractive to foreign investors, such as infrastructure, energy ventures, and telecommunications networks. Moreover, the resultant surge in demand could enhance economic growth and foster a conducive environment, thus paving the way for fresh investment prospects. Conversely, the adverse relationship noted for Indonesia underscores the reflection of its underlying economic

challenges. Infrastructure gaps, hefty external debts, income inequality, inflationary pressures, bureaucratic hurdles, and corruption stand as prominent issues. Consequently, the demand surge triggered by increased public spending may fuel cost escalations, exacerbating inflationary strains. Furthermore, political instability and burgeoning budget deficits might signal a disconcerting climate for foreign investors, rather than instilling confidence amidst amplified public expenditures. Finally, while the findings of short-term debt burden are negative in Brazil and Mexico, it is positive for India and Russia. The negative results are thought to stem from heightened debt burdens, triggering perceptions of risk, concerns regarding stability, financial constraints and escalating costs. When the aforementioned findings are evaluated for the economies of India and Russia, it is possible to say that the findings of these two countries, which attract high levels of FDI, can provide evidence that the short-term debt burden does not constitute an obstacle for foreign investments.

The most striking situation in all the results obtained is that there was no statistically significant interaction within the scope of the variables examined in the Chinese economy, which has the highest level of FDI inflows. Although China has many features that are attractive for both qualified and cheap labor and FDIs, a finding that is in line with expectations could not be obtained. Research on the determinants of foreign investment inflows in the Chinese economy especially highlights that the significant presence of investments from OECD countries, attributed not only to the vast domestic market but also intensive trade relationships. Likewise, the Indian economy attracts foreign investors with factors like low labor costs, geographical advantages, cultural alignment with OECD countries and low country risk (Wei, 2005). For this reason, it is planned to analyze the main determinants of the Chinese economy, especially based on a single country, for further studies.


Given this information, it is possible to apply the modeling conducted in the study to countries where FDI outflows are common. Furthermore, spatial econometric analyses focusing on the geography factor are believed to provide guidance. Finally, it is advisable to examine studies on the determinants of FDI outflows, which have proven to be highly effective, particularly within the context of dynamic models.

REFERENCES

- ANWAR, S. M. (2017), Political stability and Attracting Foreign Direct Investment: A Comparative Study of Middle East and North African, *Sci.Int. (Lahore)*, 29(3), 679-683.
- ASIEDU, E. and LIEN, D. (2011), Democracy, Foreign Direct Investment and Natural Resources, *Journal of International Economics*, 84(1), 99-111.
- BÉNASSY-QUÉRÉ, A., COUPET, M. and THIERRY, M. (2007), Institutional Determinants of Foreign Direct Investment, *The World Economy*, 30(5), 764-782.
- BOZKURT, H. (2009), Türkiye'de Doğrudan Yatırımların Belirleyicileri Üzerine Bir Analiz: CCC-MGARCH Modeli ile Tahmin, *ODTÜ Gelişme Dergisi*, 36(1), 71-92.
- BREUSCH, T. and PAGAN, A. (1980), The Lagrange Multiplier Test and Its Applications to Model Specification in Econometrics, *Review of Economic Studies*, 47, 239-253.
- BUSSE, M. (2003), Democracy and FDI, *HWWA Discussion Paper*, 220, 1-32.
- BUSSE, M. and HEFEKER, C. (2007), Political Risk, Institutions and Foreign Direct Investment, *European Journal of Political Economy*, 23, 397-415.
- CHAKRABARTI, A. (2001), The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions, *Kyklos*, 54(1), 89-114.
- CHAN, K. and GEMAYEL, E. (2004), Risk Instability and The Pattern of Foreign Direct Investment in The Middle East and North Africa Region, *IMF Working Paper*, 139, 1-20.
- CHOONG, C. K., SIONG-HOOK, L. and CHUEN-KHEE, P. (2015), The Linkages Between Private and Public Investments in Malaysia: The Role of Foreign Direct Investment, *International Journal of Economics and Management*, 9(1), 139-153.
- DE HAAN, J. and STURM, J., E. (2000), On The Relationship Between Economic Freedom and Economic Growth, *European Journal of Political Economy*, 16(2), 215-241.
- ENGLE, R. F. (1982), Autoregressive Conditional Heteroscedasticity with Estimates of The Variance of United Kingdom Inflation, *Econometrica*, 50 (4), 987-1007.
- FROBEL, F., HEINRICH, J. and KREYE, O. (1978), The New International Division of Labour, *Social Science Information*, 17(1), 123-142.
- HAIR, J. F., BUSH, R. P. and ORTINAU, D. J. (2002), *Marketing Research: Within a Changing Information Environment*, Second Edition, New York: McGraw Hill.
- HARVEY, A.C. (1991), *The Econometric Analysis of Time Series*, Cambridge: The MIT Press.
- IM, K. S., PESARAN, M. H. and SHIN, Y. (2003), Testing For Unit Roots in Heterogeneous Panels, *Journal of Econometrics*, 115(1), 53-74.
- IMF (2012), Balance of payments manual, <http://www.imf.org/external/pubs/ft/bopman/bopman.pdf>, Retrieved on July 23. 2021, (Accessed on: 11.06.2023).
- JARQUE, C.M. and BERA, A. K. (1987), A Test for Normality of Observations and Regression Residuals, *International Statistical Review*, 55, 163-172.
- JENSEN, N. (2003), Democratic Governance and Multinational Corporations: Political Regimes and Inflows of Foreign Direct Investment, *International Organization*, 54(3), 587-616.
- KHRAWISH, H. A. and SIAM, W. Z. (2010), Determinants of direct foreign investment: Evidence from Jordan, *Business and Economic Horizons*, 1(1), 67-75.
- KUNCIC, A. and JAKLIC, A. (2014), FDI and Institutions: Formal and Informal Institutions, *Multinational Enterprises, Markets and Institutional Diversity*, 9, 171-205.
- LI, Q. and RESNICK, A. (2003), Reversal of Fortunes: Democratic Institutions and Foreign Direct Investment Inflows to Developing Countries, *International Organization*, 57(1), 175-211.
- MUSABEH, A. and ZOUAOUI, M. (2020), Policies and Variables Affecting FDI: A Panel Data Analysis of North African Countries, *Journal of Economic Policy Researches*, 7(1), 1-20.
- NONNENBERG, M.B. and DE MENDONÇA, M.J.C. (2004), The Determinants of Foreign Direct Investment in Developing Countries, <http://www.anpec.org.br/encontro2004/artigos/A04A061.pdf>, (Accessed on: 11.06.2023).

- OECD and UNCTAD (2022), *Twenty-eighth report on G20 investment measures*, <https://www.oecd.org/investment/investment-policy/28th-OECD-UNCTAD-Report-on-G20-Investment-Measures.pdf>, (Accessed on: 11.06.2023).
- ONODUGO, V. A., KALU, I. E., ANOWOR, O. F. and UKWENI, N. O. (2014), Is Capital Flight Healthy for Nigerian Economic Growth? An Econometric Investigation, *Journal of Empirical Economics*, 3(1), 10-24.
- OSTADI, H. and ASHJA (2014). The relationship Between External Debt and Foreign Direct Investment in D-8 Member Countries, *WALLIA Journal*, 30(3), 18-22.
- OTHMAN, N., YUSOP, Z., ANDAMAN, G. and ISMAIL, M. M. (2018), Impact of Government Spending on FDI Inflows: The Case of ASEAN-5, China and India, *International Journal of Business and Society*, 19(2), 1-6.
- PESARAN, M. H. (2015), Testing Weak Cross-Sectional Dependence in Large Panels, *Econometric Reviews*, 34(6-10), 1089-1117.
- PESARAN, M. H. and YAMAGATA, T. (2008), Testing Slope Homogeneity in Large Panels, *Journal of Econometrics*, 142(1), 50-93.
- RAMIREZ, M.D. (2006), Economic and Institutional Determinants of Foreign Direct Investment in Chile: A Time-Series Analysis 1960-2001, *Contemporary Economic Policy*, 24(3), 459-471.
- REESE, S. and WESTERLUND, J. (2016), Panicca: Panic on Cross-Section Averages, *Journal of Applied Econometrics*, 31(6), 961-981.
- SANTORO, M. (2020), China in Latin America in the 21st century, *Ибероамериканские тетради*, 8(3), 24-34.
- SINGH, H. and JUN, K. (1995), Some New Evidence on Determinants of Foreign Direct Investment in Developing Countries, *World Bank Policy Research Paper*, 1531, Washington: World Bank.
- SWAMY, P. (1970), Efficient Inference in a Random Coefficient Regression Model, *Econometrica: Journal of the Econometric Society*, 311-323.
- UNCTAD (1998), *World Investment Report 1998 Trends and Determinants*, USA: United Nations Publications.
- UNCTAD (2022), *World Investment Report 2022*, USA: United Nations Publications.
- V-DEM (2023), *Varieties of Democracy Data*, <https://www.v-dem.net/data/the-v-dem-dataset/country-year-v-dem-fullothers-v13/>, (Accessed on: 11.06.2023).
- WEI, W. (2005). China and India: Any difference in their FDI performances, *Journal of Asian Economies*, 16(4), 719-736.
- WALSH, M. J. P. and YU, J. (2010), Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach, *International Monetary Fund*, 1-28.
- WORLD BANK (2023), *World Bank National Accounts Data*, <https://datacatalog.worldbank.org/public-licenses#cc-by>, (Accessed on: 11.06.2023).
- YANG, B. (2007), Autocracy, Democracy and FDI Inflows to The Developing Countries, *International Economic Journal*, 21(3), 419-439.
- ZELLNER, A. (1962), An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias, *Journal of the American Statistical Association*, 57(298), 348-368.

Examining the Relationship Between Violence Against Healthcare Workers and Their Levels of Exhaustion, Confidence and Safety

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ABSTRACT

Background: This study aims to determine the relationship between violence against healthcare workers and their burnout, confidence, and safety levels.

Methods: The descriptive and cross-sectional study sample consisted of 535 healthcare workers working in a foundation hospital. Data were collected through a questionnaire. The questionnaire included demographic questions, research questions about violence, "Safety and Confidence Scale of Healthcare Professionals" and "Maslach Burnout Scale". Student's t, Mann Whitney-u, Kruskal-Wallis, Chi-Square, Pearson Correlation, and Linear Regression tests were applied. Statistical significance was accepted as 0.05.

Findings: The majority of the participants were female, between the ages of 26-35, single, and had an associate degree. The perceived safety level of those exposed to violence decreases ($p < 0.001$), and burnout level increases ($p < 0.001$). Injury as a result of violence significantly decreases the perceived safety level ($p = 0.019$). The status of being subjected to violence does not vary according to the employees' demographic characteristics or working life data.

Conclusions: Violence decreases employees' perceived safety level and increases burnout. It is recommended to implement psychological support or rehabilitation programs for healthcare workers to reduce violence-related burnout and increase confidence and perception of safety.

Keywords: Workplace Violence, Healthcare Workers, Burnout, Confidence, Safety.

JEL Classification Codes: HI10, J28, J81

Referencing Style: APA 7

INTRODUCTION

While workplace violence within the healthcare sector is not a recent occurrence, it persists as a notable issue on a global scale. Moreover, it is reported that violence against healthcare workers is increasing (Schablon et al., 2018; Shi et al., 2020) and has become more intense with the impact of the COVID-19 pandemic (Byon et al., 2022; Rossi et al., 2023).

Violence in all areas of life also manifests itself in the workplace. In addition, the health sector is the most risky in terms of violence (Mento et al., 2020). Healthcare professionals face a heightened risk of encountering non-fatal workplace violence, ranging from 5 to 12 times greater than that observed among workers in diverse sectors (GAO, 2016). However, one in five healthcare workers worldwide experience physical violence in the workplace by patients or visitors each year (Li et al., 2020). Healthcare workers are susceptible to incidents of

workplace violence due to their frontline roles within the healthcare system, necessitating close interactions with patients and their relatives (Tian et al., 2020). Given the frequency and impact of violence, it remains important to study the issue and develop interventions for prevention.

BACKGROUND

Violence in Health

Violence in the workplace ranges from aggressive or threatening remarks to murder (CDC, 2002). It is possible to talk about different actors of workplace violence. Within a healthcare organization, occurrences of violence may transpire between employees and individuals present on the premises, including patients, family members, visitors, and external suppliers (external violence), as well as among personnel within the institution itself (internal violence) (Viottini et al., 2020; Yosep et al., 2023). However, past studies show that violence against healthcare workers is

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mostly perpetrated by patients or their relatives (Schablon et al., 2018; Duan et al., 2019; Kobayashi et al., 2020).

Risk factors for workplace violence in healthcare organizations can emanate from either patient-related or organizational sources. Notably, within patient-related factors, a history of substance abuse, a track record of previous violent incidents, and the manifestation of psychiatric illness constitute the most significant risks (CDC, 2002). In addition, low perceived quality of care and the severity of the illness or death of the patient are other factors that lead to violence (Shaikh et al., 2020). Additionally, Yılmaz et al. (2020), in their study, identified that irregular demands from patients and their relatives, including requests for unjustified sick leave reports and non-fulfillment of prescription-related requests, contribute to incidents of violence. On the other hand, organizational factors are mostly caused by the workplace's lack of infrastructure or management problems. These factors encompass insufficient information, prolonged waiting times, crowded and uncomfortable waiting areas, insufficient staffing and equipment, communication breakdowns, and a deficiency in staff training and policies to anticipate and address crises stemming from patient interactions (CDC, 2002; Mento et al., 2020; Aljohani et al., 2021).

Previous studies have reported a higher incidence of violence in specific units within healthcare organizations. In this context, the most violent incidents occur in emergency departments, psychiatry departments, outpatient clinics/waiting rooms, and geriatric units (CDC, 2002; Mento et al., 2020). However, when the characteristics of violence are examined, it is seen that it is most frequently applied as verbal violence (Schablon et al., 2018; Shaikh et al., 2020; Aljohani et al., 2021). Additionally, female employees are reported to experience violence more frequently than their male counterparts (Viottini et al., 2020; Shaikh et al., 2020).

Beyond being a crime, violence among healthcare workers leads to a series of consequences that negatively affect the quality and cost of work (Mento et al., 2020). The aftermath of violence contributes to elevated levels of stress, anxiety, anger, guilt, insecurity, sleep disturbances, burnout, as well as increased levels of anxiety and depression among healthcare workers (Hanson et al., 2015; Schablon et al., 2018; Shi et al., 2020; Mento et al., 2020). Moreover, employees are less likely to be satisfied with their careers (Tian et al., 2020), their motivation decreases (Schablon et al., 2018), their job satisfaction and success at work significantly decrease, and their turnover intentions increase (Zhao et al., 2018; Duan et al., 2019).

Burnout

Burnout is defined as a work-related stress syndrome that occurs as a result of continuous exposure to work stress (De Hert, 2020). It is commonly defined as the recurring physical and emotional exhaustion experienced by employees, particularly those engaged in service provision, as a consequence of their working conditions and exposure to situations involving risk (Gimenez Lozano et al., 2022). Healthcare workers are among the professions at risk for burnout (De Hert, 2020). Employees exposed to violence may experience fear, irritability, anger, depression, anxiety, guilt, humiliation, feelings of helplessness, and frustration. These emotions can reduce the ability of healthcare workers to share and understand the needs of patients and can sometimes be a harbinger of burnout (d'Ettoire et al., 2018).

Prior research underscores the positive correlation between healthcare workers' exposure to violence and the occurrence of burnout (Duan et al., 2019; Kobayashi et al., 2020; Gimenez Lozano et al., 2022).

Confidence and Safety

Safety culture in healthcare is delineated as an organization's dedication to safeguarding both patients and employees from harm (Arnetz et al., 2018). A safe working environment allows healthcare workers to perform their work in peace. On the other hand, violence negatively affects employees' perception of safety in the workplace.

Healthcare workers who perceive their workplace as a place where violence is intense often experience fear and suspicion (Chen et al., 2022). Those affected by violence react in the form of distress, anger, anxiety, helplessness, and frustration and become more cautious, alert, and tense (Schablon et al., 2018). These emotions lead them to defensiveness and conflict, negatively affecting their patient relationships. Moreover, these behaviors subsequently lead to an even greater risk of workplace violence (Chen et al., 2022).

Employees' ability to cope with violence can help mitigate the impact and consequences of violence (Yosep et al., 2023). Low tolerance for violence is also significantly associated with a low sense of safety in the workplace (Copelanda & Henry, 2018). However, employees' trust in violence is also influenced by organizational factors (Chen et al., 2022). One of these factors is the presence of a safe climate in the workplace. Employees in workplaces with a high psychosocial safety climate are more adaptive in reacting to and solving workplace violence problems (Pien et al., 2019). In other words, when employees

perceive the safety climate in the workplace positively, their ability to overcome a violent incident they may encounter increases (Chen et al., 2022).

Health professionals' feeling safe and confident in the working environment contributes to the efficient, effective, and quality service of the employee (Şengül et al., 2019). Therefore, providing a safe working environment in healthcare organizations is essential.

Purpose of the Study and Research Questions

Many studies have been conducted so far on the violence that healthcare workers are exposed to (Shi et al, 2020; Shaikh et al, 2020; Rossi et al, 2023). However, as far as we know, no study has been found that investigates employees' confidence and safety perceptions and burnout levels due to the violence they are exposed to. This study supports the literature in this regard.

The objective of the study is to ascertain the correlation between violence against healthcare workers and their levels of burnout, confidence, and safety. In pursuit of this goal, the following research questions were formulated:

- Does violence against healthcare workers affect their burnout levels?
- Does violence against healthcare workers affect their confidence levels?
- Does violence against healthcare workers affect their safety levels?
- Is there a relationship between health workers' confidence, safety, and burnout levels?

METHODS

Population and Sample: The study population comprises all healthcare professionals at a foundation university hospital providing healthcare services in Istanbul. Within the scope of healthcare professionals, both healthcare professionals (doctors, nurses, health officers, EMTs) and employees working in support services units in the hospital (data entry, patient reception-counseling-orientation personnel, security personnel) were included. Approximately three thousand healthcare professionals work in the hospital where the research was conducted. The study involved 535 healthcare workers, selected through the convenience sampling method.

Data Collection Method and Tool: In the study face-to-face survey method was used. The surveys were collected from 1st October 2022 to 31st October 2022. The data was collected through a questionnaire

consisting of four sections. It included demographic questions, research questions about violence, "Safety and Confidence Scale of Healthcare Professionals" and "Maslach Burnout Scale" questions to measure burnout levels.

Demographic and Violence-Related Questions

Form: There are seven questions in the demographic data form. Participants were requested to provide information regarding their age, gender, marital status, educational background, profession, duration of professional experience, and the specific unit they were affiliated with. In the second part of the form, participants were asked to answer a total of seven questions about violence, which were created using past studies in order to identify violence and its adverse effects on healthcare professionals. These questions were designed to determine whether the health workers encountered violence in their work environment if they were subjected to violence, the type of violence they experienced, who committed the violence, whether there was an injury as a result of violence, whether they were treated in any health institution, whether a report or leave was taken as a result of the violence, and whether there was a loss of work as a result of violence.

Safety and Confidence Scale of Healthcare

Professionals: The scale was developed by Kowalenko et al. (2013) and adapted safety and confidence scale of healthcare professionals into Turkish by Şengül et al. There are seven questions to be answered in total. The lowest score on the scale is 7, and the highest score is 70. The scale consists of two parts. The first part includes the "Safety Scale" consisting of 10-point Likert-type items (1=Strongly Disagree, 10=Strongly Agree), and the second part includes the "Confidence Scale" consisting of four 10-point Likert-type items (1=Not at all confident, 10=Extremely confident). The Safety Scale asks participants to indicate how safe they feel while working. The Confidence Scale asks participants to rate their ability to manage violent patients/visitors. A high score on the scale indicates an increase in safety and confidence management against violence.

In the research, the Cronbach's alpha coefficient for the confidence scale was 0.848, while for the safety scale, it was 0.747.

Burnout Scale Short Form: It was developed by Pines and Aranson and adapted into Turkish by Çapri in 2013 as a "Burnout Scale-Short Form." The scale is answered based on the participants' explanations with seven-point Likert-type (1=Never, 7=Always) statements

to determine the burnout levels of individuals. After reading the questions, the individuals are asked to indicate how often they experience the ten situations specified after reading the questions, using a seven-point scale ranging from one to seven (1=Never, 7=Always), and mark the appropriate item against each item. The higher the score obtained from the scale, the higher the burnout level is considered.

Scores of "2.4 and below" are interpreted as a very low degree of burnout. Scores between "2.5 and 3.4" are interpreted as danger signals for burnout, scores between "3.5 and 4.4" are interpreted as being in a state of burnout, and scores between "4.5 and 5.4" are interpreted as having a very serious burnout problem. Scores of "5.5 and above" are interpreted as needing professional help as soon as possible.

The research revealed a Cronbach's alpha coefficient of 0.901 for the burnout scale.

Data Analysis: SPSS.25 package program was used to analyze the data. Normal distribution analysis was performed by examining the skewness and kurtosis values and Q-Q graphs of the data obtained. Skewness and kurtosis values between -1 and +1 were obtained in all dimensions. Frequency distributions of the obtained data were examined. In order to examine the differences between the groups, Student's t-test and Mann Whitney-u Test, which are parametric tests, were applied for differences between two groups, and the Kruskal-Wallis test was applied for more than two groups. The chi-square test was applied for the intergroup differences in the status of being subjected to violence. Pearson Correlation and Linear Regression analyses were performed to examine the relationship between violence against healthcare workers and their burnout, confidence, and safety levels.

Research Ethics: Approval was secured from the Istinye University Scientific Research Ethics Committee on July 28, 2022, during meeting number 2022/07 with decision number 02. Subsequently, an application, accompanied by the obtained permission letter, was submitted to the relevant authority at the hospital where the study is to be conducted. After the written approval was received from the hospital, the research was carried out with healthcare professionals who participated in the study voluntarily. Before the questionnaire was answered, the healthcare workers were informed about the study, and their consent was obtained.

RESULTS

Demographic and Work-Life Data

The study collected data from 535 healthcare professionals working in a foundation hospital. The majority of the participants were female (69%), aged between 26-35 years (43%) and single (53%). Regarding education level, the majority were associate degree graduates (40%). Most participants were midwives, nurses, health officers, and EMTs (27%). Most participants had 1-5 years of experience in the profession (57%) and 37% worked in inpatient clinics (Table 1).

Data on the participants' violence exposure and violence are shown in Table 2. Twenty-nine percent of the participants stated that they had been subjected to violence. The most common violence was verbal (68%) and by the patient's relatives (54%). Almost all of the participants were not injured due to the violence they were subjected to, did not receive treatment in any health institution, and did not lose their jobs due to the violence.

The study found that exposure to violence did not differ according to gender, age, marital status, educational level, occupation, length of service, and employment unit (Table 3).

Confidence, Safety and Burnout Analyses with Violence

When the study participants' scale averages are analyzed, the average safety level is 5.86 ± 0.11 , the average confidence level is 6.73 ± 0.10 , and the average burnout level is 3.58 ± 0.06 . Based on the averages obtained, it is observed that the safety and confidence levels of the participants are at a high level. However, it can be said that employees are in "burnout."

In the study, it was observed that exposure to violence decreased perceived safety level ($p < 0.001$) and increased burnout level ($p < 0.001$). Injury as a result of violence significantly decreases the level of perceived safety ($p = 0.019$). Conversely, the nature of experienced violence exhibited no variation across confidence, safety, and burnout levels, as indicated in Table 4.

A negative yet mild correlation exists between the participants' burnout levels and their confidence ($p < 0.001$; $r = -0.249$) and safety levels ($p = 0.013$; $r = -0.108$). In other words, as employees' confidence and safety levels decrease, their burnout levels increase. On the other hand, the number of incidents of violence was

Table 1. Participants' Demographic Characteristics and Data on Their Working Life

Variable	n	%
Gender		
Female	371	69.3
Male	162	30.3
Unspecified	2	0.4
Age		
18-25	172	32.1
26-35	229	42.8
36 ≤	126	23.6
Unspecified	8	1.5
Marital Status		
Single	281	52.5
Married	247	46.2
Unspecified	7	1.3
Education Level		
Highschool & below	159	29.7
Associate degree	215	40.2
Graduate	133	24.9
Postgraduate	24	4.5
Unspecified	4	0.7
Occupation		
Medical Doctor	55	10.3
Midwives, nurses, health officers, and EMTs	142	26.5
Laboratory assistant, radiology, anesthesia technician/technician	61	11.4
Data entry & reception staff	129	24.1
Others	148	27.7
Work experience (years)		
1-5	304	56.8
6-10	96	17.9
11-15	70	13.1
16 ≤	59	11.0
Unspecified	6	1.1
Work unit		
Inpatient clinics	191	36.6
Outpatient clinics	104	19.9
Administrative Units	16	3.1
Intensive care	39	7.5
Emergency room	21	4.0
Hospital common areas	41	7.9
Operating room	67	12.8
Others	56	10.4

EMTs: Emergency medical technician

Hospital Common Areas: Hospital entrance, corridor, information desk, waiting area

Other: All units and work areas not specified in the table

Table 2. Participants' Violence Experiences and Data on Violence

Variable*	n	%
Exposure to violence (n=535)		
Yes	149	29.1
No	363	70.9
Injury due to violence (n=535)		
Yes	5	0.9
No	530	99.1
Receiving treatment as a result of violence (n=535)		
Yes	3	0.6
No	532	99.4
Loss of job due to violence (n=535)		
Yes	4	0.7
No	531	99.3
Type of Violence (n=149)*		
Physically	35	18.5
Verbal	129	68.3
Bullying/Psychological	25	13.2
Person(s) Perpetrating Violence (n=149)*		
Patient	75	36.9
The relatives of the patient	109	53.8
Colleague	10	4.9
Supervisor/manager	8	3.9
Others	1	0.5

* More than one option can be selected. In cases where violence is both verbal and physical, two options are marked together.

Table 3. Intergroup Comparison of the Status of Being Subjected to Violence

		Experiencing Violence			
		Yes	No	Total	
Gender					
Female	Count	102	254	356	Value= 0.181 Df= 1 p= 0.670
	Exp. Count	104.0	252.0	356.0	
Male	Count	47	107	154	
	Exp. Count	45.0	109.0	154.0	
Total		149	361	510	
Age					
18-25	Count	43	125	168	Value=4.059 Df=3 p=0.255
	Exp. Count	49.7	118.3	168.0	
26-35	Count	73	142	215	
	Exp. Count	63.6	151.4	215.0	
36-45	Count	21	62	83	
	Exp. Count	24.5	58.5	83.0	
46 ≤	Count	12	26	38	
	Exp. Count	11.2	26.8	38.0	
Total		149	355	504	
Marital Status					
Single	Count	72	196	268	Value=1.393 Df=1 p=0.238
	Exp. Count	78.0	190.0	268.0	
Married	Count	75	162	237	
	Exp. Count	69.0	168.0	237.0	
Total		147	358	505	

Examining the Relationship Between Violence Against Healthcare Workers and Their Levels of Exhaustion, Confidence and Safety

Education Level					
≥ Highschool	Count	40	113	153	Value=0.951 Df=2 p=0.621
	Exp. Count	44.6	108.4	153.0	
Associate degree	Count	62	141	203	
	Exp. Count	59.1	143.9	203.0	
Graduate ≤	Count	46	106	152	
	Exp. Count	44.3	107.7	152.0	
Total		148	306	508	
Occupation					
Medical Doctor	Count	13	42	55	Value=5.837 Df=4 p=0.212
	Exp. Count	16.0	39.0	55.0	
Midwives, nurses, health officers, and EMTs	Count	40	99	139	
	Exp. Count	40.5	98.5	139.0	
Laboratory assistant, radiology, anesthesia technician/technician	Count	17	36	53	
	Exp. Count	15.4	37.6	53.0	
Data entry & reception staff	Count	45	79	124	
	Exp. Count	36.1	87.9	124.0	
Others	Count	34	107	141	
	Exp. Count	41.0	100.0	141.0	
Total		149	363	512	
Work experience (years)					
1-5	Count	85	208	293	Value=0.296 Df=3 p=0.961
	Exp. Count	84.5	208.5	293.0	
6-10	Count	28	64	92	
	Exp. Count	26.5	65.5	92.0	
11-15	Count	17	47	64	
	Exp. Count	18.5	45.5	64.0	
16 ≤	Count	16	41	57	
	Exp. Count	16.4	40.6	57.0	
Total		146	360	506	
Work unit					
Inpatient clinics	Count	58	130	188	Value=3.354 Df=5 p=0.646
	Exp. Count	55.4	132.6	188.0	
Outpatient clinics	Count	29	70	99	
	Exp. Count	29.2	69.8	99.0	
Intensive care	Count	13	25	38	
	Exp. Count	11.2	26.8	38.0	
Emergency room	Count	8	12	20	
	Exp. Count	5.9	14.1	20.0	
Operating room	Count	17	43	60	
	Exp. Count	17.7	42.3	60.0	
Others	Count	22	72	94	
	Exp. Count	27.7	66.3	94.0	
Total		147	352	499	

EMTs: Emergency medical technician

Table 4: Comparison of Participants' Confidence, Confidence and Burnout Levels

	n	Confidence				Safety				Burnout			
		Mean	SD	t/Z/H	p	Mean	SD	t/Z/H	p	Mean	SD	t/Z/H	p
Being subjected to violence ^a													
Yes	149	6.65	2.33	-0.580	0.562	4.75	0.19	-6.477	<0.001	4.50	0.09	11.593	<0.001
No	361	6.78	2.29			6.31	0.13			3.21	0.06		
Injury as a Result of Violence ^b													
Yes	5	6.30	3.70	-0.060	0.952	2.80	3.48	-2.351	0.019	4.66	1.20	-1.906	0.057
No	528	6.73	2.29			5.89	2.54			3.57	1.27		
Type of Violence ^c													
Physically	13	7.28	1.60	4.763	0.313	5.13	2.23	5.459	0.243	4.42	1.16	0.668	0.955
Verbal	88	6.37	2.37			4.74	2.34			4.57	1.06		
Bullying/Psychological	6	8.03	2.34			6.61	2.03			4.56	1.50		
Physical/Verbal	22	6.69	2.40			4.17	2.24			4.31	1.26		
Verbal/Bullying/Psychological	19	7.06	2.44			4.54	2.70			4.43	1.21		

found to have a negative and weak relationship with the level of safety ($p=0.011$; $r=-0.210$) and a positive and weak relationship with the level of confidence ($p=0.026$; $r=0.184$). These data suggest that as the frequency of

violence to which employees are exposed increases, the level of safety decreases, and the level of confidence increases (Table 5).

Table 5: The Relationship Between Burnout, Confidence, Safety Levels, and Number of Violence Experiences

	Mean (SD)	1	2	3
1. Burnout	3.58 (1.27)			
2. Safety	5.86 (2.56)	-0.249**		
3. Confidence	6.73 (2.30)	-0.108*	0.063	
4. Number of Exposures to Violence	2.30 (2.50)	0.016	-0.210*	0.184*

* $p < .05$, ** $p < .01$

DISCUSSION

Across the globe, healthcare personnel face a significant challenge posed by violence. In Turkey, although the Ministry of Health has made various legislative arrangements for employee safety since 2009, the existence of violence continues to be an important problem (TBMM, 2013). This research, conducted within a foundation hospital, aimed to investigate the correlation between violence and the burnout, confidence, and safety levels of healthcare professionals.

According to the study findings, nearly one-third of the hospital staff experienced violence at least once in their professional lives. Various studies conducted in different countries reveal diverse prevalence rates of violence among healthcare workers. Shi et al. (2020) reported a workplace violence prevalence of 47.9% among physicians and nurses. According to Shaikh et al. (2020), more than a third of employees (38.4%) have been exposed to any form of violence in the last 6 months. In emergency departments, this rate rises to 77% (Aljohani et al, 2021). Studies in our country have also identified rates exceeding 80% (Özdevecioğlu, 2003; Erkol et al., 2007). Among the determinants of violence, there are many organizational-specific factors, such as the physical structure of the health institution, patient-employee relations, and the staff's workload (CDC, 2002; Mento et al., 2020; Aljohani et al., 2021). Therefore, it is expected that the prevalence of violence is at such different levels in studies.

Despite a higher incidence of violence among women, newcomers to the profession, individuals working in patient counseling and reception services, and those employed in inpatient clinics, the study did not identify any statistically significant differences between the groups regarding exposure to violence based on the considered variables. This result shows that violence is applied to all employees in our country at similar rates. On the other hand, the literature shows that women, nurses, and those working in psychiatric units are exposed to violence more (CDC, 2002; Li et al., 2020). This may be attributed to the higher number of female employees in the health sector, the fact that nurses are the professional members who have the most contact with patients (George et al., 2020), and that the patient profile in psychiatric units consists of individuals who are more prone to violence (Kumari et al., 2020), and that the clinical picture of the patient in the emergency department is critical (Shaikh et al., 2020).

Consistent with existing literature, this study found that verbal violence was the most prevalent form, aligning with findings from studies by Shaikh et al. (2020), Aljohani et al. (2021), and Byon et al. (2022). However, tragically, it is a fact that many healthcare workers in Turkey have recently lost their lives in the line of duty due to violence (Independent Turkish, 27.09.2023). On April 17, 2012, after Dr. Ersin Arslan was stabbed to death by a patient's relative in Gaziantep province, health workers across the country stopped work and demanded urgent measures to be taken (saglikcalisanisagligi.org, 20.04.2012). In 2012, ten distinct proposals were presented to the Grand National Assembly of Turkey with the aim of examining instances of violence against healthcare workers and identifying appropriate measures to address the issue. As a result of evaluating the proposals, it was decided to establish a Parliamentary Investigation Commission to "*Investigate the Increasing Incidents of Violence against Health Workers and Determine the Measures to be Taken*" (TBMM, 2013). Despite the commission's field investigations and detailed reports, violence in healthcare has still not been prevented. Moreover, the COVID-19 pandemic has increased violence in health services (Byon et al, 2022), showing that violence will remain a serious problem in healthcare.

Within this study, individuals subjected to violence exhibited a decline in their safety perception and a rise in their levels of burnout. However, a negative correlation was observed between confidence, safety levels, and burnout. This result shows that employees whose perception of safety in the workplace decreases in the face of violence experience more intense burnout. Similarly, Copelanda and Henry (2018) reported that burnout levels increase as employees' perception of safety decreases. Based on this result, it is thought that increasing the level of safety can protect employees from burnout. Moreover, implementing measures that increase employees' perception of safety also helps to protect them from violence (Copelanda & Henry, 2018).

It is emphasized that confidence plays a crucial role in shielding employees from the repercussions of violence (Hanson et al., 2015). Furthermore, enhancing the coping skills of healthcare workers is deemed essential to enable them to effectively manage and prevent violence (Chen et al., 2022). In this context, interventions aimed at preventing violence and safeguarding staff from its detrimental effects are recommended. Whether employing skills training programs, cognitive-based training, or

workplace violence training, all these interventions are reported to yield positive outcomes (Yosep et al., 2023). Interestingly, this study uncovered a positive correlation between the frequency of exposure to violence and the level of confidence. This correlation is believed to be attributed to the predominantly verbal nature of the experienced violence and the low incidence of physical harm, fostering a perception among employees that they can adequately cope with such instances.

Workplace violence is posited as a long-term and/or cumulative stressor rather than a brief and extreme fear-inducing event (Kobayashi et al., 2020). Consequently, this enduring stress contributes to employee burnout (Copeland & Henry, 2018; Duan et al., 2019; Kobayashi et al., 2020) and heightens turnover intentions by diminishing job satisfaction (Duan et al., 2019). Introducing measures to augment employees' sense of safety can shield them from violence and alleviate burnout (Copeland & Henry, 2018). In this context, regular implementation of support and training programs for healthcare institution employees is believed to be effective in combating violence.

Organizational factors such as inadequate information, prolonged waiting times, crowded and uncomfortable waiting areas, insufficient staffing and equipment, and communication breakdowns are recognized as contributors to violence in healthcare institutions (CDC, 2002; Mento et al., 2020; Aljohani et al., 2021). A study conducted in Turkey identifies significant complaints affecting patient dissatisfaction, including insufficient staff, lack of cleanliness and hygiene, inadequate information for patients and their relatives, and a bustling and noisy environment (Yaman, 2019). Another study suggests that enhancing service delivery, optimizing resource utilization, adjusting service delivery to meet demand, maintaining a manageable patient load, having adequately staffed personnel, and employing patient counselors and counseling staff can contribute to violence prevention (Yıldız, 2019). Consequently, addressing the infrastructure and personnel deficiencies of healthcare institutions is deemed crucial for achieving meaningful success in the fight against violence.

IMPLICATIONS FOR PRACTICE

Workplace violence, described as a global health problem, has negative effects on healthcare workers.

This study revealed that approximately one-third of healthcare workers experienced violence at least once during their professional careers, with verbal aggression being the most common form, predominantly perpetrated by patients' relatives. Fortunately, a minimal number of individuals subjected to violence reported physical injuries, treatment repercussions, or job loss. However, despite these mitigating factors, the observed effects of violence persist. Individuals who experienced violence conveyed a diminished sense of safety in their work environment, coupled with elevated levels of burnout compared to their non-exposed counterparts. Furthermore, a discernible correlation was noted between diminishing safety perceptions and escalating burnout levels.

Healthcare professionals work under intense pressure and challenging conditions. In particular, the COVID-19 pandemic has reminded the world again how important a task this professional group performs. On the other hand, unfavorable working conditions cause many healthcare professionals to experience intense burnout and consequently leave the sector. Workplace violence is also one factor that increases healthcare professionals' burnout.

It is recommended to implement psychological support or rehabilitation programs for healthcare workers to reduce violence-related burnout and increase confidence and perception of safety.

REFERENCES

- Aljohani, B., Burkholder, J., Tran, Q. K., Chen, C., Beisenova, K., & Pourmand, A. (2021). Workplace violence in the emergency department: a systematic review and meta-analysis. *Public Health*, 196, 186-197. DOI:10.1016/j.puhe.2021.02.009
- Arnetz, J., Hamblin, L. E., Sudan, S., & Arnetz, B. (2018). Organizational determinants of workplace violence against hospital workers. *Journal of Occupational and Environmental Medicine*, 60(8), 693. DOI:10.1097/JOM.0000000000001345
- Byon, H. D., Sagherian, K., Kim, Y., Lipscomb, J., Crandall, M., & Steege, L. (2022). Nurses' experience with type II workplace violence and underreporting during the COVID-19 pandemic. *Workplace Health & Safety*, 70(9), 412-420. DOI:10.1177/21650799211031233
- CDC (2002). Violence occupational hazards in hospitals. DHHS (NIOSH) Publication No. 2002-101. <https://www.cdc.gov/niosh/docs/2002-101/default.html>. (22.09.2023).
- Chen, F. L., Hou, W. H., Chen, J. H., Tung, T. H., & Wu, J. C. (2022, March). Organizational Factors Are Key Predictors of Physicians' Confidence in Handling Workplace Violence. *In Healthcare*, 10(4),637. DOI: 10.3390/healthcare10040637.
- Copeland, D., & Henry, M. (2018). The relationship between workplace violence, perceptions of safety, and professional quality of life among emergency department staff members in a level 1 trauma centre. *International Emergency Nursing*, 39, 26-32. DOI: 10.1016/j.ienj.2018.01.006
- Çapri, B. (2006). Tükenmişlik ölçeğinin Türkçe uyarlaması: geçerlik ve güvenilirlik çalışması. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 2(1), 62-77.
- d'Ettorre, G., Mazzotta, M., Pellicani, V., & Vullo, A. (2018). Preventing and managing workplace violence against healthcare workers in Emergency Departments. *Acta Bio Medica: Atenei Parmensis*, 89(Suppl 4), 28.
- De Hert, S. (2020). Burnout in healthcare workers: prevalence, impact and preventative strategies. *Local and Regional Anesthesia*, 202(13); 171-183.
- Duan, X., Ni, X., Shi, L., Zhang, L., Ye, Y., Mu, H., ... & Wang, Y. (2019). The impact of workplace violence on job satisfaction, job burnout, and turnover intention: the mediating role of social support. *Health and Quality of Life Outcomes*, 17(1),1-10. DOI: 10.1186/s12955-019-1164-3
- Erkol, H., Gökdoğan, M. R., Erkol, Z., & Boz, B. (2007). Aggression and violence towards health care providers—a problem in Turkey?. *Journal of Forensic and Legal Medicine*, 14(7), 423-428.
- GAO (2016). Workplace Safety and Health Additional Efforts Needed to Help Protect Health Care Workers from Workplace Violence. *United States Government Accountability Office*. The USA. GAO-16-11.
- George, A. S., McConville, F. E., de Vries, S., Nigenda, G., Sarfraz, S., & Mclsaac, M. (2020). Violence against female health workers is tip of iceberg of gender power imbalances. *BMJ*, 371,1-4. DOI: 10.1136/bmj.m3546.
- Gimenez Lozano, J. M., Martínez Ramón, J. P., & Morales Rodríguez, F. M. (2021). Doctors and nurses: a systematic review of the risk and protective factors in workplace violence and burnout. *International Journal of Environmental Research and Public Health*, 18(6), 3280.
- Hanson, G. C., Perrin, N. A., Moss, H., Laharnar, N., & Glass, N. (2015). Workplace violence against homecare workers and its relationship with workers health outcomes: a cross-sectional study. *BMC Public Health*, 15, 1-13. DOI:10.1186/s12889-014-1340-7.
- Independent Türkçe. Retrieved from: <https://www.indyurk.com/node/545471/haber/sa%C4%9Fl%C4%B1k-sen-temmuzda-30-%C5%9Fiddet-olay%C4%B1-ya%C5%9Fand%C4%B1-1-doktor-hayat%C4%B1n%C4%B1-kaybetti>. (27.09.2023).
- Kobayashi, Y., Oe, M., Ishida, T., Matsuoka, M., Chiba, H., & Uchimura, N. (2020). Workplace violence and its effects on burnout and secondary traumatic stress among mental healthcare nurses in Japan. *International Journal of Environmental Research and Public Health*, 17(8), 2747. DOI:10.3390/ijerph17082747.
- Kowalenko, T., Gates, D., Gillespie, G. L., Succop, P., & Mentzel, T. K. (2013). Prospective study of violence against ED workers. *The American Journal of Emergency Medicine*, 31(1), 197-205.
- Kumari, A., Kaur, T., Ranjan, P., Chopra, S., Sarkar, S., & Baitha, U. (2020). Workplace violence against doctors: characteristics, risk factors, and mitigation strategies. *Journal of Postgraduate Medicine*, 66(3), 149.

- Li, Y. L., Li, R. Q., Qiu, D., & Xiao, S. Y. (2020). Prevalence of workplace physical violence against health care professionals by patients and visitors: a systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 17(1), 299.
- Mento, C., Silvestri, M. C., Bruno, A., Muscatello, M. R. A., Cedro, C., Pandolfo, G., & Zoccali, R. A. (2020). Workplace violence against healthcare professionals: A systematic review. *Aggression and Violent Behavior*, 51, 101381. DOI: 10.1016/j.avb.2020.101381.
- Özdevecioğlu, M. (2003). Organizasyonlarda saldırgan davranışlar ve bireyler üzerindeki etkilerinin belirlenmesine yönelik bir araştırma. *Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*. 22(1), 121-150.
- Pien, L. C., Cheng, Y., & Cheng, W. J. (2019). Psychosocial safety climate, workplace violence and self-rated health: A multi-level study among hospital nurses. *Journal of Nursing Management*, 27(3), 584-591.
- Rossi, M. F., Beccia, F., Cittadini, F., Amantea, C., Aulino, G., Santoro, P. E., ... & Gualano, M. R. (2023). Workplace violence against healthcare workers: an umbrella review of systematic reviews and meta-analyses. *Public Health*, 221, 50-59.
- Sağlık Çalışanlarının Sağlığı. Retrieved from: https://www.saglikcalisanisagligi.org/233GAXppva373/e-s_pn542/3142-ambulansla-carpisan-otomobil-devrildi-1-yarali.html. (20.04.2012).
- Schablon, A., Wendeler, D., Kozak, A., Nienhaus, A., & Steinke, S. (2018). Prevalence and consequences of aggression and violence towards nursing and care staff in Germany—A survey. *International Journal of Environmental Research and Public Health*, 15(6), 1274.
- Shaikh, S., Baig, L. A., Hashmi, I., Khan, M., Jamali, S., Khan, M. N., ... & Zaib, S. (2020). The magnitude and determinants of violence against healthcare workers in Pakistan. *BMJ global health*, 5(4), e002112. DOI:10.1136/bmjgh-2019-002112.
- Shi, L., Li, G., Hao, J., Wang, W., Chen, W., Liu, S., ... & Han, X. (2020). Psychological depletion in physicians and nurses exposed to workplace violence: A cross-sectional study using propensity score analysis. *International Journal of Nursing Studies*, 103, 103493. DOI: 10.1016/j.ijnurstu.2019.103493.
- Şengül, H., Bulut, A., & Özgüleş, B. (2019). Sağlık profesyonellerinin şiddete karşı güvenlik ve güven ölçeği Türkçe formunun geçerlik ve güvenilirliğinin yapısal eşitlik modeli ile sınanması. *Uluslararası Sosyal Araştırmalar Dergisi/The Journal of International Social Research*.12(67); 973-979.
- TBMM. 2013. Sağlık Çalışanlarına Yönelik Artan Şiddet Olaylarının Araştırılarak Alınması Gereken Önlemlerin Belirlenmesi Amacıyla Kurulan Meclis Araştırması Komisyonu Raporu. Sıra Sayısı: 454. Retrieved from: <https://acikerisim.tbmm.gov.tr/xmlui/bitstream/handle/11543/110/ss454.pdf?sequence=1&isAllowed=y>. (24.09.2023).
- Tian, Y., Yue, Y., Wang, J., Luo, T., Li, Y., & Zhou, J. (2020). Workplace violence against hospital healthcare workers in China: a national WeChat-based survey. *BMC Public Health*, 20, 1-8. DOI: 10.1186/s12889-020-08708-3
- Viottini, E., Politano, G., Fornero, G., Pavanelli, P. L., Borelli, P., Bonaudo, M., & Gianino, M. M. (2020). Determinants of aggression against all health care workers in a large-sized university hospital. *BMC Health Services Research*, 20, (215), 1-9. DOI: 10.1186/s12913-020-05084-x
- Yaman, Z. (2019). Sağlık kurumlarında memnuniyetsizlik karşısında gösterilen eylemler: şikâyet davranışının hasta bakış açısıyla değerlendirilmesi. *Turkish Studies-Social Sciences*, 14(5), 2669-2682.
- Yıldız, M.S. (2019). Türkiye’de sağlık çalışanlarına yönelik şiddet: Ankara ilinde araştırma. *Hacettepe Sağlık İdaresi Dergisi*, 22(1), 135-136.
- Yılmaz, K. (2020). Adana ilinde sağlık çalışanlarının şiddete uğrama sıklığı ve sağlıkta şiddet konusundaki düşünceleri. Tıpta Uzmanlık Tezi. Adana: Çukurova Üniversitesi, Tıp Fakültesi.
- Yosep, I., Mardhiyah, A., Hendrawati, H., & Hendrawati, S. (2023). Interventions for reducing negative impacts of workplace violence among health workers: a scoping review. *Journal of Multidisciplinary Healthcare*, 1409-1421. DOI:10.2147/JMDH.S412754.
- Zhao, S. H., Shi, Y. U., Sun, Z. N., Xie, F. Z., Wang, J. H., Zhang, S. E., ... & Fan, L. H. (2018). Impact of workplace violence against nurses' thriving at work, job satisfaction and turnover intention: A cross-sectional study. *Journal of Clinical Nursing*, 27(13-14), 2620-2632. DOI: 10.1111/jocn.14311.

Analysis of Structural Change for the Kyrgyz Republic Economy: Evidence from Decomposition of Output Changes and Multiplier Product Matrix

Arya AKDENİZ¹, Neşe KUMRAL², Barış GÖK³

ABSTRACT

Input-output analyses, which investigate intersectoral interdependencies and structural changes, are critical to sectoral planning by providing policymakers with significant information. This study draws on the input-output tables calculated by the Asian Development Bank for Asian and Pacific countries, specifically for the Kyrgyz Republic. The decomposition of output changes and the multiplier product matrix are employed to identify any structural changes in the country's economy. The empirical findings indicate that a major structural change has occurred in the Kyrgyz economy, led by the financial intermediation sector.

Keywords: Input-Output Analysis, Structural Change, Kyrgyz Republic, Decomposition of Output Changes, Multiplier Product Matrix

JEL Classification Codes: C67, D57

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INTRODUCTION

Given the ineffectiveness of market mechanisms to solve development issues, underdeveloped economies have resorted to economic planning to address these problems (Öney, 1980: 7). Economic planning can be defined simply as the methods and techniques used to enable an economy to develop more rapidly within a specific region and time period. Here, economic planning should not be confused with government interventions aimed at macroeconomic stability. An economic plan aims to influence the future through forecasts and actions that need to be taken from now on. In contrast, government interventions only aim to eliminate existing economic imbalances (Özyurt, 2012: 25-26).

The first step to setting macroeconomic objectives in economic planning is to conduct a comprehensive sector analysis for the relevant economy. In this regard, it is imperative to determine the quantities of goods or services to be produced; in other words, sectoral production levels and investment distributions should be identified. The aforementioned analysis identifies the components of total demand at the sectoral level, specifically the demand for final goods, intermediate goods, and imported goods. At this point, to ensure consistency between the data obtained

from sectoral analyses and macroeconomic objectives, the fundamental models utilized in the inter-industry analysis are expressed as input-output models (Öney, 1980: 97-98).

The intersectoral interdependencies, expressed as linkages between sectors, and the shares of each sector in net value added can change over time. The input-output approach examines structured change in terms of intersectoral interdependence (Özdil, 1993: 110). Thus, the present study examines whether there has been any structural change within the inter-industry linkages in the Kyrgyz Republic economy. The country data are taken from the input-output tables calculated by the Asian Development Bank (ADB) for Asian and the Pacific economics for 2000 and 2018.

In the early 1990s, enterprises in Kyrgyz Republic's Moscow-based planned economy lost their privileged access to markets or production inputs. This damaged intersectoral connections in the economy, resulting in a severe decline in the manufacturing sector. In response, the primary strategy was to shift back to the agricultural sector, which consequently experienced less contraction than the services and industrial sectors, so its share of the economy and employment capacity increased. As the Kyrgyz Republic progressed with its open economy

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strategy, informal trade networks, including cross-border trade, rapidly emerged. As a result, the services sector contracted less than the industrial sector. In the mid-1990s, the industrial sector began to recover, led by foreign-owned mining companies, while small-scale manufacturers producing household goods gradually revived and expanded to include the ready-made garment sector, which encouraged exports. Furthermore, companies in newly established free economic zones contributed to production by benefiting from government fiscal incentives. Meanwhile, the construction industry grew rapidly, primarily as a result of housing projects financed through labor remittances (Yamano et al., 2019: 11-12).

Figure 1, which presents the percentage shares of sectoral value-added contributions in the Kyrgyz economy from 2000 to the present, indicates that significant changes have occurred in the Kyrgyz Republic's economic structure over the past twenty years. However, this transformation has not significantly contributed to increased productivity. The agricultural sector's shares of value added and employment have decreased by 22 and 33 percentage points, respectively. In contrast, the services sector, which offers many opportunities, currently accounts for 55% of the Kyrgyz Republic's total employment. Surprisingly, while manufacturing employment has more than doubled since 2000, the sector's share of GDP has fallen slightly, indicating a decline in manufacturing productivity. Finally, retail and wholesale trade was the only one of the sectors with an increasing share of employment to increase productivity (Izvorski et al., 2020: 5).

The remainder of this paper comprises the following sections. The next section reviews empirical studies using input-output analysis. Following the literature review, the dataset section describes the general characteristics of the input-output tables calculated by the ADB for the Kyrgyz Republic economy between 2000 and 2018. The methodology section explains how input-output tables can be used to analyse structural change. After presenting the empirical findings, the study concludes by discussing the results to provide policy recommendations.

LITERATURE REVIEW

The first empirical study on the input-output model in the literature was conducted by Leontief (1936), drawing on an input-output table calculated for the United States (US) economy using 1919 data. As part of economic planning since the 1950s, input-output models have been used frequently to determine sectoral investment priorities. Initially closed and static, input-output models have evolved into dynamic structures (Aydoğuş, 2010: 6). Very few empirical studies (Temurshoev, 2004; Seil and Ichihashi, 2012) related to input-output analysis have focused on the Kyrgyz economy. These international papers are highlighted in this literature review.

In addition to studies examining the intersectoral interdependencies of sectors, international empirical analyses have examined the economic roles of specific sectors, such as construction (Pietroforte and Gregori, 2003; Wu and Zhang, 2005; İlhan and Yaman, 2011; Ali et al., 2019). Pietroforte and Gregori (2003) analyzed the effects of the construction sector on advanced

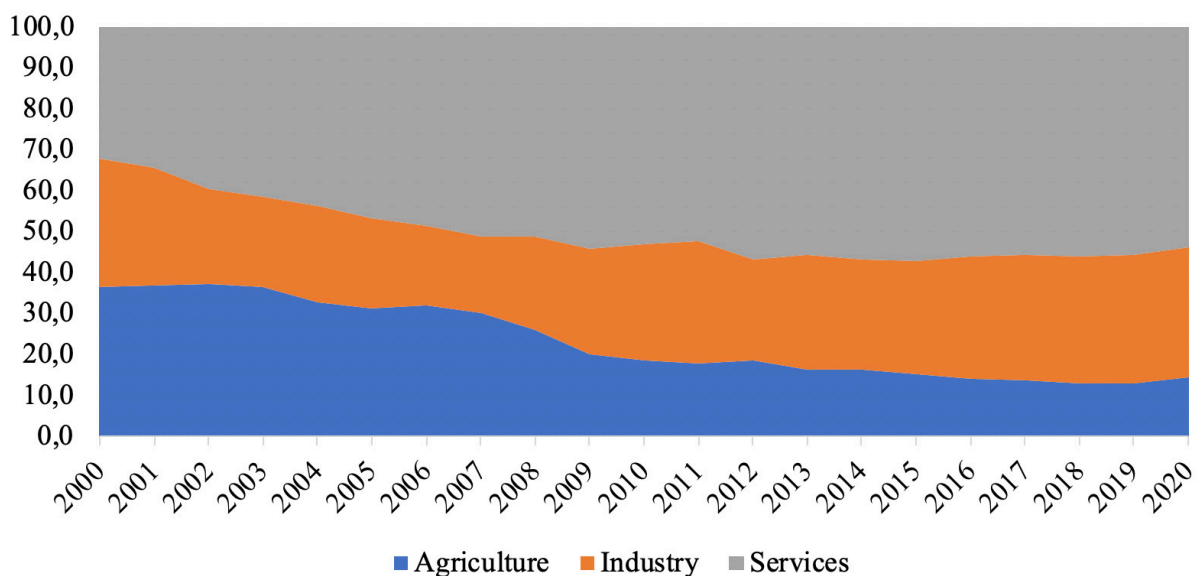


Figure 1: Sectoral Value Added in the Kyrgyz Republic Economy
Kaynak: ADB (2022), Key Indicators for Asia and the Pacific.

economies for 1969-1990, finding that it had a smaller propulsive effect in France and Australia but a larger effect in Denmark and Germany. Additionally, in terms of the output multiplier, the construction sector had a low push effect and a high pull effect on the Japanese economy, whereas the opposite was true for the United States. Wu and Zhang (2005) used 17-sector input-output tables calculated for 1992, 1995, 1997, and 2000, to examine the construction sector's importance for the Chinese economy. They found that the sector's pull effect on other sectors exceeded its push effects on the overall economy, while the sector's pull and push effects of increased throughout the sample period. Using input-output tables aggregated into nine sectors for 1998 and 2002, İlhan and Yaman (2011) analyzed the construction sector's economic effects for selected EU countries and Turkey. The results showed that Turkey's construction sector followed the same trend as that in the Czech Republic, Portugal, Slovakia, and Hungary, namely a low push effect and a high stimulating impact due to its high backward linkage effects and low forward linkage effects. Using 15-sector input-output tables for 2006, Ali et al. (2019) investigated the construction sector in Bangladesh, Sri Lanka, and Nepal. The study implemented the hypothetical extraction method as well as investigating traditional linking effects. In all three countries, the construction sector exhibited strong backward linkage and weak forward linkage effects indicating that it has a significant pull effect but a weak push effect.

Surugiu (2009) examined the tourism sector and focused on the Romanian economy. In this study, the input-output tables for 2000 and 2005 were aggregated into 12 sectors to calculate output, input, employment, and value-added multipliers. The output and employment multiplier values in the hotels and restaurants sector increased over the period, whereas the income and value-added multiplier values decreased. In 2005, Romania's hotels and restaurants sector ranked among the top in terms of employment multipliers. However, the sector's forward linkage effect decreased over the period to make it one of the least economically impactful sectors.

Another group of studies has investigated the information and communication technology sector (Xing et al., 2011; Toh and Thangavelu, 2013). Focusing on Singapore, Xing et al. (2011) applied the cross-entropy method to the input-output table for 2002 to analyze the information and communication technology sector, classified into five manufacturing and two services

sub-sectors. The findings indicated high convergence between Singapore's manufacturing and service subsectors. Furthermore, the sector exhibited supply-side convergence but very few structural changes in demand-side convergence. Focusing on China, Toh and Thangavelu (2013) aggregated input-output tables for 1990, 1995, and 2000 into 39 sectors. They found that the information and communication technology sector had crucial linkages for expanding high-value manufacturing and electronic exports.

The mining and quarrying sector and sub-sectors were examined for European Union (EU) countries by San Cristóbal and Biezma (2006). For Germany, the key extraction sectors were peat, coal, and lignite; for Sweden, it was metal ore mining; for Austria, Denmark, and Spain it was other mining and quarrying. The linkage effects indicated that the mining and quarrying industries in EU countries is stimulated more than other sectors by production increases. That is, the mining and quarrying sub-sectors have higher forward linkage effects and lower backward linkage effects.

Focusing on the relationship between Malaysia's energy and agriculture sectors, Bekhet and Abdullah (2010) aggregated input-output data for 1991 and 2000 into 15 sectors. Regarding direct and total backward linkage effects, energy use increased significantly in agriculture over the sample period, although the linkage effect remained weak. Among Malaysia's energy-related sectors, agriculture had the greatest petroleum and coal inputs. In another study examining the energy sector, Loizou et al. (2015) drew on a 62-sector input-output table for 2010 based on data from the Greek economy. The multipliers for output, household income, and employment indicated that energy sub-sectors were not the highest regarding multipliers and elasticities. Nevertheless, the analysis showed that energy sectors with strong linkage effects were crucial to increasing total output, employment, and household income.

Fewer studies in the input-output analysis literature have addressed structural change. In addition to sectoral output changes, multiplier analyses, and linkage effects, this strand of research has investigated the decomposition of output changes and multiplier product matrix analysis (Sonis et al., 1996a, 1996b, 1997, 2000; Guo and Planting, 2000; Guo and Hewings, 2001; Munjal, 2007; Magtibay-Ramos et al., 2011; Hor, 2021; Huang et al., 2023).

Sonis et al. (1996a) examined the sources of output changes in the US economy between 1948 and 1977, using input-output tables aggregated into three primary

sectors. The findings showed that output changes in agriculture and mining were highly dependent on changes in other sectors. Conversely, production changes in trade, transportation, and services were primarily due to changes within these sectors. In another study on the US economy, Guo and Planting (2000) calculated the multiplier product matrix for 1972-1996. Taking 1972 as the base year, the findings indicated that dependency between domestic industries decreased as imports increased while the weight of manufacturing in the US economy decreased during the study period.

Using regional input-output data, Sonis et al. (1996b, 1997) examined input-output tables for Japan and China, using the multiplier product matrix calculated at the regional level to determine whether regional linkage effects were similar in the two cases. Sonis et al. (1996b) concluded that Japan's Chubu and Kanto regions were similar in terms of sectorial linkage effects, but different in structure to Hokkaido. On the other hand, Sonis et al. (1997) concluded that port cities were similar whereas Beijing was different from other regions.

Sonis et al. (2000) used input-output tables for 1987 and 1990 to analyze the Chinese economy. The findings indicated that, by 1990, the forward linkage effects of industries identified as key sectors in 1987 had strengthened. That is, the Chinese economy's economic landscape changed between 1987 and 1990. In another study of the Chinese economy, using input-output tables for 1987, 1992, and 1997, Guo and Hewings (2001) showed that labor-intensive sectors, such as textiles, were replaced by technology-intensive sectors during the study period.

From their analysis of the Indian economy from 1989 to 1999, Munjal (2007) found that intermediate goods and infrastructure sectors played an important role throughout the study period while the weight in the economy of both capital goods and durable consumer goods increased. In another study of the Indian economy, Huang et al. (2023) examined the period from 2000 to 2019. They found that sectors related to manufacturing industries had a stronger linkage effect than sectors related to services.

Using the multiplier product matrix to analyze structural changes, Magtibay-Ramos et al. (2011) classified input-output tables calculated between 1979 and 2000 into 11 sectors. Manufacturing was further divided into five sub-categories for 1979, 1990, and 2000. The findings indicated that manufacturing consistently played a key role, with the highest linkages being for

resource and scale-intensive manufacturing industries. Private services and transportation, communication, and storage increased in economic weight.

Focusing on Cambodia, Hor (2021) applied a social accounting matrix using multiplier product matrix and field of influence approaches to analyze input-output tables for 2005, 2010, and 2015, particularly the links between tourism sectors and structural changes. The findings indicated relatively low inter-industry connections while the textile, other manufacturing, transportation, and communications sectors played crucial roles throughout the study period. Although tourism became a key sector in 2010 and 2015, it still lacked sufficient forward and backward linkages. Finally, the field of influence analysis generated a high coefficient for tourism, thereby identifying it as a promising sector.

Turning to the Kyrgyz Republic specifically, there have been several input-output analyses of its economy, notably Temurshoev (2004) and Seil and Ichihashi (2012). Temurshoev (2004) created 34-sector input-output tables for 1998 to analyze the country's production structure. Besides the traditional methods of Rasmussen (1957) and Chenery and Watanabe (1958), this study also implemented the hypothetical extraction methods proposed by Dietzenbacher and Van der Linden (1997) to determine key sectors. The three methods identified four key sectors: fishing and pisciculture; water generation, purification and distribution; wholesale trade and finance.

Using traditional methods, Seil and Ichihashi (2012) drew on input-output tables for 2009 to identify linkage effects. The study also addressed the sectoral effects of indirect tax reduction through two different scenario simulations. The findings identified the following key sectors in the Kyrgyz economy: agriculture, hunting and forestry; financial activities; construction; hotels and restaurants; manufacture of food products, beverages, and tobacco; metallurgical industry; other non-metallic mineral products; and textiles and textile products, leather, leather products, and footwear. The scenario analysis suggested that the overall economy would benefit from halving value-added tax and allocating the additional tax revenue to consumption.

This literature review suggests that input-output analysis studies predominantly focus on multipliers and key sector analyses, with only a small number analyzing scenario simulations and structural changes. To the best of our knowledge, no study has analyzed the Kyrgyz economy using two different input-output tables over about twenty years. The present study is also

novel in using the decomposition of output changes and multiplier product matrix analysis to determine whether there has been structural change in the Kyrgyz Republic economy. Thus, the present study fills a gap in the literature on the Kyrgyz Republic by investigating potential structural changes in the economy through input-output analysis.

DATASET AND METHODOLOGY

Dataset

The ADB (2020) has calculated input-output tables for countries in South and Central Asia, Southeast Asia, the Pacific, and East Asia regions, primarily based on data from 2000 to 2018. Unlike the earlier tables (ADB, 2018), which included 35 sectors, the latest tables (ADB, 2020) aggregate the sectors into 15 sectors and five elements of final demand. Using the input-output tables for the Kyrgyz Republic for 2000 and 2018, the present study investigates potential structural changes between these two years.

Table 1A in the appendix presents a simplified example of the ADB input-output tables. The Intermediate Uses section shows that sector j is produced by industry i and consumes x_{ij} of goods and services. The imported inputs used by industry j are denoted by xm_j . Total inputs (x_j) are calculated by adding the value added (v_j) to the intermediate consumption. The Final Uses section of Table 1A has five components: Households consumption (f_{i1}); nonprofit organizations and institutions serving households (f_{i2}); government expenditures (f_{i3}); gross fixed capital formation (f_{i4}); inventory changes (e_i) and exports (f_{i5}). Imported goods and services consumed as final products are indicated by f_{mj} . The sectors in the columns to the left of the table represent selling sectors whereas the sectors across the top represent buying sectors (ADB, 2018: 1-2).

Based on the sectors used in the World Input-Output Database, ADB (2018) prepared input-output tables for 35 sectors for 2010-2017. The calculated input-output tables of ADB (2020) for the Kyrgyz Republic and other Asian countries are aggregated into the following 15 sectors: Agriculture, hunting, forestry, and fishing, construction, education, health, and social work, financial intermediation, heavy manufacturing, hotels and restaurants, light manufacturing, mining and quarrying, other personal services, public administration and defense, real estate, renting, and business activities, telecommunications, trade services, transport services and utilities¹.

Methodology

Decomposition of Output Changes

The decomposition analysis of output changes in the input-output models makes it possible to predict how structural changes in one sector or group of sectors affect the rest of the economy in terms of changes in total output (Haddad et al., 2007: 290). Using input-output tables, Sonis et al. (1996a) developed a comprehensive approach to structural change analysis that decomposes sectoral output changes into three components. In the following two stages, the three components are categorized into self-generated changes and non-self-generated changes. Decomposition of output changes involves analyzing sectoral output changes over two different time periods to determine the impact on production of changes in input coefficients and final demand components. Accordingly, the total output vectors for the time periods t_0 and t_1 are represented by X_0 and X_1 , respectively. The corresponding Leontief inverse matrices for the two time periods are represented by R_0 and R_1 , respectively, while the final demand vectors are represented by Y_0 and Y_1 , respectively. In this way, the following difference equations can be obtained:

$$\Delta X = X_t - X_0 \quad \Delta R = R_t - R_0 \quad \Delta Y = Y_t - Y_0 \quad (1)$$

The total output vector equation obtained from the Leontief inverse matrix and final demand vectors ($X = (I - A)^{-1}Y$) can be formulated in terms of the previous expressions as $X = RY$. Hence, the difference equations can be identified as follows:

$$\Delta X = X_t - X_0 = R_t Y_t - R_0 Y_0 \quad (2)$$

Based on the Feldman et al. (1987) approach to determine the degree of final demand changes and the impact of changes in input coefficients on the level of output, Sonis et al. (1996a) decompose the difference equations into three basic components:

$$\begin{aligned} \Delta X &= (R_0 - \Delta R)(Y_0 + \Delta Y) - R_0 Y_0 \\ \Delta X &= R_0 \Delta Y + \Delta R Y_0 + \Delta R \Delta Y \\ \Delta X &= \Delta X^Y + \Delta X^R + \Delta X^{RY} \end{aligned} \quad (3)$$

The first component (ΔX^Y) in the previous equations represents the output changes due to changes in final demand. The second component (ΔX^R) represents the output changes due to the technological progress. The third component (ΔX^{RY}) represents the output changes due to the interdependent interactions between final demand and technological advancement (Sonis et al., 1996a: 17; Nazara et al., 2003: 21).

¹ The data for input-output tables are available at <https://data.adb.org/taxonomy/term/476>

Decomposition analysis is then used to determine whether changes in output in each sector originate from sector-specific changes (self-generated) or changes in other sectors (non-self-generated). In other words, changes in a sector's output level can originate from factors within the sector itself, such as final demand or technological changes, and/or developments in other sectors. Self-generated and non-self-generated changes in the output level for sector i are defined by $s\Delta X$ and $ns\Delta X$, respectively. Consequently, the three basic components of output changes (final demand, technological progress, and interaction) are defined by the following equations, depending on whether the changes are self-generated or non-self-generated (Sonis et al., 1996a: 23-24; Nazara et al., 2003: 21):

$$\begin{aligned} s\Delta X_i^Y &= r_{ii}\Delta Y_i & ; & & ns\Delta X_i^Y &= \Delta X_i^Y - s\Delta X_i^Y \\ s\Delta X_i^R &= \Delta r_{ii}Y_i & ; & & ns\Delta X_i^R &= \Delta X_i^R - s\Delta X_i^R \\ s\Delta X_i^{BY} &= r_{ii}\Delta Y_i & ; & & ns\Delta X_i^{RY} &= \Delta X_i^{RY} - s\Delta X_i^{RY} \end{aligned} \quad (4)$$

Furthermore, including the entire input-output system, changes in the output of any industry may also originate from itself and other sectors as follows (Sonis et al., 1996a: 24):

$$\begin{aligned} s\Delta X_i &= s\Delta X_i^Y + s\Delta X_i^R + s\Delta X_i^{RY} \\ ns\Delta X_i &= ns\Delta X_i^Y + ns\Delta X_i^R + ns\Delta X_i^{RY} \end{aligned} \quad (5)$$

Multiplier Product Matrix

Input-output analysis may also be used to identify structural changes in the economy by using the multiplier product matrix, which is obtained by multiplying the column and row multipliers of the Leontief inverse matrix. This approach can also be applied to any matrix that represents the economy. The analysis of key sectors through forward and backward linkages is based on this approach. An additional advantage of this method is that it can be used to present an economy's macroeconomic outlook, thereby enabling comparison of different economies over time or structural changes within the same economy (Sonis et al., 1996b: 2).

The multiplier product matrix, utilizing information on both forward and backward linkage effects, reveals the relationships of any industry with all other sectors through a single indicator. This approach allows for the quantitative measurement of inter-industry relationships, organizing industries in a hierarchy based on the magnitude of linkage effects. The analysis makes it possible to develop a graphical representation of the economic landscape for each period to reveal how the economic structure has changed over time through forward and backward

linkages (Guo and Planting, 2000: 8; Sonis and Hewings, 1999: 63, Sonis et al., 1997). The purpose of this method is to rank the rows and columns of the multiplier product matrix based on the base year, denoted by t_0 , which remains constant throughout the analysis. In this way, the economic landscape of a single economy for different time periods can be compared (Munjal, 2007: 84).

Assuming that $A = [a_{ij}]$ and $R = (I - A)^{-1} = [r_{ij}]$ indicate the input coefficient matrix and the Leontief inverse matrix, respectively, the column and row factors of the Leontief inverse matrix are defined as R_j and R_i as follows (Guo and Hewings, 2001: 2):

$$R_j = \sum_{i=1}^n r_{ij} \quad (6)$$

$$R_i = \sum_{j=1}^n r_{ij}$$

As shown in the following equation, GL indicates the global intensity of the Leontief inverse matrix (Sonis and Hewings, 1999: 61):

$$GL = \sum_{i=1}^n \sum_{j=1}^n r_{ij} \quad (7)$$

By defining the forward and backward linkages, the multiplier product matrix can be expressed as follows (Sonis et al., 1996b: 3; Sonis et al., 1997: 152):

$$MPM = [mpm_{ij}] = \frac{1}{GL} [R_i R_j] = \frac{1}{GL} \begin{bmatrix} R_1 \\ R_2 \\ \vdots \\ R_n \end{bmatrix} (R_1 \quad R_2 \quad \dots \quad R_n) \quad (8)$$

Here, it should be emphasized that the column and row multipliers obtained from (MPM) are identical to the multipliers derived from the Leontief inverse matrix (Sonis and Hewings, 1999: 61-62):

$$\begin{aligned} \sum_{j=1}^n mpm_{ij} &= \frac{1}{GL} \sum_{j=1}^n R_i R_j = R_i \\ \sum_{j=1}^n mpm_{ij} &= \frac{1}{GL} \sum_{j=1}^n R_i R_j = R_j \end{aligned} \quad (9)$$

The structure of the , which can be defined as a visualization technique derived from the Leontief inverse matrix, is generally closely related to the characteristics of the backward and forward linkage effects. The rows and columns of this matrix are rearranged from largest to smallest based on the magnitudes of forward (rows) and backward (columns) linkage effects to organize the sequence of forward and backward linkages (Nazara et al., 2003: 22).

EMPIRICAL FINDINGS

Decomposition of Output Changes

The input-output tables for 2000 and 2018 were analyzed together to identify potential structural changes in the Kyrgyz economy. Based on Sonis et al. (1996a), Table 1 presents the results of the decomposition of output changes at the sectoral level.

Generally, changes in final demand originating from the sector itself had a greater impact on output increases. The increase in final demand in public administration, defense, education, health, and social work almost entirely originated from output changes within these sectors. Between 99.83% and 99.30% of these increases can be attributed to self-generated changes. In contrast, the increase in final demand in the utilities sector was largely driven by other sectors, with 80.50% of the increase in the services sector attributable to changes in other sectors. For financial intermediation and agriculture, hunting, forestry, and fishing the increase was relatively balanced, with 54.36% of the final demand increase in agriculture, hunting, forestry, and fishing sector coming from self-generated changes and 45.64% from non-self-generated changes. Similarly, 47.74% of the demand increase in financial intermediation was self-generated while 45.64% was non-self-generated.

For almost all sectors, the primary cause of output changes due to technological progress was progress in other sectors. More specifically, changes in other sectors accounted for 99.94%, 99.51%, and 99.22% of the increase in output due to technological progress in hotels and restaurants, mining and quarrying, and trade services, respectively. In contrast, self-generated changes were the primary driving component of output increases due to technological progress in financial intermediation. Technological progress was associated with decreases in output in five sectors: agriculture, hunting, forestry, and fishing, light manufacturing, heavy manufacturing, utilities, and construction.

The above comprehensive analysis of changes in output caused by the synergistic interaction between final demand and technological progress shows that the interactions decreased output in agriculture, hunting, forestry, and fishing, mining and quarrying, light manufacturing, heavy manufacturing, and utilities. For the other sectors, the interactions between final demand and technological progress increased output. The declines in output changes in agriculture, hunting, forestry and fishing, mining and quarrying, light

manufacturing, and utilities sectors were primarily due to changes in other industries. On the other hand, among the sectors in which output increased in response to the interaction of final demand and technological progress, most of the increase in hotels and restaurants and trade services can be attributed to non-self-generated events. Finally, unlike other sectors that experienced an increase in output, 78% of the increase in the financial intermediation sector was self-generated.

Multiplier Product Matrix

The second approach used in this study to investigate potential structural changes in the Kyrgyz economy from 2000 to 2018 was multiplier product matrix analysis. Figures 2 and 3 provide three-dimensional representations of the multiplier product matrices (*MPMs*) for 2000 and 2018, respectively. The z axis represents linkage effects values; the x axis represents backward linkage effects; the y axis represents forward linkage effects. The sectors are sorted from largest to smallest based on the backward and forward linkage values calculated from the input-output table for 2000. The sectors exhibiting the highest and lowest forward linkage effects were agriculture, hunting, forestry, and fishing (1) and public administration and defense (13), respectively. The sectors exhibiting the highest and lowest backward linkage effects were light manufacturing (3) and telecommunications (10), respectively.

Following Sonis et al. (1996b; 1997), the ranking of sectors based on the backward and forward linkage values calculated from the input-output tables for 2000 was considered to observe structural changes over time. Using the 2000 rankings as a reference, the backward and forward linkage rankings were also applied to 2018 to determine whether the intersectoral interdependencies of the sectors changed between 2000 and 2018. If there has been no structural change in the economy, then the forward and backward linkage effects should not differ, and the *MPMs* should be similar for both years. In Figures 2 and 3, the larger the value of the *MPMs*, the higher the column for that sector. If the column heights are similar then this suggests that intersectoral relations have remained unchanged over time (Magtibay-Ramos et al., 2011: 44).

Figures 2 and 3 demonstrates that the forward and backward linkage effects in the Kyrgyz economy changed noticeably between 2000 and 2018. That is, the economy undoubtedly experienced significant structural changes over this time period. More specifically, from 2000 to 2018, column heights for agriculture, hunting, forestry, and fishing (1), utilities (5), and light manufacturing (3)

Table 1: Kyrgyz Republic Input-Output Table, 2000 and 2018, Decomposition of Output Changes

Sectors	ΔX^Y			ΔX^R			ΔX^{RY}			ΔX
	ΔX_i^Y	$s\Delta X_i^Y$	$ns\Delta X_i^Y$	ΔX_i^R	$s\Delta X_i^R$	$ns\Delta X_i^R$	ΔX_i^{RY}	$s\Delta X_i^{RY}$	$ns\Delta X_i^{RY}$	
Agriculture, hunting, forestry, and fishing	4211.686	2289.584	1922.102	-491.665	-49.505	-442.160	-1850.760	-170.134	-1680.626	1869.260
Mining and quarrying	221.644	194.253	27.391	-6.965	-0.034	-6.931	-19.799	-1.584	-18.215	194.880
Light manufacturing	1129.921	427.720	702.201	-113.112	-25.102	-88.010	-509.310	-34.103	-475.207	507.500
Heavy manufacturing	1211.765	705.713	506.052	-11.465	65.950	-77.415	-195.810	126.197	-322.007	1004.490
Utilities	516.049	100.623	415.427	-100.083	-40.855	-59.227	-261.867	-19.912	-241.955	154.100
Construction	1696.463	1503.954	192.509	-14.857	25.978	-40.834	227.363	299.497	-72.134	1908.970
Trade services	1831.390	1134.702	696.688	11.896	0.092	11.804	121.054	1.652	119.402	1964.340
Hotels and restaurants	260.470	213.338	47.132	6.980	0.004	6.976	36.251	0.050	36.201	303.700
Transport services	523.295	400.575	122.720	25.523	1.475	24.048	101.042	13.396	87.645	649.860
Telecommunications	279.585	262.856	16.729	33.793	1.414	32.379	151.402	11.029	140.373	464.780
Financial intermediation	118.523	56.584	61.939	70.999	60.659	10.339	194.308	152.114	42.194	383.830
Real estate, renting, and business activities	245.095	230.847	14.248	46.440	5.224	41.216	234.544	17.891	216.653	526.080
Public administration and defense	555.379	554.476	0.903	2.435	0.368	2.067	7.826	2.233	5.593	565.640
Education, health, and social work	610.236	605.966	4.271	4.182	1.266	2.916	17.572	7.650	9.922	631.990
Other personal services	126.496	122.846	3.650	11.370	1.897	9.473	59.694	8.275	51.419	197.560

Note: Self-generated and non-self-generated output changes are indicated by and , respectively.

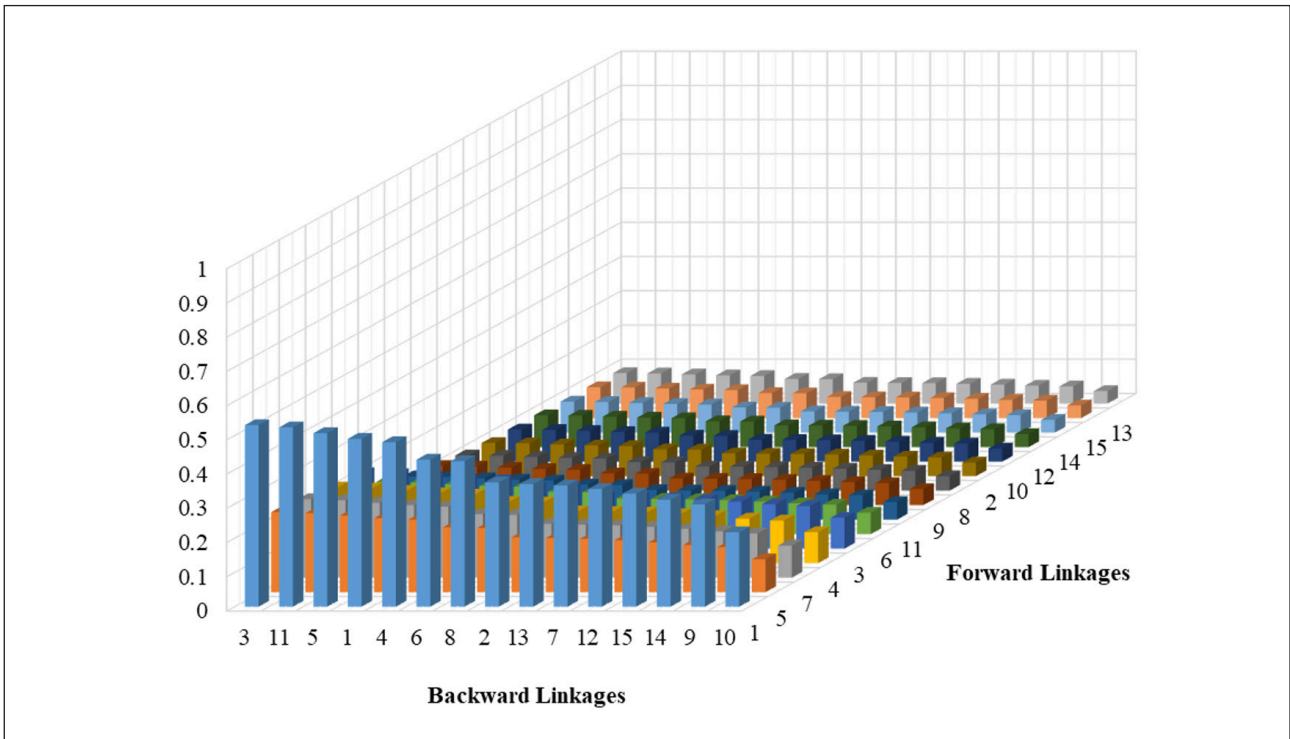


Figure 2: Multiplier Product Matrix of Kyrgyz Republic Economics (2000)

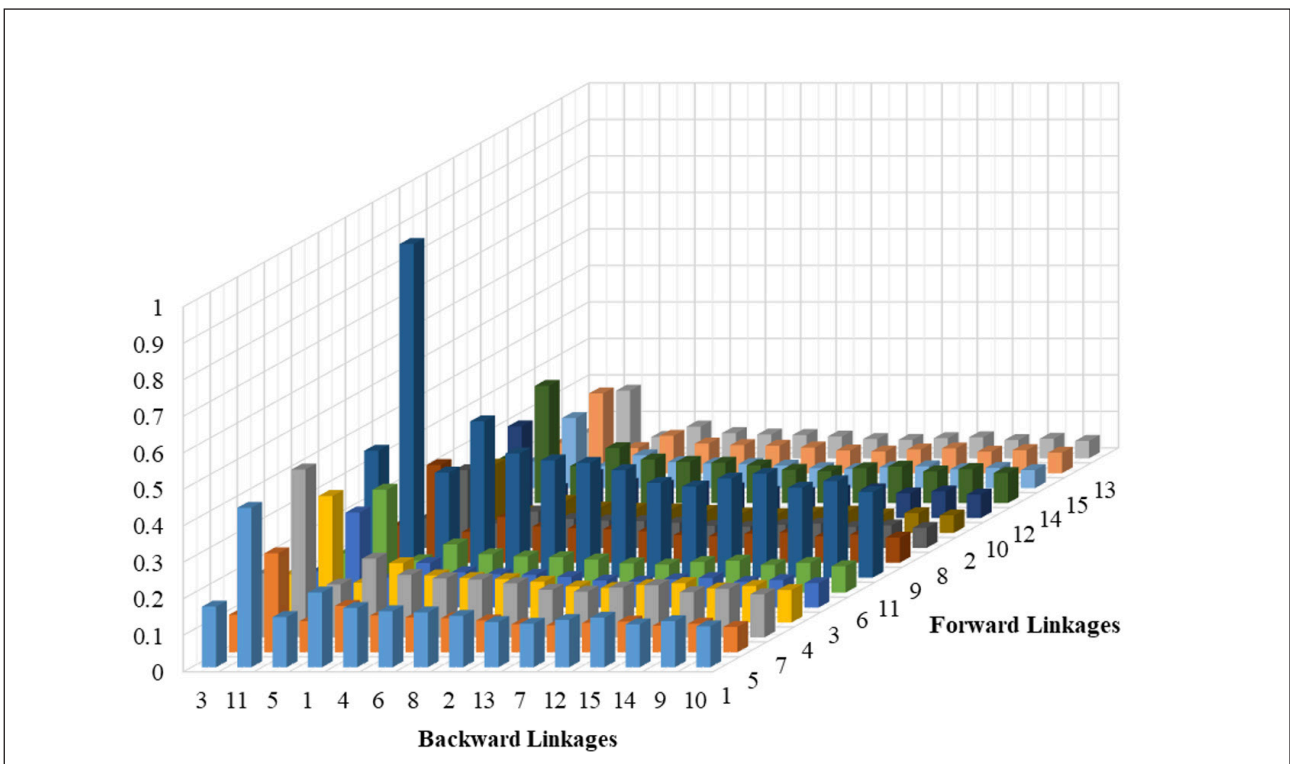


Figure 3: Multiplier Product Matrix of Kyrgyz Republic Economics (2018)

decreased significantly whereas the column heights for financial intermediation (11) and real estate, renting, and business activities (12) increased substantially. Sectors with decreasing column heights in the *MPM* had a reduced impact on the overall economy whereas sectors with increasing column height became more dominant.

The intersection between agriculture, hunting, forestry, and fishing (1) and light manufacturing (3) has the highest forward and backward linkage effect of 0.531 in 2000, considering the economic impact of the sectors. In contrast, the intersection of public administration and defense (13) and telecommunications (10) had

the lowest forward and backward linkage effect with a value of 0.037. For 2018, financial intermediation (11) had the highest forward and backward linkage effect, at 0.914 while the intersection of public administration and defense (13) with telecommunications (10) had the lowest forward and backward linkage effect of 0.48, similar to the value for 2000.

CONCLUSION

Input-output analysis enables measurement of the multiplier coefficients of each sector and linkage effects, and identification of the key economic sectors. This provides crucial information for policymakers in prioritizing investments across sectors. Besides capturing interindustry relationships, input-output models can also reveal structural changes in an economy (Sonis et al., 1996a: 15). Accordingly, the present study adopted the input-output approach to investigate structural changes in the Kyrgyz Republic's economy from 2000 to 2018.

Drawing on the input-output tables calculated by the ADB for countries in the Asia-Pacific region, the study investigated 15 sectors and 5 elements of final demand in the Kyrgyz Republic economy for 2000 and 2018. Using the framework of Sonis et al. (1996a, 1996b, 1997, 2000), decomposition of output changes and the *MPM* were applied to determine whether there were any structural changes during the sample period.

The decomposition of the output changes indicated that the changes in final demand generally originated from each sector's internal dynamics. On the other hand, output changes resulting from technological improvements generally resulted from developments in other sectors. Furthermore, these technological improvements did not increase output in all sectors. In particular, technological improvements in five sectors, namely agriculture, hunting, forestry, and fishing, mining and quarrying, light and heavy manufacturing, utilities, and construction, resulted in decreased output.

The results of the *MPM*, which is a visualization technique based on the Leontief inverse matrix, indicated that the Kyrgyz economy experienced substantial structural changes between 2000 and 2018. Specifically, three sectors, namely agriculture, hunting, forestry, and fishing, utilities, and light manufacturing, decreased in significance whereas three sectors became more economically important, namely financial intermediation and real estate, renting, and business activities.

In conclusion, the empirical results indicate a significant structural change in the sectoral linkages of the Kyrgyz Republic economy from 2000 to 2018. Future studies should conduct similar analyses to compare the output-input tables obtained from a variety of databases.

REFERENCES

- ADB (2018). "Economic Indicators for South and Central Asia, Input Output Tables". Asian Development Bank, Philippines.
- ADB (2020). "Economic Indicators for South and Central Asia, Input Output Tables". Asian Development Bank, Philippines.
- ADB (2022). "Key Indicators for Asia and the Pacific 2022". Asian Development Bank, Philippines.
- Ali, Y., Sabir, M., & Muhammad, N. (2019). "A comparative input-output analysis of the construction sector in three developing economies of South Asia". *Construction Management and Economics*, 37(11), 643-658.
- Aydoğuş, O. (2010). "Girdi çıktı modellerine giriş". Efil Yayinevi, Gözden Geçirilmiş 3. Baskı, Ankara.
- Bekhet, H. A., & Abdullah, A. (2010). "Energy use in agriculture sector: input-output analysis". *International Business Research*, 3(3), 111-121.
- Chenery, H. B., & Watanabe, T. (1958). "International comparisons of the structure of production". *Econometrica: Journal of the Econometric Society*, 487-521.
- Dietzenbacher, E., & Van der Linden, J. A. (1997). "Sectoral and Spatial Linkages in the EC Production Structure". *Journal of Regional Science*, Vol. 37, 235-257.
- Feldman, S. J., McClain, D., & Palmer, K. (1987). "Sources of structural change in the United States, 1963-78: An input-output perspective". *The Review of Economics and Statistics*, 503-510.
- Guo, D., & Hewings, G. J. (2001). "Comparative analysis of China's economic structures between 1987 and 1997: an input-output prospective". Discussion Papers REAL.
- Guo, J., & Planting, M. A. (2000). "Using input-output analysis to measure US economic structural change over a 24 year period". US. Department of Commerce Bureau of Economic Analysis (BEA), WP2000-01.
- Haddad, E. A., Hewings, G., & Leon, F. (2007). "Building-up influence: post-war industrialization in the State of Minas Gerais, Brazil". *Brazilian Journal of Political Economy*, 27, 281-300.
- Hor, C. (2021). "Assessing the dynamic tourism inter-industry linkages and economic structural changes in Cambodia's economy". *Journal of Economic Structures*, 10(1), 1-24.
- Huang, Y., Haseeb, M., Khan, J., & Hossain, M. E. (2023). "Structural changes and economic landscape of the Indian economy: 2000-2019". *Review of Development Economics*, 27(1), 395-422.
- Izvorski, I., Mbowe, A., Dubashov, B., Gassner, K., Ferrantino, M. J., Islam, R., & Sahovic, T. (2020). "Kyrgyz Republic Country Economic Memorandum". World Bank, Washington, DC.
- İlhan, B., & Yaman, H. (2011). "A comparative input-output analysis of the construction sector in Turkey and EU countries". *Engineering, Construction and Architectural Management*, 18(3), 248-265.
- Leontief, W. (1936). "Quantitative input and output relations in the economic systems of the United States". *The Review of Economic Statistics*, 18(3), 105-125.
- Loizou, E., Chatzitheodoridis, F., Michailidis, A., Tsakiri, M., & Theodossiou, G. (2015). "Linkages of the energy sector in the Greek economy: an input-output approach". *International Journal of Energy Sector Management*, 9(3), 393-411.
- Magtibay-Ramos, N., Estrada, G. E., & Felipe, J. (2011). "Exploring the Philippine economic landscape and structural change using the input-output framework". *International Journal of Development Issues*, 10(1), 34-59.
- Miller, R. E., & Blair, P. D. (2009). "Input-output analysis: foundations and extensions". Second Edition, Cambridge University Press.
- Munjal, P. (2007). "Structural changes in Indian economy: An input-output analysis". *Indian Economic Review*, 42(1), 77-95.
- Nazara, S., Guo, D., Hewings, G. J., & Dridi, C. (2003). "PyIO. A Python Module for Input-Output". The Regional Economics Applications Laboratory (REAL).
- Öney, E. (1980). "İktisadi Planlama". Ankara Üniversitesi Siyasal Bilgiler Fakültesi Yayınları, No: 438 (İkinci Basım).

- Özdil, T. (1993). "Türkiye Ekonomisindeki Yapısal Değişime Girdi-Çıktı Analiziyle Bir Yaklaşım". Anadolu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 11(1), 109-128.
- Özyurt, H. (2012). "İktisadi Planlama". Aksakal Kitabevi, 3. Baskı.
- Pietroforte, R., & Gregori, T. (2003). "An input-output analysis of the construction sector in highly developed economies". Construction Management and Economics, 21(3), 319-327.
- Rasmussen, P. N. (1957). "Studies in Intersectoral Relations". North Holland Publishing.
- San Cristóbal, J. R., & Biezma, M. V. (2006). "The mining industry in the European Union: analysis of inter-industry linkages using input-output analysis". Resources Policy, 31(1), 1-6.
- Seil, A., & Ichihashi, M. (2012). "Sectoral Impact of Indirect Tax Reduction on The Kyrgyz Economy Based on Input-Output Analysis". IDEC Discussion Paper, Hiroshima University.
- Sonis, M., & Hewings, G. J. (1999). "Economic landscapes: multiplier product matrix analysis for multiregional input-output systems". Hitotsubashi Journal of Economics, 40(1), 59-74.
- Sonis, M., Hewings, G. J., & Guo, J. (1996a). "Sources of structural change in input-output systems: a field of influence approach". Economic Systems Research, 8(1), 15-32.
- Sonis, M., Hewings, G. J., Okuyama, Y., & Guo, J. (1996b). "Japanese regional economic structure interpreted through the multiplier product matrix". Studies in Regional Science, 26(2), 1-20.
- Sonis, M., Hewings G. J., & Guo, J. (1997) "Evaluation of economic structure: input-output multiplier product matrix". Discussion Papers, 94-T-12, Regional Economics Applications Laboratory. University of Illinois, Urbana.
- Sonis, M., Hewings, J. D., & Guo, J. (2000). "A new image of classical key sector analysis: minimum information decomposition of the Leontief inverse". Economic Systems Research, 12(3), 401-423.
- Surugiu, C. (2009). "The Economic Impact of Tourism. An Input-Output Analysis". Revista Romana de Economie, 28(2).
- Temurshoev, U. (2004). "Key sectors in the Kyrgyzstan Economy". Cerge-Ei Discussion Paper Series, 135.
- Toh, M. H., & Thangavelu, S. M. (2013). "An input-output study of the Singapore information sector". Economic Systems Research, 25(2), 233-244.
- Wu, X., & Zhang, Z. (2005). "Input-output analysis of the Chinese construction sector". Construction Management and Economics, 23(9), 905-912.
- Xing, W., Ye, X., & Kui, L. (2011). "Measuring convergence of China's ICT industry: An input-output analysis". Telecommunications Policy, 35(4), 301-313.
- Yamano, T., Hill, H., Ginting, E., & Samson, J. (2019). "Kyrgyz Republic: improving growth potential". Asian Development Bank.

APPENDIX

Table 1A: Structure of Input-Output Tables Calculated by ADB

	Intermediate Uses						Final Uses						Gross Output	
	1. Sector	2. Sector	...	<i>i</i> . Sector	...	<i>n-1</i> . Sector	<i>n</i> . Sector	HH	NPISH	GOV	GFCF	CIIs		Export
1. Sector	x_{11}	x_{12}	...	x_{1i}	...	x_{1n-1}	x_{1n}	f_{11}	f_{11}	f_{11}	f_{11}	f_{11}	e_1	X_1
2. Sector	x_{21}	x_{22}	...	x_{2i}	...	x_{2n-1}	x_{2n}	f_{21}	f_{21}	f_{21}	f_{21}	f_{21}	e_2	X_2
...
<i>i</i> . Sector	x_{i1}	x_{i2}	...	x_{ii}	...	x_{in-1}	x_{in}	f_{i1}	f_{i1}	f_{i1}	f_{i1}	f_{i1}	e_i	X_i
...
<i>n-1</i> . Sector	x_{n-11}	x_{n-12}	...	x_{n-1i}	...	x_{n-1n-1}	x_{n-1n}	f_{n-11}	f_{n-11}	f_{n-11}	f_{n-11}	f_{n-11}	e_{n-1}	X_{n-1}
<i>n</i> . Sector	x_{n1}	x_{n2}	...	x_{ni}	...	x_{nn-1}	x_{nn}	f_{n1}	f_{n2}	f_{n3}	f_{n4}	f_{n5}	e_n	X_n
Imports	xm_1	xm_2	...	xm_i	...	xm_{n-1}	xm_n	fm_1	fm_2	fm_3	fm_4	fm_5		
Value-Added	v_1	v_2	...	v_i	...	v_{n-1}	v_n							
Total Inputs	X_1	X_2	...	X_i	...	X_{n-1}	X_n							

Source: ADB (2018), Miller and Blair (2009).

Notes: HH: Households Consumption,

NPISH: Nonprofit Organizations and Institutions Serving Households,

GFCF: Gross Fixed Capital Formation,

CIIs: Changes in Inventories.

International Immigrant Entrepreneurship in Tourism Industry: A Comprehensive Literature Review

İge PIRNAR¹, Hüseyin Ozan ALTIN²

ABSTRACT

Immigrant entrepreneurship is particularly important for tourism destinations that create innovative, ethnic and new-to-the-market tourism products and offerings since the international immigrant entrepreneurs' culture, values, and traditions are novel to the country they operate in. Hence, the purpose of this study is to systematically examine the current literature on tourism immigrant entrepreneurship and present related study areas. The findings of the study revealed that there are only 102 articles in the literature related to immigrant entrepreneurship in the tourism industry, which highlights a gap in the literature. Most of the studies are concentrated in the general tourism field rather than specific sectors of the industry like travel or F&B. Methodologies of the articles show that most of the studies utilize qualitative research techniques, mainly comparative case studies and in-depth interviews. Number of quantitative studies is quite low and most of them are empirical. From a managerial point of view, the lack of studies in these areas is proof that there is a niche market for immigrant entrepreneurship in tourism sector, which can easily be filled by practitioners. Especially in countries such as Turkey, Italy and Greece, practitioners will significantly benefit from the findings of this study.

Keywords: Bibliometric Analysis, Immigrant Entrepreneurship, Immigrant Entrepreneurs in Hospitality, Tourism Industry, Tourism Immigrant Entrepreneurship.

JEL Classification Codes: L26, J15, L83

Referencing Style: APA 7

INTRODUCTION

Throughout history, international immigration has been experienced all over the world, usually as a movement from less developed to more developed regions and countries (Waldinger, 1989; Indarti et al., 2020). The 2010's saw the surge of immigration towards popular destinations such as Europe and the United States. Some countries encouraged this movement of immigration, such as Canada and Australia (Aliaga-Isla & Rialp, 2013). Parallel to the immigration surge, international immigrant entrepreneurship studies pioneered in these destinations (Dabić et al., 2020).

An immigrant is defined as a person who moves from one country to another with the intention of taking up residence there for a relevant period where the reason for movement may be escaping from political instability or economic problems that the person is experiencing in his or her own country (Aliaga-Isla and Rialp, 2013; Dabić et al., 2020; Mattsson and Cassel, 2020). The motivation of an international immigrant from a socio-economical

perspective is usually achieving a better and higher quality of life standard in the new country, especially in the tourism industry they are lifestyle entrepreneurs rather than profit-oriented ones (Iversen and Jacobsen, 2016; Su and Chen, 2017).

Immigrant entrepreneurship is a novel research agenda that has been growing in recent years. Valdez (2008) defines immigrant entrepreneurship as the ownership of businesses by immigrants or ethnic group members. In other definition, immigrant entrepreneurs are defined as business owners born in a foreign country to foreign parents, who are involved in economic innovation by starting up a new profit-making business (Afewerki, 2015; Dabić et al., 2020). The term immigrant entrepreneurship is often co-mingled with similar terms such as migrant, refugee and ethnic entrepreneurship (Indarti et al., 2020). Various parts of immigrant entrepreneurship such as its role definition, conceptualization, contemporary trends have been scrutinized and examined by previous studies (Assudani, 2009; Szkudlarek & Wu, 2018; Valdez, 2008; Čapo & Kelemen, 2018).

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Immigrant entrepreneurs, though rare in numbers, usually positively impact to employment levels and bring ethnic innovation to the societies they move into (Johnson et al., 2007; Indarti et al., 2020). Within this context, numerous advantages of international immigrants to societies can be listed. First and foremost is the self-employment of the immigrants, which increases the income and the quality of life standard of immigrants, having an overall positive impact on economic condition (Johnson et al., 2007; Pirnar, 2015). In addition, immigrant entrepreneurs create employment opportunities for other immigrants, ethnic minority groups including women and the elderly and even sometimes, for locals and natives (Afewerki, 2015). At the company level, it has been observed that immigrant entrepreneurs are more creative and innovative. Immigrant startups are often more innovative and growth-oriented than local entrepreneurs (Baumgartner et al., 2013). Additionally, Bosworth & Farrell (2011) remarks that immigrant entrepreneurs generally have wider social networks compared to their local counterparts. Lastly, as stated by Altın et al., (2021), immigrant enterprises add cultural richness to local economies and impact cultural diversification positively.

As stated previously, immigrant entrepreneurship is associated with the self-employment efforts of immigrants who move from one country to another and start a business in the latter destination (Calero-Lemes & Garcia-Almedia, 2021). Immigrants possess various types of knowledge from numerous different sources and they are more likely to start a new entrepreneurial business than their native counterparts (Sternberg, von Bloh & Brixy, 2015) Many researches are conducted in the field of immigrants and entrepreneurship, underlying the increasing importance of immigrant entrepreneurship (Chrysostome & Lin, 2010; Vaaler, 2011). Literature remarks that immigrant entrepreneurs bring new ways of doing business to society because of the unique social and economic capital they possess due to their indigenous population (Cruz et al., 2018). The importance of immigration and the entrepreneurship focus of the immigrants is highlighted by a growing body of literature that emphasizes the entrepreneurial knowledge of immigrants (West & Noel, 2009) and various resources that are possessed by the immigrants (Altınay & Altınay, 2006).

Entrepreneurship is a broad research area with numerous academic studies, yet “the entrepreneurial activities of migrants do not seem to be prominent within ‘mainstream’ entrepreneurship research” (Ram

et al., 2017: 4). Within the context of tourism, studies are even more scarce. Immigrants can offer ethnic and cultural products that are new to the society and usually start small-scale businesses, which makes them quite suitable for SME startups in tourism industry. However, there is an apparent lack of literature based on immigrant entrepreneurship within the context of tourism industry. Even though bibliometric studies and systematic literature reviews that focus on immigrants are quite prevalent in the literature (Indarti et al., 2020; Picanco Cruz & Queiroz Falcao; 2016; Heilbrunn & Iannone; 2020), to our knowledge there have been virtually no studies that examine the immigrant entrepreneurship from the viewpoint of tourism industry.

Altogether, overall aim of this research paper is to review and examine the academic literature on immigrant entrepreneurship within the context of the tourism industry by analyzing the trends in academic papers and by scrutinizing the extent of research. In doing so, authors aim to highlight contemporary trends, major themes, current theories, research forms and utilized methodologies. This study maps out the entire field by highlighting academic articles, book chapters and dissertations which helps researchers, academics and practitioners identify current trends and understand differences across studies on various criteria. Moreover, potential future avenues concerning the intersection of immigrant entrepreneurship and tourism can be identified, which will be immensely useful in the years to come.

METHODOLOGY

Bibliometric analysis is utilized in this paper to generate a comprehensive summary of all the available academic studies in the field of immigrant entrepreneurship and tourism. Justification of conducting bibliometric analysis is outlined by Aliaga-Isla & Rialp (2013, p. 820) by mentioning that the “bibliometric analysis can significantly limit bias with the overall aim of producing a scientific summary of the evidence in a specific area of knowledge”. This paper is theoretical in essence. The main objective of this study is to seek knowledge and information from other studies, which makes this paper exploratory and descriptive.

Throughout the research process, a modified version of the search protocol generated by Fahimnia et al. (2015) is followed. Overall, bibliometric research has been conducted through a 7-step process, as shown In Figure 1.

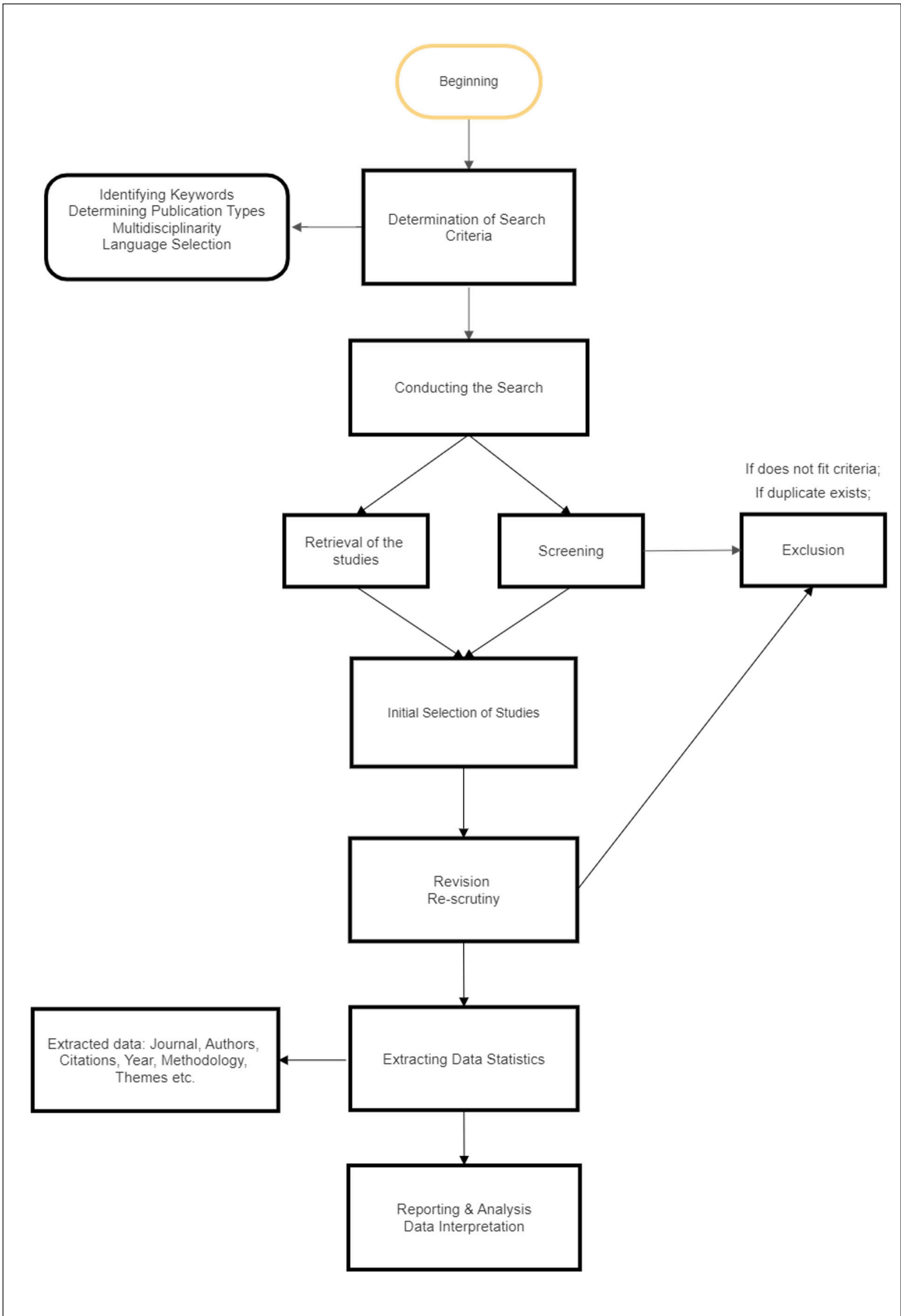


Figure 1: Logical Flowchart of the Bibliometric Analysis

Table 1. Search Keywords

Immigrant Entrepreneur / Entrepreneurship	AND	Tourism
Refugee Entrepreneur / Entrepreneurship		Hospitality
Migrant Entrepreneur / Entrepreneurship		Tour Operator
Ethnic Entrepreneur / Entrepreneurship		Restaurant
		Airlines
		Rent-a-car
		Travel Agency
	Recreation	

Article Selection Criteria

In addition, 4 different criteria were incorporated into the study to increase its reliability, validity and rigidity. These are the combined and adapted versions of the criteria set by Indarti et al. (2020) and Cruz & Falcao (2016).

The first criterion that is taken into consideration is the keywords that are used to identify relevant studies. Research is conducted by searching two groups of keywords as can be seen in Table 1. The focal variables of this study are “immigrant entrepreneurship” and “tourism”. However, additional keywords (e.g., refugee entrepreneur, ethnic entrepreneur, hospitality, restaurants, etc.) were also incorporated into the search process so that all the related studies whose scope and theme are relevant to our keyword criteria can be included. These keywords were generated based on the initiative of the authors and through a detailed examination of the studies. Overall, 64 different keyword combinations were utilized during the search process.

The second criterion that is considered throughout the search process is the type of studies. Only the journal articles, dissertations and conference proceedings are taken into consideration since those studies often represent the latest and most advanced breakthroughs

and include the field’s latest themes, grounded theories, contemporary research avenues and trends (Mustak et al., 2013; Indarti et al., 2020). All other publishings are excluded from the bibliometric analysis. Within the context of academic articles, only peer-reviewed journal articles were taken into consideration and included in the bibliometric analysis to increase the rigor of the study.

The third criterion is the multidisciplinary of the studies included in the bibliometric analysis. Immigrant entrepreneurship and tourism are two fields that attract researchers not only from business and entrepreneurship but also from urban studies, psychology and sociology (Cruz & Falcao, 2016). As a result of that, this bibliometric analysis included academic studies from different disciplines to incorporate various perspectives.

Fourth and the last criterion is the language of the studies. Only the academic studies that are published in English have been included in our study. This criterion can be justified by the fact that English is the main language of most academic databases (Cruz & Falcao, 2016). Additionally, most of the reputable academic journals publish in English, which further justifies the criteria.

Table 2, which is adapted from Block, Fisch & Rehan (2020), provides a comprehensive list of all the criteria

Table 2. Criteria for Bibliometric Analysis

Inclusion Criteria
Journal Articles, Dissertations, Book Chapters, Proceedings
Studies that are conducted in English
Both theoretical and empirical studies
Studies that include aforementioned keywords in their title, keywords or abstract
Exclusion Criteria
Studies in non-academic sources
Duplicates studies are removed
Studies that are conducted in any other language
Studies that are not associated with immigrant entrepreneurship and tourism

Table 3: Number of articles during the search process

Initial Search	320
Non-English Publication Language	13
Lack of keyword(s) in title, abstract and keywords	34
Duplications	126
Studies that fulfill all criteria	147
Unrelated topic / Irrelevant research focus	45
The final number of eligible studies	102

that are considered during the data collection and retrieval process.

Inclusion criteria are kept quite liberal and exclusion criteria are kept at a minimum level to increase the inclusiveness of bibliometric analysis so that no academic study with significant contributions to the literature has been left out. Unrelated, irrelevant studies that are not associated with immigrant entrepreneurship and tourism are screened and dropped out in oncoming stages.

Article Retrieval and Screening

After the criteria for inclusion in the bibliometric analysis were determined, articles were selected and retrieved from the databases through the use of Boolean operators. AND, OR, NOT operators were utilized liberally with associated keywords (e.g. "immigrant entrepreneurship" AND "recreation"). Overall, 64 different combinations of keywords were searched in 3 databases: Web of Science, SCOPUS, and EBSCO.

As the result of the search process spanning 3 databases, 320 studies have been identified. Through a careful and detailed evaluation of retrieved studies, it has been revealed that some studies do not fit the criteria, thus excluded from the list in the screening stage. Naturally, many of the studies are present in more than one database. Articles that are present in more than one database are recorded only once; which means their duplicates are removed. Additionally, publications in any other language than English are also excluded from the list. 13 articles are removed since their publication language is not English. Lastly, studies that do not include any of the keywords in their title, abstract, or keywords were also removed. In the end, the number of studies that fulfilled all the criteria was reduced to 147.

After the identification and retrieval process, abstracts of every study have been examined to understand if they are eligible to be included in the list or not. All 147 articles are carefully analyzed to understand whether or not their

main focus lies in the relationship between immigrant entrepreneurship and tourism. This revision and re-scrutiny step are conducted by two different authors independently to increase reliability and validity (Altın et al., 2021). As a result, 102 studies were found eligible to be included in the list.

Data Extraction and Analysis

To highlight the contemporary trends, historical patterns, and major theories in the literature, various information is extracted from eligible studies. After identifying 102 studies that are found eligible to be included in the bibliometric analysis, an Excel workbook is created to record and dissect data about the studies such as their title, authors, publication location, year, methodology, no. of citations, and journal name. Findings reveal numerous points of interest, which are examined in the next section.

To increase the reliability and validity of the result, an iterative process is employed. The process of analyzing, recording and interpreting the data is iterated by 2 authors to achieve objectivity and to capture better understandings. As suggested by Miles & Huberman (1994) as a part of the interpretative data processes, authors repeatedly discussed the findings and checked the results to identify each theme, context, definitions, contemporary theories, etc.

DELINEATION OF THE IMMIGRANT ENTREPRENEURSHIP AND TOURISM FIELD

Analyzing the keywords points out interesting aspects of the field. As observed in Table 1, 64 different combinations of keywords were searched on databases to identify all the articles in relevant fields.

Even though the initial search yielded 320 studies, virtually none of them are associated with "travel agency, tour operator, rent-a-car" keywords. "Recreation" and "airlines" keywords on the other hand yielded only 1

study for each of them. The lack of studies involving these aforementioned keywords presents a huge literature gap, which may provide interesting research avenues for future researchers.

Immigrant entrepreneurship within the context of tourism is a relatively new field when compared to other aspects of immigrant entrepreneurship. Naturally, sociological, anthropological, and demographic aspects of the migration are given priority by the researchers in the dawn of the mass migration of 2010's. This phenomenon may be the primary cause of the lack of studies in aforementioned subfields. In the future, research avenues will expand into various strands and explore different standpoints as the most fundamental subfields (such as anthropology, sociology) start to saturate.

Publication Years

First order of business for examining and delineating the field of immigrant entrepreneurship and tourism is to analyze the publication years of all the studies included in the bibliometric analysis. Immigrant entrepreneurship is a relatively new topic in the literature. Immigrant entrepreneurship within the context of tourism is even rarer. Yet, number of studies per year reveals that in recent years field has been growing exponentially. Figure 2 shows the expansion and progression of the immigrant entrepreneurship and tourism field based on the number of published studies per year.

As highlighted in Figure 2, there were virtually no studies conducted on immigrant entrepreneurship and tourism field before the dawn of the 21st

Figure 3 shows that with 6 publications, Journal of Enterprising Communities: People and Places in Global Economy has the highest number of studies on immigrant entrepreneurship and tourism topic along with Journal of Migration Studies. These two journals are followed by Annals of Tourism Research with 5 publications. Journal of Intercultural Studies, Scandinavian Journal of Hospitality and Tourism and Journal of Chinese Overseas on the other hand include 4 publications each.

58 different journals were recorded as a result of the bibliometric research. Except for 12, all remaining 90 articles are published in top-tier journals, which means that they are ranked either Q1, Q2, Q3 or Q4 in SCImago Journal Rank.

This phenomenon also presents itself in Figure X below. All of the journals with the highest number of publications are ranked very highly in the SCImago Journal Rank. Except for Journal of Chinese Overseas, all remaining articles are in Q1. Therefore, it is safe to remark that they are some of the most prestigious journals in the academic league.

Figure 4 below shows the number of journals in each quartile index.

Overall, analysis revealed that more than 55% of the journals in our bibliometric list are in Q1 with 57 studies. 11.76% of the studies, which comprised of 12 articles are in the Q2, followed by 13 studies in Q3 and 3 studies in Q4. Lastly, 17 of the studies (16.6%) are not ranked in SCImago Journal Rank.

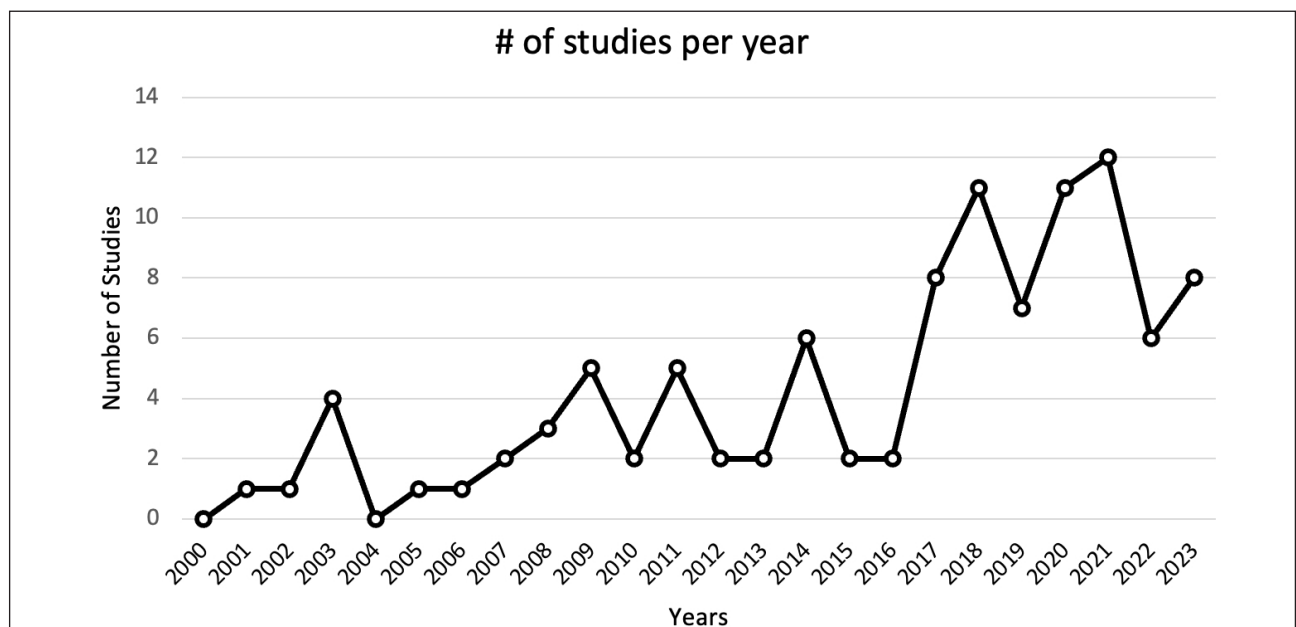


Figure 2: Number of publications throughout the years

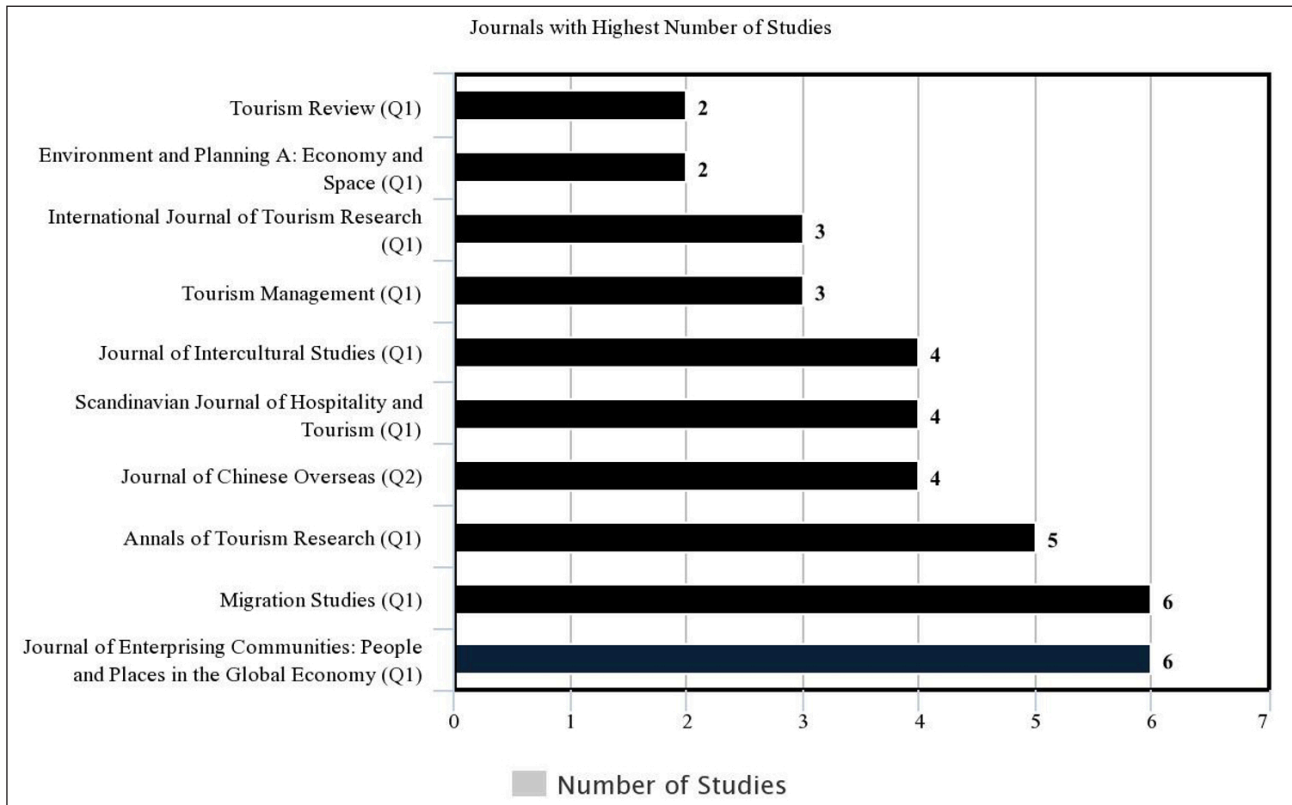


Figure 3: Journals with the Highest Number of Studies

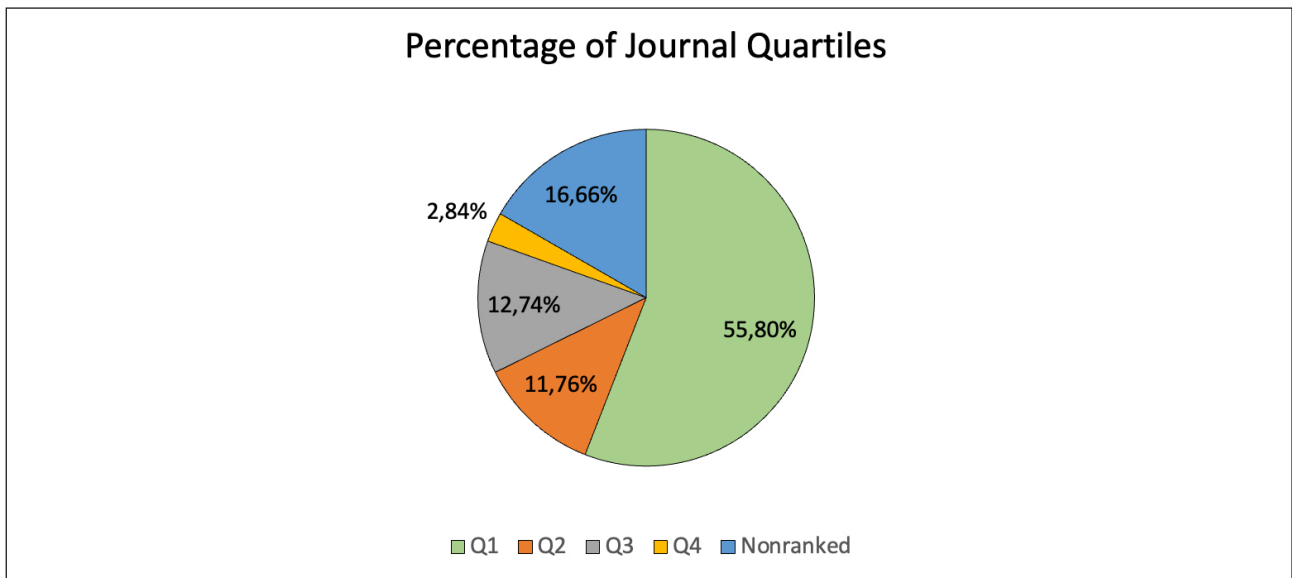


Figure 4: Percentage of Journal Quartiles

As a result of the number of studies in immigration entrepreneurship and tourism field being relatively low, one can assume that the field is in its infancy stage, littered with superficial and low-quality research. Yet, the quality and the quartile of the journals in which the studies have been published tell us a completely different story. Even though the quantity of the studies is low, the quality of the research that is made on immigrant entrepreneurship and tourism field is of the top level, hence the 55,80% of journals being in the Q1. Therefore,

it can be remarked that the immigrant entrepreneurship field is comprised of very high-quality publications, notwithstanding the fact that the overall quantity of articles in the academic literature is still low. Therefore, an inference can be made from the fact that the field is barely explored and unsaturated, leaving virtually endless research opportunities for future researchers.

Noteworthy Studies

Although the field of immigrant entrepreneurship and tourism can still be considered to be in its infancy stage, the visibility and prevalence of the field are expanding day by day. Thus, newcomer researchers are often greeted by the publications with the highest number of citations. Understanding and examining

these studies may provide new perceptions and research avenues to newcomer academics and practitioners alike. Table 4 below shows the 10 highest-cited studies in the immigrant entrepreneurship and tourism field. Even though the table provides concentrated information on 10 studies, only 3 of the highest cited studies are analyzed for convenience, which can be found below.

Table 4: Studies with 10 highest number of citations

Year	Title	Authors	Journal	Methodology	Research Focus	Citations
2011	Tourism Entrepreneurs in Northumberland	Gary Bosworth, Helen Farrell	Annals of Tourism Research	Survey & Semi-structured in-depth interview	Impact of migrant tourism entrepreneurs on developing competition and promotion entrepreneurship.	194
2012	The role of (transnational) social capital in the start-up processes of immigrant businesses: The case of Chinese and Turkish restaurant businesses in Finland	Östen Wahlbeck, Saija Katila	International Small Business Journal: Researching Entrepreneurship	In-depth Interview w/ 39 Immigrant Entrepreneurs	Examining the role of immigrant's social capital on establishing and maintaining restaurants.	154
2003	Retailing in a multicultural world: The interplay of retailing, ethnic identity and consumption	Ahmad Jamal	Journal of Retailing and Consumer Services	Participant Observation & In-depth Interviews w/ 41 Immigrant Entrepreneurs	Relationship between immigrant restaurant entrepreneurs and culture transfer	115
2007	Work in the kebab economy - A study of the ethnic economy of Turkish immigrants in Finland	Östen Wahlbeck	Ethnicities	Semi-structured In-Depth Interviews w/ 38 Immigrants	Employee welfare in immigrant-owned restaurants	106
2008	Ethnic Tourism and Entrepreneurship: Xishuangbanna, Yunnan, China	Li Yang, Geoffrey Wall	An International Journal of Tourism Space, Place and Environment	Observation & In-depth Interviews w/ 25 Tourism Entrepreneurs	Marketing of the ethnic culture on Chinese market and the role of entrepreneurs	98
2018	Understanding the challenges of refugee entrepreneurship in tourism and hospitality	Zaid Alrwaideh, Eyüp Karayılan, Gürel Çetin	Service Industries Journal	Semi-structured In-depth Interviews w/ 25 Refugee Entrepreneurs	Challenges faced by refugee tourism entrepreneurs in Turkey	92
2017	Social capital and entrepreneurial mobility in early-stage tourism development: A case from rural China	Lingxu Zhou, Eric S.W. Chan, Haiyan Song	Tourism Management	Semi-structured In-depth Interview w/ 20 Entrepreneurs & Non-participant Observation & Secondary Document	Association between migrant entrepreneurs' organizational mobility with institutional support and community acceptance.	87
2001	Entrepreneurs transcend time: A biographical analysis	Alison Morrison	Management Decision	Biographical Analysis	Motivations of immigrant individuals when entering into entrepreneurship	83
2009	The making of a tourism-gentrified town: Greyton, South Africa	Ronnie Donaldson	Geography	In-depth Interviews w/ 10 Immigrant Entrepreneurs & Document Review	Relationship between gentrification, tourism development and small-scale immigrant entrepreneurs.	75
2003	Ethnic entrepreneurship in Greece: A mosaic of informal and formal business activities	Gabriella Lazaridis, Maria Koumandraki	Sociological Research Online	Biographical Interview w/ 20 Ethnic Entrepreneurs	Informal and formal activities that makes up the entirety of ethnic businesses.	74

As shown in Table 4, among the immigrant entrepreneurship and tourism-related studies, the highest number of citations is achieved by Bosworth & Farrell (2011) with 194 citations. In their study, the authors focused on the migrant entrepreneur's effect on promoting overall entrepreneurship within the context of Northumberland, a northern region of England. Results of their study revealed that the in-migrant entrepreneurs in Northumberland are both succeeding themselves and helping other businesses by stimulating their activities via heightened competition in the local marketplace. As for the methodology, authors preferred semi-structured in-depth interviews because of the flexibility they provided. Accommodation-related enterprise owners are chosen as the sample. The second highest cited study in the field was conducted by Wahlbeck & Katila (2012), which mainly focused on immigrant-owned restaurant start-ups in Finland. Findings of the study showed that these Turkish and Chinese immigrants go through quite different legal and social processes when entering into the Finnish economy. Additionally, authors found out that the Turkish and Chinese immigrants' reasons and justification for entering into the Finland differ significantly as well. This ever-present difference between two groups is mainly related to the different levels of social capital that are available to both ethnicities in Finland. Third highest cited study in the list is conducted on retail stores by Jamal (2003). Being one of the first researches conducted on the topic, the study mainly focuses on the ability of immigrant retail store owners to engage in culture swapping. Results of the study remark that retail store owners can regularly engage in culture swaps and act as a culture intermediary.

Prominent Methodologies

Our bibliometric research conducted on the topic of immigrant entrepreneurship and tourism reveals substantial information about the omnipresent methodologies that are employed in studies. Analyzing the employed methodologies may provide new viewpoints about the literature and help new researchers understand the fullness and saturation of the field. Design and the characteristics of the articles within draw out a comprehensive picture of the field itself. Results of our analysis revealed that 62 (66%) of the studies have employed qualitative research techniques whereas 24 (25.5%) of the studies have utilized quantitative techniques. Only 8 of the studies (8.5%) have used mixed methods in their methodology. The popularity and the predominance of qualitative studies in the field of immigrant entrepreneurship and tourism can be attributed to the infancy of the field and the nascent nature of the topic. The nascent nature of the area compels the researchers to conduct inductive studies. The main reason for many researchers to employ the inductive approach in their studies is that the inductive approach analyses qualitative data in a systematical manner by moving from specific findings to general results (Thomas, 2006). Figure 5 below shows the breakdown of the methodologies used in the articles that are included in this research.

Majority of the studies (52,9%) included in this research have utilized in-depth interviews. This popularity of the in-depth interview method can be explained by the prominence of qualitative research methods in the field which can be attributed to the nascent nature of immigrant entrepreneurship and tourism

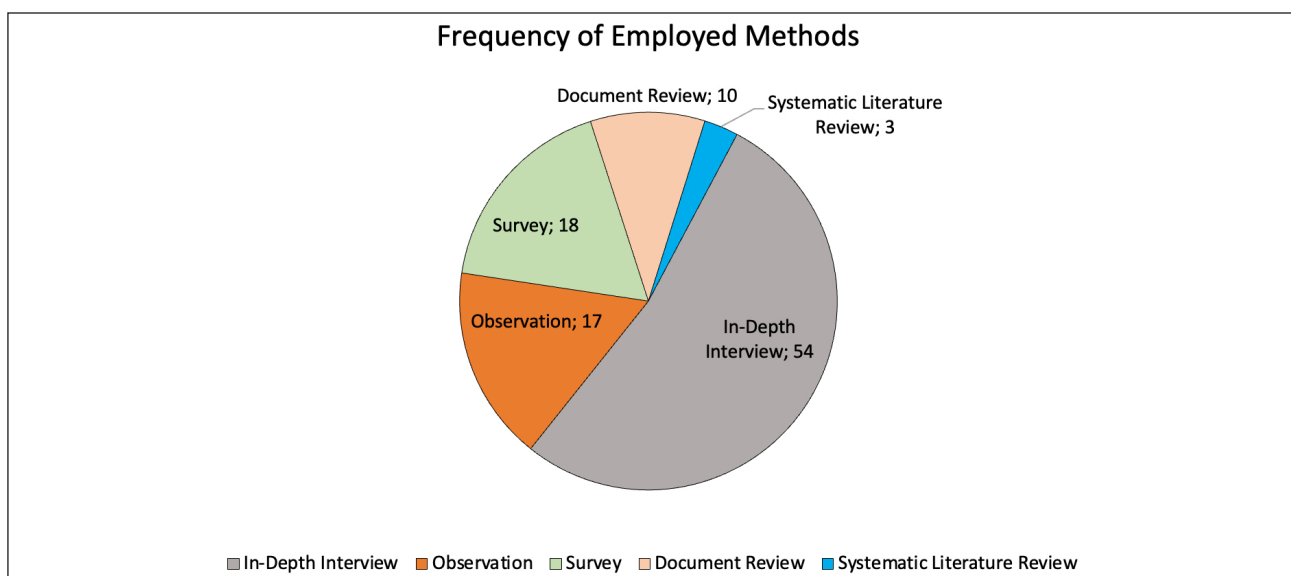


Figure 5: Prominent Research Methodologies

Table 5: Prominent Research Clusters & Subtopics

Research Cluster	Subtopics	# of studies
Culture & Social Interplays	Cultural Interaction	4
	Social Interaction	5
	Culture Transfer	2
	Use of Social Capital	7
	Use of Social Networks	6
Economic Development & Integration	Economic Contributions	11
	Social Contributions	7
	Economic Integration	3
	Social Integration	10
Individual Dimensions	Entrepreneur Characteristics	10
	Entrepreneurial Motivation	13
	Entrepreneurial Experiences	6
	Entry Process of Entrepreneurs	7
Commercial Ecosystem	Drivers of Immigrant Entrepreneurship	4
	Barriers to Immigrant Entrepreneurship	9
	Resilience of Immigrant Entrepreneurs	3

literature. In their study, for instance, Bosworth & Farrell (2011) employed semi-structured in-depth interviews to analyze the tourism-based business owners in Northumberland. Their study involves both the migrant entrepreneurs and indigenous entrepreneurs. Overall, 9 in-depth interviews were conducted in their study. In another example, Pechlaner, Dal Bo & Volgger (2012) have conducted 5 semi-structured in-depth interviews with SME-owning migrant entrepreneurs in the regions of Tyrol and Trentino to understand the process of social and commercial integration of the migrant tourism entrepreneurs into society.

Observation is the second most common research technique within the field. As a technique mostly utilized in qualitative research, observation provides a robust method of analyzing people in their habitat. Yang & Wall (2008) have employed on-site observation in the research to examine the behaviors of ethnic tourism business owners and tourists. Interaction between ethnic entrepreneurs and their customers was also observed. Matarrita & Suess (2020) on the other utilized participant observation in three different timespans (June 2015, January 2016 and May 2018) in their research to understand the social dynamics between migrant entrepreneurs and examine overall community issues.

Document review and surveys are the third and fourth most common research techniques within the immigrant entrepreneurship and tourism field. Zhou, Chan & Song

(2017) have utilized secondary data to understand the entrepreneurial immigrant's experiences in development of tourism in rural areas of China. Tourism master plans, government reports on local tourism strategy and the plans for tourism-related major projects were utilized by the authors.

Prominent Research Subtopics

Even though it's considered as an up-and-coming research field, existing studies in immigrant entrepreneurship and tourism contain numerous different research themes. These research themes involve significant amounts of subtopics that examine the field from different standpoints. This multi-perspective nature of the field is also present in our bibliometric research. After an elaborate and thorough examination of the full texts of all the studies included in our bibliometric research, we identified 4 main research clusters. These clusters are cultural & social interplays, economic development & integration, commercial ecosystem and individual dimensions.

Table 5 below shows the main research clusters and the subtopics within each cluster.

The elaborate examination of each article within this bibliometric list has revealed 4 major research clusters. Each research cluster consists of different subtopics. Overall, 16 different subtopics have been revealed, which necessitates a thorough examination of each cluster and their respective subtopics.

Culture & Social Interplays

One of the common research themes that we have seen among the studies we have examined is the cultural and social interplays between immigrant entrepreneurs and the society that receives them. Oftentimes, there are significant differences between immigrants' country of origin (COO) and the country of destination (COD). These dissimilarities can present themselves in the form of social differences and cultural differences. Yet, even though the existence of dissimilarities may sound as a disadvantageous circumstance for immigrant entrepreneurs, it is not always the case. Through clever use of social networks, day-to-day social or cultural interactions, immigrant entrepreneurs can claim success in their COD.

Social and cultural interaction are two subtopics that is observed to have an important role for immigrant entrepreneurs. According to Hackett (2014), entrepreneurship is not only the deliberately chosen employment path for immigrants in Newcastle but also a unifying factor for native residents and immigrants by promoting social and cultural interaction between indigenous population and immigrants. In another study, Capo & Kelemen (2018) remarks that the immigrant entrepreneurs in Zagreb pushed towards utilizing their culture in the ventures due to the local demand for diversity. Cultural interaction between indigenous people and immigrants acts as a catalyst for aforementioned local demand.

The use of social networks is another subtopic that is commonly researched in studies. Having a social network is noted as a supporting factor for many immigrant entrepreneurs. Lilius & Hewidy (2021) mention that by activating their extensive social network, ethnic restaurant entrepreneurs can entice mainstream customers. Zolin et al. (2015) on the other hand, divide the social network of immigrant entrepreneurs into two groups: coethnic networks and non-coethnic networks. Their findings reveal that coethnic networks of immigrant entrepreneurs are particularly helpful for growing entrepreneurs' businesses especially in the early years.

Social capital is another subtopic of interest. For many immigrant entrepreneurs, social capital acts as an accelerator to enter into host country market. From a societal perspective, social capital is of utmost importance for the success of immigrant entrepreneurs. A study by Katila & Wahlbeck (2012) on Turkish and Chinese entrepreneurs in Finland remarks that in the early stages of entrepreneurial activities, immigrant entrepreneurs

often utilize more experienced immigrant entrepreneurs' skills and resources. Additionally, authors mention that the social capital possessed by immigrant entrepreneurs may differ based on migration patterns. In another study, Zolin et al. (2015) remark that non-coethnic social capital possessed by immigrant entrepreneurs is quite useful for growing their ventures outside of their enclave.

Economic Development & Integration

Another important research cluster that can be found among the studies in our bibliometric list is the economic development that are fostered by the entrepreneurial activities undertaken by immigrants and their integration into the host countries' society and economy. Economic development caused by the immigrant in the host country's nation is the result of heightened competition (Bosworth & Farrell, 2011), which supports economic well-being (Alrawadie et al., 2018).

Social and economic integration of immigrant entrepreneurs into society and commercial life is commonly examined by the researchers in our bibliometric analysis (Smart, 2003; Garrido & Olmos, 2008; Rooij & Margaryan, 2020; Idris, 2015).

A study conducted by Smart (2003) on the social integration of Chinese entrepreneurs into Canada revealed that contemporary Chinese immigrants depend less on the ethnic network and resources in their endeavor to integrate into Canadian market. Additionally, the authors mention that Chinese immigrants in Canada come from diverse backgrounds, which supports and fosters their social integration into society. The definition of integration is also important within this context. According to Rooij and Margaryan (2020), integration of immigrants into the economy is complete when said immigrant is employed. Their research revealed that for campground-owning Dutch immigrants in Sweden, numerous challenges are present which reduces their integration into the Swedish economy. These challenges, such as weak ties with local authorities, lack of social network, disconnection of immigrants from society etc. hinder the integration process into the Swedish marketplace.

Within the economic development research cluster, subtopics of economic and social contributions of immigrants are frequently researched. Especially the economic contributions provided by the immigrant entrepreneurs' business ventures are examined quite frequently (Wahlbeck, 2007; Carson & Carson, 2018; Guest, 2011; Lundmark et al., 2014). Of particular research

interest is focused on the employment opportunities provided by immigrants. Research by Wahlbeck (2007) remarks that the ethnic Turkish immigrants and their business ventures located in Finland provide employment opportunities for other immigrants located in Finland. Authors also mention that for Turkish immigrants, restaurant sector is often the only option for employment.

Commercial Ecosystem

Experiences of immigrant entrepreneurs within the commercial ecosystem is another important research cluster that includes numerous studies around the subtopics of drivers & barriers faced by immigrant entrepreneurs and their resilience in their business ventures. Especially the barriers and challenges faced by immigrant entrepreneurs are very popular among the studies in our bibliometric list. A study by Alrawadieh et al. (2018) on the major challenges faced by immigrant entrepreneurs located in Turkey reveals that there are four vital challenges that hinder the activities of immigrants. These barriers are market-related, social and cultural, administration-related and lastly financial. Tillberg et al. (2019) on the other hand mention that for immigrant tourism entrepreneurs in Sweden, lack of professionalization, lack of entrepreneurship promotion and project-based funding provided to entrepreneurs are some of the primary barriers. Drivers of tourism-based immigrant entrepreneurship are researched by some authors in our bibliometric list. A study by Haghighi & Lynch (2012) points out that the feeling of foreignness and difference from the indigenous population drives the immigrant individuals towards hospitality entrepreneurship. In another study, Paerregaard (2018) reveals that Peruvian entrepreneurs lack the social and cultural capital to establish their ventures, which hinders their ability to attract customers who are outside of their ethnic enclave. Resilience is another subtopic that is researched within the context of immigrant entrepreneurship and restaurants. Most research in this field often focuses on COVID-19's impact on the restaurant sector.

Individual Dimensions

Last research cluster in our bibliometric analysis is the individual dimensions, which are associated with any individual aspect surrounding the entrepreneur himself/herself. Characteristics of said individuals, any motivational factors, their experiences and entry process of immigrant entrepreneurs are included in this cluster.

The motivational factor of entrepreneurs is the most popular subtopic among others. One of the earliest studies on immigrant entrepreneurship and tourism is conducted by Morrison (2001). Result of his research reveals that numerous factors drive an individual to be an entrepreneur such as cultural conditioning, being aware of contemporary trends and behaviors, wanting to be free from social norms and lastly being receptive. Carson (2018) on the other hand lists main motivational factors to become an entrepreneur as reducing the overall workload, converting lifestyle into serious business and the survival. Characteristics of entrepreneurs is another important research subtopic. A study by Webster & Haandrikman (2017) points out that Thai female entrepreneurs are quite creative, adaptable and risk-takers.

CONCLUSION

The extent of the academic knowledge on the topic of immigrant entrepreneurship within the context of the tourism industry is quite limited with remarkable shortfalls in various aspects. Lack of knowledge on the nature and the essence of entrepreneurial activities of immigrants in the tourism sector calls for a comprehensive search throughout academic databases. In light of this realization, the main aim of this paper is to review and examine the academic literature on immigrant entrepreneurship within the context of tourism by examining and highlighting the trends in academic studies and by scrutinizing the extent of research. Overall, 102 studies were examined by analyzing their methodologies, publication years, research settings, published journals as well as the research perspectives, prominent theories and underlying research topics. Moreover, current trends in the field, contemporary standpoints and relevant academic perspectives were highlighted.

During this examination process, a holistic point-of-view is employed to avoid missing important research aspects in the literature. After a rigorous search process involving four different academic databases, all 102 studies were scrutinized. Close examination of studies within our bibliometric list yielded 4 main conclusions on immigrant entrepreneurship in tourism field.

Firstly, a detailed examination of publication years on all the studies in our bibliometric list has revealed that the field is still in its infancy stages. Having only 102 studies on the entire field signals the existence of big research gaps as well. Immigrant entrepreneurs in tourism field have attracted researchers especially after

2000's, which can be further justified by the evidence that the first study on the topic was conducted in 2001. Thus, the nascent nature of the field calls for additional, more concrete studies in the future to establish itself as a developed, strong field. Additionally, results revealed that the literature on immigrant entrepreneurship boomed after 2010's, which can be attributed to the Syrian Civil War and the mass movement of people migrating from Middle East to other regions.

Secondly, methodologies employed in the studies in our bibliometric list show that qualitative research methods are quite prevalent. More than half of the studies utilize qualitative research techniques such as in-depth interviews or focus group studies; which can be considered as evidence that the field of immigrant entrepreneurship in tourism is still in its infancy stages. Justification of this statement can be further supported by the fact that inductive research with qualitative research techniques are often employed to build up theories rather than test them (Corbin & Strauss, 2014). In-depth interviews, observation and document review techniques were found to be the three most popular research techniques in our bibliometric list.

Thirdly, as a result of the detailed examination of each and every study in our bibliometric research, 4 different research clusters and 16 different subtopics were identified within the field of immigrant entrepreneurship and tourism. These research clusters can be listed as culture & social interplays, economic development & integration, individual dimensions and commercial ecosystems. Culture and social interplays, which include the interactions between the indigenous population and immigrants such as culture transfer, use of social capital and social networks is found to be the main focus point of 24 studies. Economic development and integration on the other hand, which include economic and social contributions & integration of immigrants are found to be the focus point of 31 studies. Individual dimensions such as entrepreneurial characteristics, motivation and commercial ecosystem such as drivers and barriers that impact the immigrant ventures are found to be the focus points of 36 and 16 studies respectively. Aforementioned numbers highlight that the research cluster of individual dimensions is the most popular with 36 studies whereas commercial ecosystem is the least popular cluster with only 16 studies; which highlights a remarkable research gap in the field.

Numerous limitations exist within this research. First limitation is the limited number of databases scrutinized. Only 3 databases, the studies located in Web of Science,

EBSCO and Scopus databases were examined and retrieved for this research. Any other study on immigrant entrepreneurship in tourism that is located in other databases might not be included. Additionally, the apparent lack of these involved in this research signals that our bibliometric research may not possess up-to-date information on the field since the theses often constitute for the latest research. Thirdly, only a limited number of analyses can be conducted on the studies included in our bibliometric list. Additional analysis techniques may yield different insights. Future studies should incorporate additional research techniques and utilize additional databases to review an even bigger chunk of the academic literature. Within this context, Table 5 above may prove useful as a guide for future studies. Economic integration of the immigrant entrepreneurs to the host economy, their resilience and social interactions are some of the sub-topics that are still extremely nascent, which may be a good starting point for future studies. Immigrant entrepreneurs' social and cultural interplays, such as cultural transfer and cultural interaction may prove to be useful for future research as well. Moreover, numerous research questions can be recommended for future studies such as "What are the main drivers & barriers faced by immigrant entrepreneurs in tourism industry" or "How do the characteristics and motivational factors surrounding the immigrant entrepreneur impact the business venture?".

REFERENCES

- Aliaga-Isla, R. and Rialp, A., 2013. Systematic review of immigrant entrepreneurship literature: previous findings and ways forward. *Entrepreneurship & Regional Development*, 25(9-10), pp.819-844.
- Afewerki, S. (2015). Immigrant Entrepreneurship Towards the Realization of Immigrants' Entrepreneurial Performance and Success in Norway. *Master's Thesis In Entrepreneurship, Innovation and Society, Norwegian University of Science and Technology Faculty of Social Sciences and Technology Management, Trondheim*.
- Alrawadieh, Z., Karayilan, E., & Cetin, G. (2019). Understanding the challenges of refugee entrepreneurship in tourism and hospitality. *The Service Industries Journal*, 39(9-10), 717-740.
- Altin, H. O., Pirnar, I., Eriş, E. D., & Gunlu, E. (2021). Family businesses in the tourism industry: a research agenda. *Journal of Family Business Management*.
- Altinay, L., & Altinay, E. (2006). Determinants of ethnic minority entrepreneurial growth in the catering sector. *The Service Industries Journal*, 26(2), 203-221.
- Assudani, R. H. (2009). Ethnic entrepreneurship: The distinct role of ties. *Journal of Small Business & Entrepreneurship*, 22(2), 197-205.
- Baumgartner, D., Pütz, M., & Seidl, I. (2013). What kind of entrepreneurship drives regional development in European non-core regions? A literature review on empirical entrepreneurship research. *European Planning Studies*, 21(8), 1095-1127.
- Block, J., Fisch, C., & Rehan, F. (2020). Religion and entrepreneurship: a map of the field and a bibliometric analysis. *Management Review Quarterly*, 70(4), 591-627.
- Bosworth, G., & Farrell, H. (2011). Tourism entrepreneurs in Northumberland. *Annals of Tourism Research*, 38(4), 1474-1494.
- Calero-Lemes, P., & García-Almeida, D. J. (2021). Immigrant entrepreneur knowledge in the tourism industry of island destinations. *Tourism Geographies*, 23(3), 527-551.
- Čapo, J., & Kelemen, P. (2018). Mixing ethnic and non-ethnic economic strategies: Migrant entrepreneurs in Zagreb. *Narodna umjetnost*, 55(2), 29-56.
- Carson, D. A., & Carson, D. B. (2018). International lifestyle immigrants and their contributions to rural tourism innovation: Experiences from Sweden's far north. *Journal of Rural Studies*, 64, 230-240.
- Chrysostome, E., & Lin, X. (2010). Immigrant entrepreneurship: Scrutinizing a promising type of business venture. *Thunderbird International Business Review*, 52(2), 77-82.
- Cruz Nichols, V., LeBrón, A. M., & Pedraza, F. I. (2018). Spillover effects: Immigrant policing and government skepticism in matters of health for Latinos. *Public Administration Review*, 78(3), 432-443.
- Cruz, E. P., & de Queiroz Falcão, R. P. (2016). Revisão bibliométrica no tema Empreendedorismo Imigrante e Étnico. *Revista Eletrônica de Negócios Internacionais (Internext)*, 11(3), 78-94.
- Dabić, M., Vlačić, B., Paul, J., Dana, L. P., Sahasranamam, S., & Glinka, B. (2020). Immigrant entrepreneurship: A review and research agenda. *Journal of Business Research*, 113, 25-38.
- Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. *International Journal of Production Economics*, 162, 101-114.
- Garrido, A. A., & Olmos, J. C. C. (2008). Ethnic entrepreneurs as economy strategy in Almería (Spain). *Polish Sociological Review*, 401-415.
- Guest, K. J. (2011). From Mott Street to East Broadway: Fuzhounese Immigrants and the Revitalization of New York's Chinatown. *Journal of Chinese Overseas*, 7(1), 24-44.
- Hackett, S. E. (2014). From rags to restaurants: self-determination, entrepreneurship and integration amongst Muslim immigrants in Newcastle upon Tyne in comparative perspective, 1960s–1990s. *Twentieth Century British History*, 25(1), 132-154.
- Haghighi, A. M., & Lynch, P. (2012). Entrepreneurship and the social integration of new minorities: Iranian hospitality entrepreneurs in Scotland. *Tourism Review*.
- Heilbrunn, S., & Iannone, R. L. (2020). From center to periphery and back again: a systematic literature review of refugee entrepreneurship. *Sustainability*, 12(18), 7658.

- Idris, M. S. (2015). The multidimensional roles of food and culture-centered entrepreneurship among Ethiopian and Eritrean migrants: Ethnographic case studies in Washington, DC. *African and Black Diaspora: An International Journal*, 8(1), 55-70.
- Indarti, N., Hapsari, N., Lukito-Budi, A. S., & Virgosita, R. (2020). Quo vadis, ethnic entrepreneurship? A bibliometric analysis of ethnic entrepreneurship in growing markets. *Journal of Entrepreneurship in Emerging Economies*.
- Iversen, I., & Jacobsen, J. K. S. (2016). Migrant tourism entrepreneurs in rural Norway. *Scandinavian Journal of Hospitality and Tourism*, 16(4), 484-499.
- Jamal, A. (2003). Retailing in a multicultural world: the interplay of retailing, ethnic identity and consumption. *Journal of Retailing and Consumer Services*, 10(1), 1-11.
- Johnson, J. P., Munoz, J. M., & Alon, I. (2007). Filipino ethnic entrepreneurship: An integrated review and propositions. *International Entrepreneurship and Management Journal*, 3(1), 69-85.
- Katila, S., & Wahlbeck, Ö. (2012). The role of (transnational) social capital in the start-up processes of immigrant businesses: The case of Chinese and Turkish restaurant businesses in Finland. *International small business journal*, 30(3), 294-309.
- Lilius, J., & Hewidy, H. (2021). The taste of diversity. Ethnic restaurants in Helsinki and the importance of networks for attracting a mainstream clientele. *Etnografia e ricerca qualitativa*, 14(2), 301-320.
- Lundmark, L., Ednarsson, M., & Karlsson, S. (2014). International migration, self-employment and restructuring through tourism in sparsely populated areas. *Scandinavian Journal of Hospitality and Tourism*, 14(4), 422-440.
- Matarrita-Cascante, D., & Suess, C. (2020). Natural amenities-driven migration and tourism entrepreneurship: Within business social dynamics conducive to positive social change. *Tourism Management*, 81, 104140.
- Mattsson, K. T., & Cassel, S. H. (2020). Immigrant entrepreneurs and potentials for path creating tourism development in rural Sweden. *Tourism Planning & Development*, 17(4), 384-403.
- Mattsson, K. T., & Cassel, S. H. (2020). Immigrant entrepreneurs and potentials for path creating tourism development in rural Sweden. *Tourism Planning & Development*, 17(4), 384-403.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.
- Mustak, M., Jaakkola, E., & Halinen, A. (2013). Customer participation and value creation: a systematic review and research implications. *Managing Service Quality: An International Journal*.
- Paerregaard, K. (2018). Capitalizing on migration: The role of strong and weak ties among Peruvian entrepreneurs in the United States, Spain and Chile. *Migration Studies*, 6(1), 79-98.
- Pechlaner, H., Dal Bò, G., & Volgger, M. (2012). What makes tourism an attractive industry for new minority entrepreneurs: results from an exploratory qualitative study. *Tourism Review*.
- Pınar, İ. (2015). Turizm sektöründe girişimcilik süreci ve sektöre özgü özellikler. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (34), 75-86.
- Ram, M., Jones, T., & Villares-Varela, M. (2017). Migrant entrepreneurship: Reflections on research and practice. *International Small Business Journal*, 35(1), 3-18.
- Smart, J. (2003). Ethnic entrepreneurship, transmigration, and social integration: an ethnographic study of Chinese restaurant owners in rural western Canada. *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 311-342.
- Su, X., & Chen, Z. (2017). Embeddedness and migrant tourism entrepreneurs: A Polanyian perspective. *Environment and Planning A: Economy and Space*, 49(3), 652-669.
- Szkudlarek, B., & Wu, S. X. (2018). The culturally contingent meaning of entrepreneurship: mixed embeddedness and co-ethnic ties. *Entrepreneurship & Regional Development*, 30(5-6), 585-611.
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American journal of evaluation*, 27(2), 237-246.
- Vaaler, P. M. (2011). Immigrant remittances and the venture investment environment of developing countries. *Journal of International Business Studies*, 42(9), 1121-1149.

- Valdez, Z. (2008). The effect of social capital on White, Korean, Mexican and Black business owners' earnings in the US. *Journal of Ethnic and Migration Studies*, 34(6), 955-973.
- van Rooij, N., & Margaryan, L. (2019). Integration of "Ideal Migrants": Dutch lifestyle expatpreneurs in Swedish campgrounds. *Rural Society*, 28(3), 183-197.
- Wahlbeck, Ö. (2007). Work in the kebab economy: A study of the ethnic economy of Turkish immigrants in Finland. *Ethnicities*, 7(4), 543-563.
- Waldinger, R. (1989). Structural opportunity or ethnic advantage? Immigrant business development in New York. *International Migration Review*, 23(1), 48-72.
- Webster, N. A., & Haandrikman, K. (2017, January). Thai women entrepreneurs in Sweden: Critical perspectives on migrant small businesses. In *Women's Studies International Forum* (Vol. 60, pp. 17-27). Pergamon.
- West, G. P., & Noel, T. W. (2009). The impact of knowledge resources on new venture performance. *Journal of small business management*, 47(1), 1-22.
- Yang, L., Wall, G., & Smith, S. L. (2008). Ethnic tourism development:: Chinese Government Perspectives. *Annals of tourism research*, 35(3), 751-771.
- Zhou, L., Chan, E., & Song, H. (2017). Social capital and entrepreneurial mobility in early-stage tourism development: A case from rural China. *Tourism Management*, 63, 338-350.
- Zolin, R., Chang, A., Yang, X., & Ho, E. Y. H. (2016). Social capital or ethnic enclave location? A multilevel explanation of immigrant business growth. *Thunderbird International Business Review*, 58(5), 453-463.

Audit Expectation Gap: A Bibliometric Analysis Based on Scopus And WoS Data (1992-2024)

Neriman POLAT ÇELTİKÇİ 

ABSTRACT

In this study, the concept of the expectation gap (AEG), which is thought to be at the center of the criticism towards the audit profession, is discussed. The AEG can be explained as the difference between the performances and expectations of the parties to the audit. The aim of the study is to examine the current status and global trends of AEG scientific publications in Scopus and Web of Science (WOS) databases with bibliometric analysis. For this purpose, in the search conducted with the keyword "Audit Expectation Gap" in both databases, 117 publications covering the years 1992-2024 were evaluated comparatively. The data were analysed by using Excel and VOS viewer programs. The findings show that approximately 40 per cent of AEG research has been conducted in the last five years. The leading countries are the United Kingdom, Australia, Malaysia and Iran. The most productive authors are Humphrey, C., Coram, P. J. and Lee, T.H. The common keywords that stand out are auditing, auditors, auditor's report, key audit matters and audit quality. The overlap rate of the databases is 35% and the coverage of Scopus was found to be wider. To the best of the author's knowledge, this is the first study to evaluate the effects/interactions of AEG research in terms of both databases.

Keywords: Audit, Expectation Gap, Bibliometric Analysis, Scopus, WoS, VOSviewer.

JEL Classification Codes: M42, C88

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INTRODUCTION

It is important to act with accurate financial information in the sustainability of financial markets. The most important outputs that provide the information needed by decision makers are the financial statements of companies. The accounting profession is responsible for the preparation and presentation of financial statements with accurate. It is often not possible for financial statements to provide all the information needed. Decision makers should always consider information from other sources such as general economic conditions and expectations, political events and political climate, industry and company outlooks (Conceptual Framework for Financial Reporting, 2018: par.1.6). Accordingly, users are expected to have a reasonable expectations regarding the profession. Additionally, the financial statements are assumed to be prepared for users who have a reasonable level of knowledge about business and economic activities and who carefully review and analyse them (Turkish Accounting Standarts (TAS) 1, par.7). This shows that the profession expects a reasonable level of comprehension while presenting information to users.

Reasons like difficulty in accessing information, complex economic events or conflicts of interest make it necessary to audit financial statements. Auditing¹ is essentially the task of reporting the truth in the financial statements, and it is this truth that information users expect. Users often see the auditor's report as a clean bill of health. Therefore, the expectation towards auditors is much higher than it should be. It has been stated that the audit expectation gap (AEG) occurs when there are differences between what society expects from the auditor and how the auditors perform (Salehi, Mansoury & Azary 2009: 167). Many international studies have confirmed the existence of AEG (Liggio, 1974; Cohen Commission Report, 1978; Sikka, Puxty, Willmott & Cooper, 1998; Best, Buckby & Tan, 2001; McEnroe & Martens, 2001; Lin & Chen, 2004; Lee, Gloeck & Palaniappan, 2007; Salehi, Jahanbin & Adibian, 2020; Olojede, Erin, Asiriwuwa & Usman, 2020). Liggio (1974) and Baron, Johnson, Searfoss & Smith (1977) have stated that AEG is at the centre of criticism of the profession. Many international standard-setting bodies have published studies emphasising the need to address AEG in a comprehensive manner (Pierce & Kilcommins, 1996: 3). Gray, Turner, Coram & Mock (2011)

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state that these and other organisations and professional bodies in the field are still asking questions about the auditor's report, which indicates the ongoing existence of AEG. AEG has been a driving force for the change in the audit process since the first day of discussions (Ruhnke & Schmidt, 2014: 573). In many countries, efforts to improve auditing standards and practices have accelerated.

The fact that AEG is a multidimensional concept makes any research important that addresses its causes, solutions for narrowing the gap or its interactions at the international level from a new perspective (Deepal & Jayamaha, 2022: 308). In this research, it is aimed to analyse some bibliometric network data such as comparative trends, citation relationships, collaboration relationships between researchers and co-occurrence relationships between terms of 117 scientific publications on AEG (1992- 2024) obtained from Scopus and WoS databases. With the analysis examines the development of AEG literature according to a specific geography, time period and type of information source through visual maps. In the literature review, no research has been found based on bibliometric analysis of AEG. Therefore, this research is original in terms of both its methodology and the fact that it presents the findings of two different databases in a wide perspective. The study shows researchers AEG's focal points and trends and provides ideas to guide new research approaches.

In the study, firstly, the conceptual framework of AEG and bibliometrics is mentioned, and in the second section, a literature review is made in terms of subject and method. In the third section, the methodology used is explained. In the fourth section, the findings of the study are explained in detail under each subheading.

CONCEPTUAL FRAMEWORK

Audit Expectation Gap

The concept of AEG was first defined in the literature by Liggio (1974) as *"the difference between the levels of performance expected by both the independent accountant and the user of financial statements"*. Campbell & Michenzi (1987) stated that users of financial statements misunderstand the auditor's role in the financial reporting process and the meaning of the audit report and that the term AEG is used to describe this. Porter (1993) introduced a new dimension to AEG by introducing the Audit Expectation-Performance Gap (AE-PG) term to the literature. Porter's term refers to the difference between the expectations of society from auditors and the performance perceived by auditors and consists

of 'reasonableness' and 'performance' components. The performance component is subdivided into "deficient standards" and "deficient performance". Porter also noted that the origins of the critical and contentious environment that characterises today's audit can be traced back to the AE- PG. These three components of AEG are defined as follows (Salehi, 2007: 52-53):

Reasonableness gap: A gap between what the society expects auditors to achieve and what they can reasonably be expected to accomplish. Such a gap exists because of misunderstandings between users, users over expectations, uneducated users, miscommunication of users, misinterpretation of users and unawareness of users from the audit practice limitations.

Deficient standards gap: A gap between the duties, which can reasonably be expected of auditors, and auditors existing duties as defined by law and professional promulgations. Such a gap existed because the standards are insufficient or weak regarding audit responsibilities, detection of fraud and illegal acts.

Deficient performance gap: A gap between the expected standard of performance of auditors existing duties, and performance as expected and perceived by the society. The main reasons for this gap: Non-audit services performed by auditors, self-interested auditors, auditors pursuing their personal interests and economic relationships with clients, unqualified and dependent auditors.

The components of AEG can be shown as in Table 1:

Deepal & Jayamaha (2022) conducted a comprehensive literature review from 1974 to 2021 and they defined the AEG as; *"the difference between what the society as a whole expects auditors to do and what auditors actually do while practising an audit"* by referring to all the definitions presented in the extant current literature.

For fifty years, AEG has been the subject and primary target of numerous academic and corporate research. This is also the purpose of establishing the Auditors' Responsibilities' Commission. The Commission was established to develop conclusions and recommendations on auditor responsibilities, to assess whether there is a gap between the expectations and needs of the public and what auditors reasonably want to achieve, and if so, to identify and explore how this gap can be solved (Cohen Commission Report, 1978: xi). A most important part of the AICPA's effort to deal with the AEG has been the Auditing Standards Board (ASB)'s proposal to revise the audit report. In response to the AEG, the board

Table 1: Components of Audit Expectation Gap

Components of Audit Expectation Gap				
Perceived performance of auditors		← Gap → Society's expectation of auditors		
Performance Gap	Standard Gap	Reasonableness Gap		
Reasonable expectation of auditor performance	Reasonable expectation of standard	Unreasonable expectations		
		Over-expectation of audit performance	Over-expectation of standards	Miscommunication of users
Reasons of Audit Expectation Gap				
<ul style="list-style-type: none"> • Non-audit service practicing by auditors • Self interest and economical benefits of auditors • Unqualified auditor • Dependent auditor • Miscommunication of auditors 	<ul style="list-style-type: none"> • Lack of sufficient standards • Existing insufficient Standards regarding auditor responsibilities for detection of fraud and illegal acts 	<ul style="list-style-type: none"> • Misunderstanding of users • Over expectations of users to auditor performances • Misinterpretation of users • Unawareness users of audit responsibilities and limitations • Users over expectation of standards 		

Source: Salehi, 2007, s.59.

issued a series of drafts on the audit process (Campbell & Michenzi, 1987: 34). The Canadian Institute of Chartered Accountants (CICA)-MacDonald Commission and the United Kingdom (UK) Audit Research Foundation (1989) were also established to examine public expectations of auditing. The Institute of Chartered Accountants in Ireland also stated in its commission report (1992) the evidences of the existence of AEG should be considered as a priority (Pierce & Kilcommins, 1996: 3).

Bibliometrics

The term was first defined by Alan Pritchard in 1969 as “the application of mathematical and statistical methods to the books and other means of communication” (Pritchard & Wittig, 1981: 3). Bibliographic information is the representation of codified knowledge that can be found in various types of scientific output, such as serial literature, books and book chapters, conference proceedings, patents, etc. (Van Leeuwen, 2004: 374). Bibliometrics is a set of quantitative tools used to analyse those bibliographic data. Bibliometric analysis is the preferred method for mapping the large volumes of unstructured data and cumulative scientific knowledge that arise with the growth of the research literature. With bibliometric analysis of data, it is aimed to understand global research trends in a particular field and to create high research impact by processing voluminous data (Broadus, 1987; Donthu, Kumar, Mukherjee, Pandey & Lim, 2021). Well-structured bibliometric studies have the

mission of enabling their readers to see the whole from a single point, identify information gaps, derive new ideas within the coverage of research, and make intended contributions to the field (Donthu et al., 2021).

LITERATURE REVIEW

Literature review consists of two titles including AEG (existence, causes, solution suggestions and methods used in the research) and bibliometric analysis researches in the field.

Audit Expectation Gap

Existence of AEG

The institutional and academic literature investigating the existence of AEG and providing evidence and recommendations has developed considerably in recent years. In its report (1978), the Cohen Commission noted that while users’ expectations are generally reasonable, many users misunderstand the role of the auditor and the nature of the service it provides. It also recommended a number of changes to improve the auditor’s work and communication of the respective roles by stating that the responsibility of narrowing the gap between performance and expectations falls primarily on auditors and other parties involved in the preparation and presentation of financial information. According to the MacDonald Commission report (1988), the public is largely unaware of the coverage of the responsibilities the auditors and

that even some of the most knowledgeable segments of the public feel that their expectations are not being met (Pierce & Kilcommins, 1996: 3).

Dixon et al. (2006) found an evidence of a wide expectation gap in Egypt in the areas of auditor responsibilities for fraud prevention, book keeping, selection of audit procedures and auditor judgement. Lee et al. (2007) noted that users in Malaysia have unreasonable expectations and also that auditees' and beneficiaries' expectations on the auditors' duties are much higher when compared with what auditors have perceived their duties to be. Pourheydari & Abousaiedi (2011) in Iran, AEG are found to exist in the areas of auditor responsibility for fraud detection, soundness of the internal controls, and preparation of financial statements. Gray et al. (2011) found that users of financial statements value the audit but do not read the entire auditor's report. They found that it was not clear what the auditor's report is intended to communicate or the level of assurance provided by the report. Gold, Gronewold, & Pott (2012) found a strong evidence of a permanent gap in terms of the auditor's responsibilities. They also stated that ISA 700 auditor's report disclosures do not reduce the gap, but the audit opinion alone may provide sufficient information to users. Gonthier-Besacier, Hottegindre & Fine-Falcy (2016) noticed that, contrary to the existing researchs, there is no significant difference in the perception between auditors and preparers. However, they stated that the differences in the perception of audit quality can be explained by especially the level of expertise of professionals and the existence of common values among professionals.

Causes and Solution Suggestions of AEG

The existence of AEG and the need for urgent and effective action to address this gap is widely expressed within the profession (Pierce & Kilcommins, 1996: 3). The reasons for AEG can be listed as; *the public's exaggerated expectations on auditors' responsibilities, difficulties for the public in assessing auditors' performance, deficiencies in auditors' performance, and auditors' lack of full awareness of their responsibilities* (Lee et al. 2007; Ruhnke & Schmidt, 2014; Olojede et al. 2020).

The main suggestions of the researchers to reduce the gap are as follows: Adeyemi & Uadiale (2011) *the public should be educated about the role and responsibilities of the auditors*, Ruhnke & Schmidt (2014) *the information content of the audit opinion should be increased*, Olojede et al. (2020) *a new business reporting model should be introduced to clearly define the role of independent audit*, Akther & Xu (2020) *auditors' perceived independence should be*

maintained, communication with users should be improved, and independent audit oversight should be taken more seriously, Salehi (2011); Moroney, Campbell & Hamilton (2017) *auditors should meet minimum performance standards, audits should be reviewed by peers, auditing standards should be regularly reviewed and updated, the public should be educated, public awareness should be raised, reporting should be improved, and assurance providers should accurately report the level of assurance provided.*

Deepal & Jayamaha's (2022) studies, covering the years 1974-2021 and including a detailed analysis of 57 articles, grouped the suggested strategies into four main categories. These are: *providing education and training, expanding the audit report, improving communication and making legislative changes*. Fotoh & Lorentzon (2023) investigated how a paradigm shift from traditional audits to digital audits affected AEG. In addition to the other suggestions, they stated that digital technologies have the potential to enhance internal controls and facilitate the fraud prevention and detection, thereby narrowing the expectation gap on critical issues. Yuan & Liu (2016) stated that AEG should be analysed and reported in depth in a way that all stakeholders can understand, and its reasons should be expanded.

Methods Used in AEG Research

As a result of their extensive (1974-2021) literature review in Google Scholar, Scopus and Emerald databases, Deepal & Jayamaha (2022) determined that the quantitative method is dominant in AEG research. The Mann-Whitney U test is seen to be the most commonly used analytical technique in studies where data are most commonly collected through questionnaires. According to the researchs, qualitative studies were significantly lower than quantitative studies.

In the analyses performed, no research based on bibliometric analysis as a method was found in the AEG literature. Therefore, the research is original in this aspect.

Topics Addressed by Bibliometric Analysis

In the literature review conducted in the field of auditing, it was observed that the topics of bibliometric studies are as follows; continuous auditing (Marques & Santos, 2017), forensic accounting (Öztürk & Yılmaz, 2018), key audit matters (Aytaç & Gençoğlu, 2020), audit quality (Ciğer, 2020; Taki, Rahmawati, Bandi, Payamta & Rusydiana, 2021; Cruceana, 2021; Maggiorani, 2022; Dönmez, Tosunoğlu & Cengiz, 2020), assessing the impacts of digital transformation on internal auditing (Pizzi, Venturelli, Variale & Macario 2021), blockchain

in the accounting, auditing and accountability fields (Secinaro, Dal Mas, Brescia & Calandra 2021; Kurbanova & Cavlak, 2021; Silva, Inácio & Marques, 2022), big data and artificial intelligence (Agusti & Orta-Perez, 2022), the intellectual structure of audit committee research (Behrend, Eulerich & Wood, 2022), internal audit (Keleş, 2022), the factors affecting whistleblowing intention (Özçelik, 2022). It also has been noticed that there is no research based on bibliometric analysis on AEG. Secondly, the research is also original in terms of the subject of bibliometric analysis.

METHODOLOGY

Purpose and Importance

The purpose of the research is to conduct a bibliometric analysis of the publications on AEG indexed by Scopus and WoS Core Collection². To the best of knowledge, the study is the first study in the international and national literature to be addressed from this perspective.

Data Source

Bibliographic databases (Scopus, WoS, Google Scholar, Dimensions, etc.) are the main providers of bibliometric indicators and have an increasingly rich content (Pranckutė, 2021). Scopus and WoS are the two main bibliographic databases. Scopus is Elsevier's subscription-based multidisciplinary database and contains citations and abstracts from peer-reviewed journal literature, trade journals, books, patent records and conference publications. Additionally, it has a huge content with more than 94 million records from 1970 to the present, more than 29,200 active series titles and more than 330,000 books (<https://www.elsevier.com>; <https://www.enago.com.tr>, 14.05.2024). WoS is the oldest citation database dating back to 1900. The database, owned by Clarivate Analytics, has a strong coverage with citation and bibliographic data. It covers 92 million scientific data and datasets and 2.2 billion citation references in 254 subject disciplines (<https://clarivate.com>, 14.05.2024).

While Scopus has a wider journal coverage compared to WoS, WoS is known to be more selective in terms of journal coverage (V. K. Singh, P. Singh, Karmakar, Leta & Mayr, 2021). Both databases cover a large number of journals in the field of social sciences and provide researchers with great convenience in making analyses. Therefore, the aforementioned features, including the differences in coverage too, and the aim of presenting more complementary and focal findings with a holistic approach were effective in conducting the research on the data of both databases.

VOSviewer (version 1.6.18) programme was used to interpret the data with scientific mapping technique. VOSviewer has been developed to create, visualise and explore bibliometric maps of scientific literature and is used to analyse all kinds of bibliometric network data such as citation relationships between publications or journals, collaboration relationships between researchers and co-occurrence relationships between scientific terms (Van Eck & Waltman, 2011).

Data Analysis

The first step in the analysis is to access field-specific publications. To do this, the keywords "Article title, abstract, keywords" - "Audit Expectatin Gap" in Scopus and "Topic (searches title, abstract, keyword plus and author keywords" - "Audit Expectatin Gap" in WoS were searched. In May 2024, 98 publications covering the years 1992-2024 (32 years) were found in Scopus (2 of the total 100 publications were shown 2 times) and 60 publications covering the years 2006-2024 (18 years) were found in WoS. Then, the primary data obtained were firstly classified through excel programme and then made interpretable with VOSviewer scientific mapping technique. In order to map the knowledge structure of the AEG research from a diachronic perspective (Yan & Zhiping, 2023), the following questions were asked. According to the results of both databases;

How are the journals and publications coverage of the databases?

How have AEG publications developed over the years?

How are the global trends of AEG publications? (with subheadings of type, language, author, co-authorship, country, citation, bibliographic coupling and keyword network distributions)

FINDINGS

The findings of the research on AEG are explained by comparing the coverage of the databases and the trends, types, languages, detailed citation information of publications emphasising the main features of both datasets.

Journal and Publication Coverage of Databases

The total number of journals is 63 in Scopus and 41 in WoS. A total of 77 journals were included in the study. The number of overlapping journals is 27 (35%). 43% of the journals in Scopus and 66% of the journals in WoS overlap (Figure 1)³. The number of overlapping journal publications is 54 in Scopus and 43 in WoS. The

percentage of overlapping journals is 55.1% in Scopus and 71.7% in WoS. Publication per journal is 1.6 in Scopus and 1.5 in WoS (Table 2).

The number of publications analysed is 98 in Scopus and 60 in WoS. A total of 117 publications were included in the research. The number of overlapping publications is 41 (35%). 42% of the publications in Scopus and 68% of the publications in WoS overlap (Figure 1). It is seen that Scopus stands out in the AEG literature (in terms of journal, number of publications and co-publications).

The number of journals published in Scopus is 63. Table 3 shows the top 10 journals with the most publications in Scopus. The prominent journals are Managerial Auditing Journal (10 pb.), International Journal of Auditing (9 pb.) and Public Money And Management. Among the top 10 journals, 8 journals overlap (bold rows).

The number of journals published in WoS is 41. Table 4 shows the top 10 most cited journals. The journals with the highest number of publications and citations are International Journal of Auditing (7 pb.-127 cit.), Southern

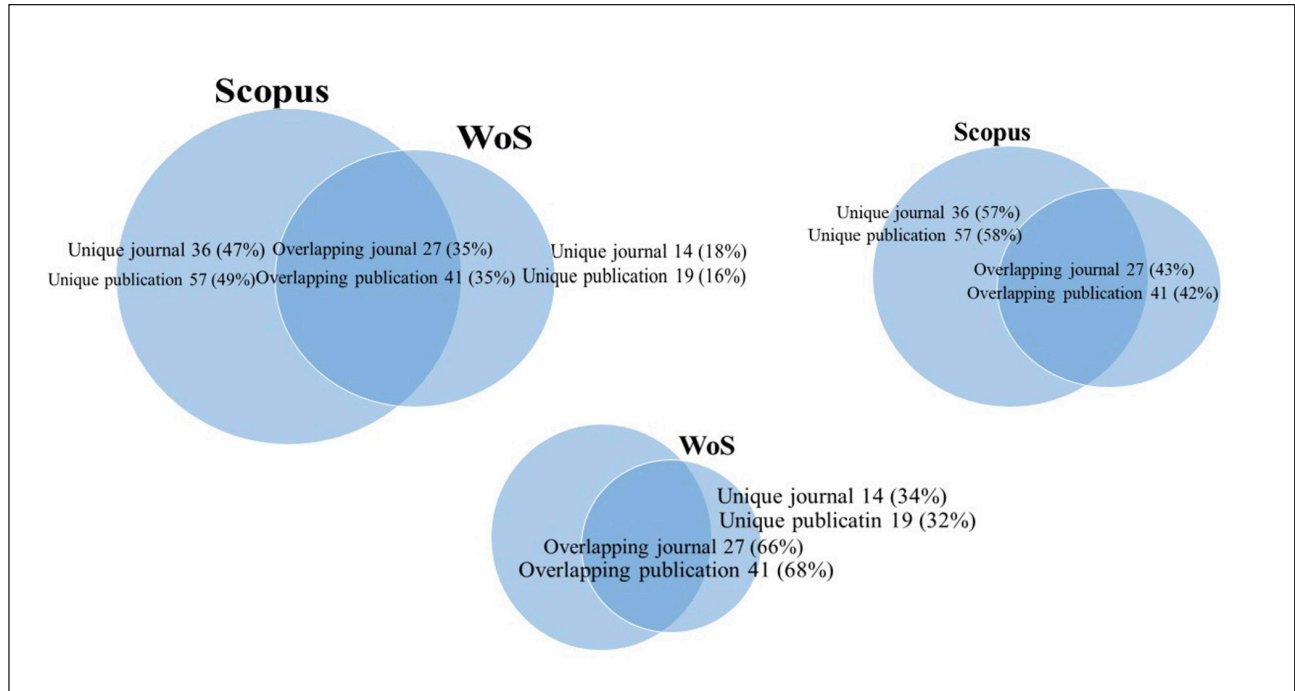


Figure 1: Journal and publication views of databases

Table 2: Journal analysis results of databases

	Database		Calculations
Number of journals	scopus	63	(36 single + 27 ovr.)
	wos	41	(14 single + 27 ovr.)
Number of overlapping journals		27	
Total of databases (separate)		104	
Total of databases (together)		77	(36+14 +27)
Databases Journal similarity %		35	100*([27/(104-27)])
Number of overlapping publication	scopus	54	
	wos	43	
Overlapping journals %	scopus	42,9	100*(27 jou./63 jou.)
	wos	65,9	100*(27 jou./41 jou.)
Overlapping publication %	scopus	55,1	100*(54 pb./98 pb.)
	wos	71,7	100*(43 pb./60 pb.)
Publication per journal	scopus	1,6	(98 pb./63 jou.)
	wos	1,5	(60 pb./41 jou.)
Publication per overlapping journal	scopus	2,0	(54 pb./27 jou.)
	wos	1,6	(43 pb./27 jou.)

Source: It was prepared by the researcher from databases.

Table 3: Top ten journals with the most publications (Scopus)

J.Nu.	Journal Title	Number of documents
1	Managerial Auditing Journal	10
2	International Journal of Auditing	9
3	Public Money And Management	4
4	International Journal of Accounting Auditing And Performance Evaluation	3
5	Accounting And Business Research	3
6	Journal of Risk And Financial Management	2
7	Journal of International Accounting Auditing And Taxation	2
8	Journal of Asian Finance Economics And Business	2
9	International Journal of Financial Studies	2
10	International Journal of Disclosure And Governance	2
	Others (53 journal)	59
	TOTAL (63 journal)	98

Source: Scopus database, May 2024.

Table 4: Top ten journals with the most publications and citations (WoS)

J.Nu.	Journal Title	Number of documents	Number of citations
1	International Journal of Auditing	7	127
2	Accounting Horizons	2	80
3	Managerial Auditing Journal	4	58
4	Southern African Journal of Accountability And Auditing Research Sajaar	6	43
5	Accounting And Business Research	1	42
6	Journal of Islamic Accounting And Business Research	1	18
7	Journal of Financial Reporting And Accounting	2	17
8	Public Money Management	3	11
9	African Journal of Business Management	2	11
10	International Review of Administrative Sciences	1	9
	Others (31 journal)	31	
	TOTAL (41 journal)	60	

Source: WoS database, May 2024.

African Journal of Accountability And Auditing Research Sajaar (6 pb.-43 cit.) and Managerial Auditing Journal (4 pb.-58 cit.). Among the top 10 journals, 8 journals overlap (bold rows).

Distribution of Publications By Type And Language

Total 98 publications in Scopus include 83 articles, 6 reviews, 4 book chapters and 5 conference papers. The language of the publications is mostly English (94 pb.). There is also one publication each in French, Portuguese, Arabic and Spanish. Total 60 publications in WoS include 53 articles, 4 reviews, 2 book chapters and 1 proceedings paper. The language of the publications is mostly English (58 pb.). There is also one publication each in French and Portuguese.

Distribution of Publications by Year

The distribution of publications in both databases according to years and number of citations is as shown in Figure 2. Although AEG concept entered the literature in 1974, it is seen that the first year of study in the databases is 1992 in Scopus and 2006 in Wos. The years with the highest number of publications in Scopus are 2020 (10 pb.), 2022 (8 pb.), 2019 (7 pb.), 2021 (7 pb.) and 2023 (7 pb.), respectively. The highest number of citations was reached in the last four years (2023-186 cit., 2021- 164 cit., 2022-130 cit. and 2020-116 cit.). The years with the highest number of publications in WoS are 2020 and 2022 (6 pb.), 2016, 2019 and 2021 (5 pb.), 2011 and 2023 (4 pb.), respectively. The highest number of citations was

reached in the last four years (2023-85 cit.-2021-84 cit.-2020-74 cit. and 2022-62 cit.). It has been noticed that the number of publications and citations in both databases has been increasing in recent years and approximately 40% of the publications has been published in the last five years.

Author and Co-authorship Distributions of Publications

The number of authors for 98 publications in Scopus is 159. 19 single-authored and 78 multi-authored publications have been found in the research (1 book reviews- no authors found). In multi-authored publications, the number of authors is 140. While the number of publications per author is 1.64, the number of authors per publication is 0.61. Publication and co-authorship citation information of the top ten authors are given in Table 5. Humphrey is the most prolific author in publication and co-authoring (7 pb.). He is followed by Barbadillo (3 pb.) and Salehi (3 pb.). Salehi, Akther and Coram are within the top 10 authors in both databases (bold rows). Masoud (2017) is the only author with 2 publications in Scopus alone. In co-authorship, Hunphrey C., Moizer P. & Turley S. are the authors with the highest number of citations (272 cit.).

The number of authors for 60 publications in WoS is 117. 11 single-authored (9 authors) and 49 multi-authored publications have been found in the research. The number of authors in multi-authored publications

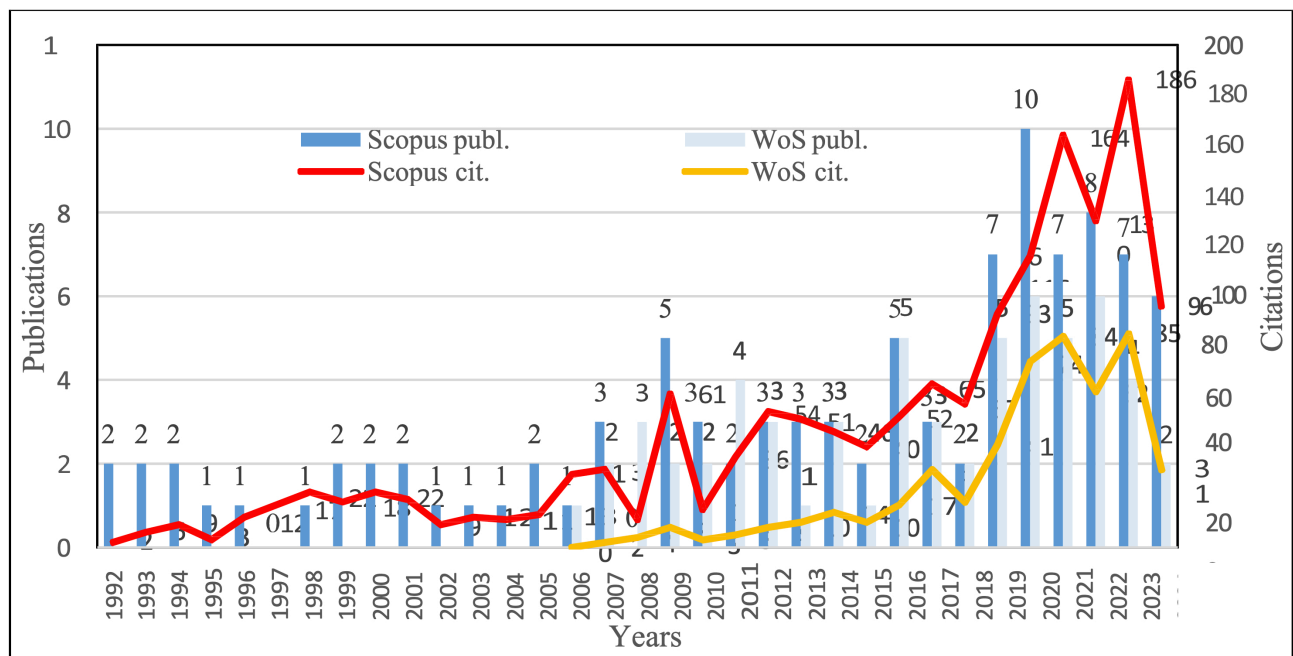


Figure 2: Distribution of publications by years and number of citations
 Source: Scopus and WoS databases, May 2024.

Table 5: Top ten published authors and co-authorship citations (Scopus)

A.Nu.	Top published authors	Publ.	Co-authorship-authors	Publ.	Cit.
1	Humphrey, C.	7	Humphrey C., Moizer P.& Turley S.	2	272
2	Barbadillo, E.R.	3	Monroe G.G. & Woodliff D.R.	2	131
3	Salehi, M.	3	Gray G.L.,Turnerj.L.,Coram P.J. & Mock T.J.	1	86
4	Akther, T.	2	Haniffa R. & Hudaib M.	1	65
5	Alwardat, Y.A.	2	Gold A., Gronewold U. & Pott C.	1	56
6	Bastos, M.A.	2	Nazri Fadzly M. & Ahmad Z.	1	55
7	Benamraoui, A.	2	Ruhnke K. & Schmidt M.	1	54
8	Benau, M.A.G.	2	Chye Koh H. & Woo E.S.	1	53
9	Chye Koh, H.	2	Best P.J.,Buckby S. & Tan C.	1	50
10	Coram, P.J.	2	Dixon R., Woodhead A.D. & Sohliman M.	1	38

* Citations in Scopus are given on publication based.

Source: Scopus database, May 2024

Table 6: Top ten published authors and co-authorship citations (WoS)

Yazar	Co- authors	Single authors	Total Publications	Authors*	Publications	Citation
Lee, T.H.	6	-	6	Coram, Paul. J.	2	94
Ali, A.Md.	5	-	5	Gray, Glen L.	1	76
Salehi, M.	3	2	5	Mock, Theodore J.	1	76
Gloeck, J.D.	4	-	4	Turner, Jerry L.	1	76
Xu, F.J.	2	-	2	Gold, Anna	1	48
Akther, T.	2	-	2	Gronewold, Ulfert	1	48
Coram, P.J.	2	-	2	Pott, Christiane	1	48
Masoud, N.	-	2	2	Ruhnke, Klaus	1	42
Fotoh, L.E.	2	-	2	Schmidt, Martin	4	42
Lorentzon, J.I.	2	-	2	Gloeck, J.D.	4	36

* In WoS, citations are given on author basis.

Source: WoS database, May 2024

is 108. While the number of publications per author is 1.95, the number of authors per publication is 0.51. Publication and co-authorship citation information of the first 10 authors are given in Table 6. Lee, Teck Heang is the most prolific name in publication and co-authoring (6 pb.). The others are Ali, A.Md. (5 pb.), Salehi, M. (5 pb.) and Gloeck, J.D. (4 pb.). Lee is the primary author in 5 of 6 co-authored publications. Lee co-authored with Ali Azham in 5 publications and with Gloeck, J. D. in 4 publications. His publications were published between 2007 and 2010. Salehi (2011 and 2016) and Masoud (2017) are the authors of 2 solo publications in Wos. Coram, Paul. J. (94 cit.) is the author with the highest number of citations in co-authoring.

Countries of Publications, Country Co-Authorships And Country Citations

According to the results of the analysis performed to see the publication performances, collaboration results and geographical trends of the countries on AEG; In Scopus, 98 publications represent 34 countries in total, while 60 publications in WoS represent 31 countries (Table 7). The number of overlapping countries is 29. The countries that do not overlap in Scopus are Indonesia, Morocco, Sri Lanka and Italy, while Ghana and Thailand in WoS. The top 5 countries in both databases are Malaysia, Iran, Netherlands, Australia and France. In Scopus; United Kingdom (19 pb.), Australia (11 pb.), Iran, Malaysia, Netherlands and Spain (6 pb.) are the leading countries. The most cited countries were United Kingdom (531 cit.), Australia (346 cit.), Netherlands (200 cit.), Singapore (127 cit.) and Germany (110 cit.)

Table 7: Country co-authorships and country citations of publications (Scopus)

C.Nu.	Country	Publications	Cited countries	Number of citations
1	United Kingdom	19	United Kingdom	531
2	Australia	11	Australia	346
3	Iran	6	Netherlands	200
4	Malaysia	6	Singapore	127
5	Netherlands	6	Germany	110
6	Spain	6	United States	96
7	USA	5	Bangladesh	79
8	Undefined	5	Malaysia	68
9	France	5	Spain	41
10	New Zealand	4	Egypt	38
24	Others	52	Others*	313
34	TOTAL	125**	TOTAL	1.949
*Other countries respectively (continuation of column 2); Jordan, Singapore, Sweden, Vietnam, Bangladesh, Indonesia, Portugal, Saudi Arabia, Canada, China, Germany, Morocco, Poland, Sri Lanka, Cameroon, Egypt, Mozambique, Italy, Malta, South Africa, Tunisia, Nigeria, Romania and Lebanon.				
** Since the number of countries is calculated more than once in publications with co- authors, the number of country views is higher.				

Source: Scopus database, May 2024

Table 8: Countries of publications, country co-authorships and country citations (WoS)

P.Nu.	Countries of publications	Publications	Publications of countries	Publications	Cited countries	Citations
1	Iran	6	Malaysia	8	Netherlands	155
2	Malaysia	3	Iran	7	Australia	107
3	France	3	South Africa	6	Germany	99
4	Netherlands	3	Netherlands	5	USA	77
5	Spain	3	Australia	4	South Africa	43
6	New Zealand	3	France	4	Iran	40
7	China; Bangladesh	2	Chine	3	England	38
8	Australia	2	Germany	3	Malaysia	37
9	South Africa	2	Sweden	3	Egypt	30
10	Malaysia; South Africa	2	Spain	3	France	19
21	Others	31	Others*	32	Others	160
31	TOTAL	60	TOTAL	78**	TOTAL	805
*Other countries respectively (continuation of column 4); England, New Zealand, Bangladesh, Jordan, Nigeria, Poland, Portugal, Usa, Vietnam, Cameroon, Canada, Egypt, Ghana, Lebanon, Malta, Mozambique, Romania, Saudi Arabia, Singapore, Thailand and Tunisia.						
** Since the number of countries is calculated more than once in publications with co-authors, the number of country views is higher.						

Source: WoS database, May 2024

The number of countries for the publications in WoS is 31. The number of publications with two country co-authors is 12 and the number of publications with three country co-authors is 3. In the country ranking of the publications (60 pb-31 countries); Iran, Malaysia, France, Netherlands, Spain and New Zealand are leading. It is seen that China; Bangladesh and Malaysia; South Africa co-author publications are 2 and other co-author publications are 1. In the publication ranking of the countries; Malaysia (8 pb.), Iran (7 pb.), South Africa (6 pb.) and Netherlands (5 pb.) come to the fore. The countries with the highest number of citations were Netherlands (155 cit.), Australia (107 cit.), Germany (99 cit.) and USA (77 cit.) (Table 8).

Detailed Citation Distribution of Publications

The detailed citation information of the authors and countries for the publications in Scopus for the years 1992-2024 is as in Table 9. The Scopus citation total of the publications is 1.508. Citations are average per year 47.12, average per item 15.39.

The authors of the top five publications with the highest number of citations and contributions to the literature are Humphrey, C., Moizer, P. & Turley, S. (1992-272 cit.), Monroe, G. S. & Woodliff, D. R. (1993-131 cit.), Gray, GL, Turner, JL, Coram, PJ & Mock, T.J. (2011-86 cit.), Haniffa R. & Hudaib, M. (2007-65 cit.) and Gold, A, Gronewold, U. & Pott, C. (2012-56 cit.).

Table 9: Authors of publications with the highest citation rankings and their citations (Scopus)

Publications		Total 98	From 1992 to 2024	
Times Cited		Total 1.508	Without self-citations: 1.419	
Citations average per year		47.12		
Average per item		15.39		
P.Nu.	Publications authors	Countries	Years	Citation
1	Humphrey, C., Moizer, P. & Turley, S.	Iran/USA	1992	272
2	Monroe, G.S. & Woodliff, D. R.	Australia	1993	131
3	Gray, GL, Turner, JL, Coram, PJ. & Mock, T.J.	USA; Australia; Netherlands	2011	86
4	Haniffa R. & Hudaib, M.	UK	2007	65
5	Gold, A, Gronewold, U. & Pott, C.	Netherlands; Germany	2012	56
6	Nazri Fadzly, M. & Ahmad, Z.	Malaysia	2004	55
7	Ruhnke, K. & Schmidt, M.	Germany	2014	54
8	Chye Koh, H. & Woo, E-S.	Singapore	1998	53
9	Best, P. J., Buckby, S. & Tan, C.	Australia/Singapore	2001	50
10	Dixon R., Woodhead A.D. & Sohliman M.	UK/Egypt	2006	38

Source: Scopus database, May 2024

Table 10: Authors of publications with the highest citation rankings and their citations (WoS)

Publication		Total 60	From 2006 to 2024				
Citing Articles		Total 325 Analyze	Without self-citations: 281 Analyze				
Times Cited		Total 507	Without self-citations: 352				
Citations average per year		28.17					
Average per item		8.45					
H-Index		11					
P.Nu.	Authors	Countries	P.Year	Cited Reference Count	Times Cited, All Databases	Times Cited, WoS Core	Average per year
1	Gray, GL, Turner, JL, Coram, PJ. & Mock, T.J.	USA; Australia; Netherlands	2011	63	102	76	5,43
2	Gold, A; Gronewold, U. & Pott, C.	Netherlands; Germany	2012	48	64	48	3,69
3	Ruhnke, K. & Schmidt, M.	Germany	2014	61	49	42	3,82
4	Dixon, R, Woodhead, AD. & Sohliman, M.	England; Egypt	2006	22	35	30	1,58
5	Litjens, R, van Buuren, J. & Vergoossen, R.	Netherlands	2015	74	26	21	2,1
6	Low, KY & Boo, E.	Singapore	2012	38	20	19	1,46
7	Coram, PJ & Wang, LY.	Australia	2021	40	18	18	3,6
8	Pourheydari, O. & Abousaiedi, M.	Iran	2011	35	20	18	1,29
9	Sidani, YM.	Lebanon	2007	28	18	17	0,94
10	Lee, TH, Gloeck, JD. & Palaniappan, A.	South Africa; Australia	2007	37	13	13	0,72
Others				2923	249	205	
TOTAL				3.369	614	507	

* Table is sorted from Citations-WoS Core Collection.

Source: WoS database, May 2024

The detailed citation information of the authors and countries for WoS publications for the years 2006-2024 is as shown in Table 10. According to the table, the number of cited publications is 325 and the total number of citations is 507. The citation average of the publications is 8.45 and the h-index value is calculated as 11. The authors

of the first five publications that received the highest number of citations and contributed to the literature are Gray, GL, Turner, JL, Coram, PJ. & Mock, T.J. (2011-76 cit.), Gold, A, Gronewold, U. & Pott, C. (2012-48 cit.), Ruhnke, K. & Schmidt, M. (2014-42 cit.), Dixon, R., Woodhead, A.D. & Sohliman, M. (2006-30 cit.) and Litjens, R., van Buuren, J.

& Vergoossen, R. (2015–21 cit.). Of these, Gray et al., Gold et al., Ruhnke, K & Schmidt, M. and Dixon et.al. are co-publication authors from both databases (bold rows).

Bibliographic Coupling – Documents and Countries

The bibliographic matching visualisation, which was first proposed by Kessler (1963) and assumes that a series of scientific articles have a meaningful relationship with each other when they have one or more references in common, is shown in Figure 3. In the Scopus bibliographic matching - document density image, it is seen that the citation density of authors with a high number of citations stands out in yellow. These authors are Humphrey et al. (1992), Monroe & Woodliff (1993), Gray, et al. (1993), Haniffa & Hudaib (2007) and Gold et al. (2012). The prominent authors in WoS are Gray (2011), Gold (2012), Ruhnke (2014) and Dixon (2006).

In the bibliographic matching - countries network visualization in Scopus, it is seen that 21 countries are located in 4 clusters (Figure 4). The first cluster countries with red network connections; Australia, Germany, Indonesia, Iran, Jordan, Malaysia, Morocco, Netherlands, New Zealand, Singapore, Sri Lanka, Sweden, USA, Vietnam, the second (green) cluster countries; Saudi Arabia, Spain, United Kingdom, the third (blue) cluster countries; Bangladesh, China, the fourth (yellow) cluster countries are Canada and France.

In WoS 18 countries are located in 3 clusters. First cluster countries with red network connection; England, France, Germany, Jordan, Malaysia, Nigeria, Poland, South Africa, Sweden, Vietnam, second (green) cluster countries; Australia, Iran, Netherlands, New Zeland, Spain, Usa and the third cluster (blue) countries are Bangladesh and China.

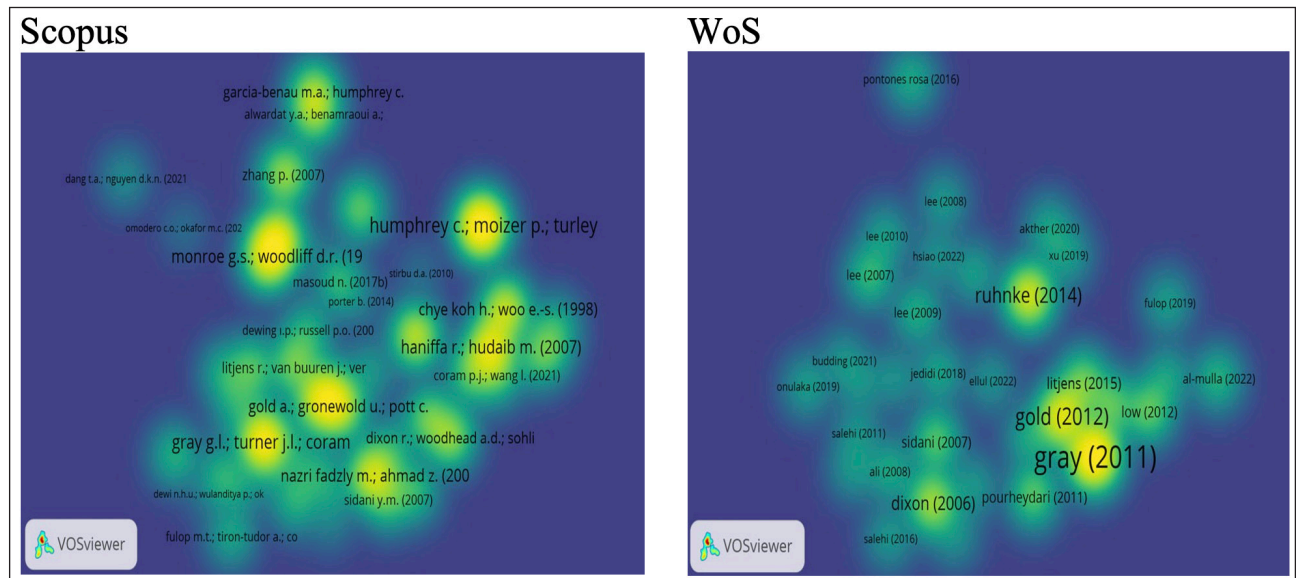


Figure 3: Bibliographic coupling - documents density visual (Scopus-WoS)

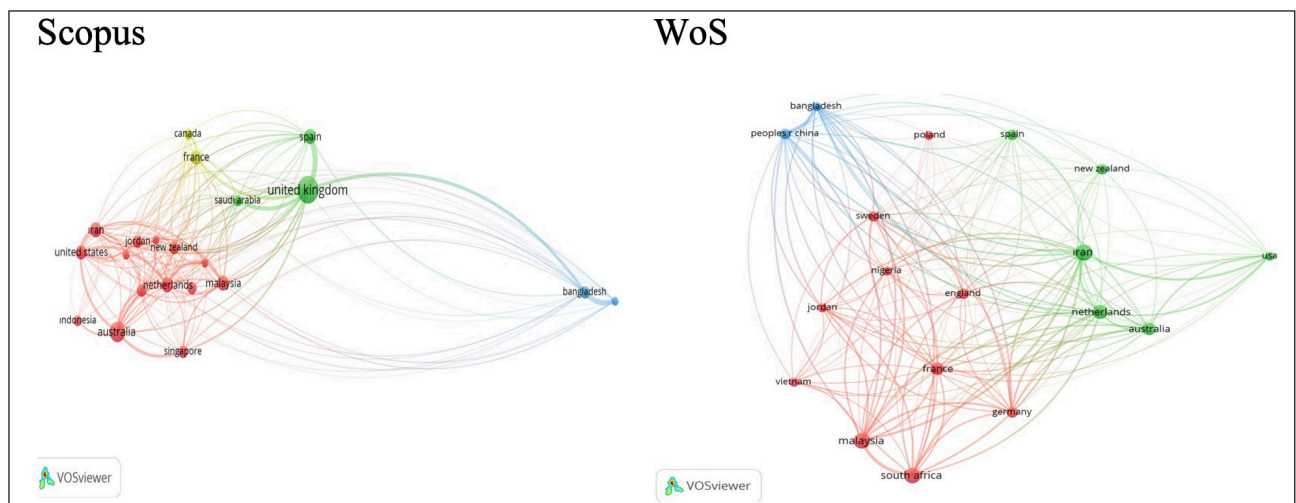


Figure 4: Bibliographic coupling - countries network visual (Scopus-WoS)

Keyword Network Visual

Keyword networks are outputs that identify and visualise the links between the keywords specified by the authors in their publications and produce some focal results for researchers. Keyword networks also provide information about the areas in which AEG research is relevant.

Figure 5 and Figure 6 show the keywords used in AEG research and their distribution according to years. It is seen that the keywords are especially concentrated between 2005-2020 (from darker to lighter). In Scopus, 47 of 255 keywords were frequently used. It is seen that AEG has strong links with the keywords auditing, auditors,

audit quality, auditor’s report, key audit matters and accounting. The keywords pointing to the main topics that will reduce AEG are, auditing standards, financial statements, experience, auditor independence and audit performance. Keywords that have become prominent in recent years (yellow colour) are key audit matters, auditing standards, auditor independence, materiality and fraud detection (Figure 5).

In WoS, 26 out of 202 keywords were frequently used. AEG has strong links with the keywords auditing, auditors, audit report and key audit matters. Other keywords pointing to key topics that would reduce AEG were audit quality, auditing standards, audit stakeholders and assurance. Key audit matters, audit quality, auditor

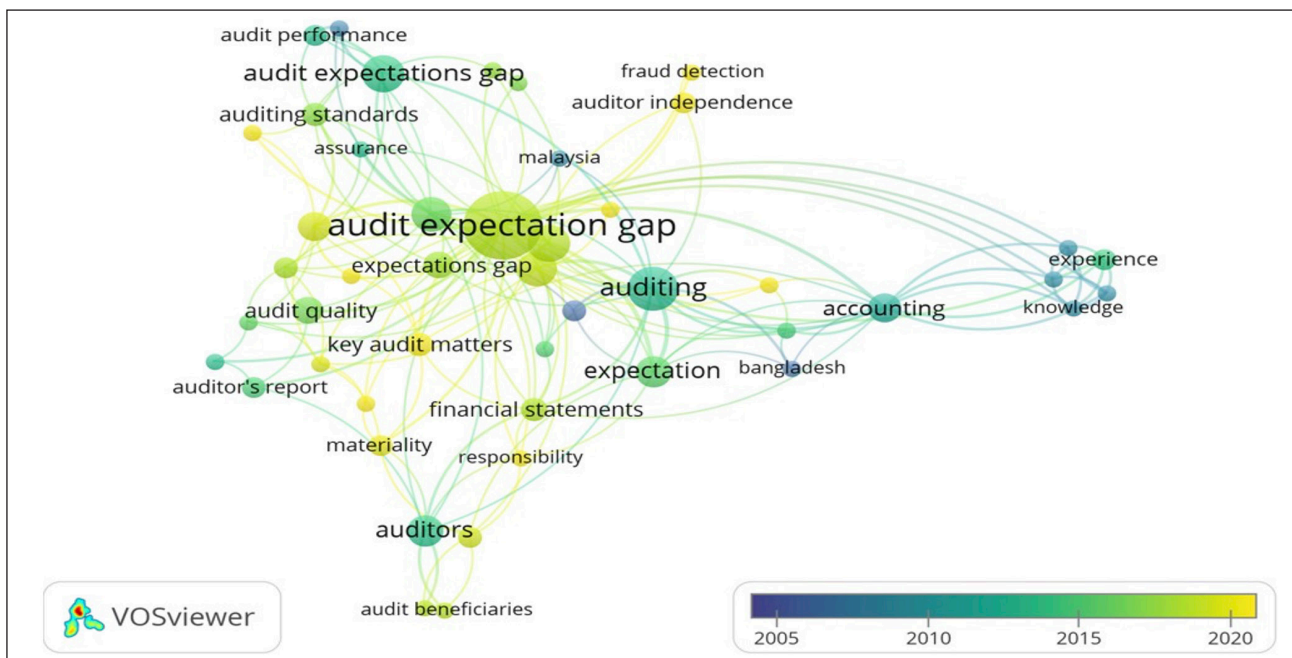


Figure 5: Co- occurrence - author keywords network visual (Scopus)

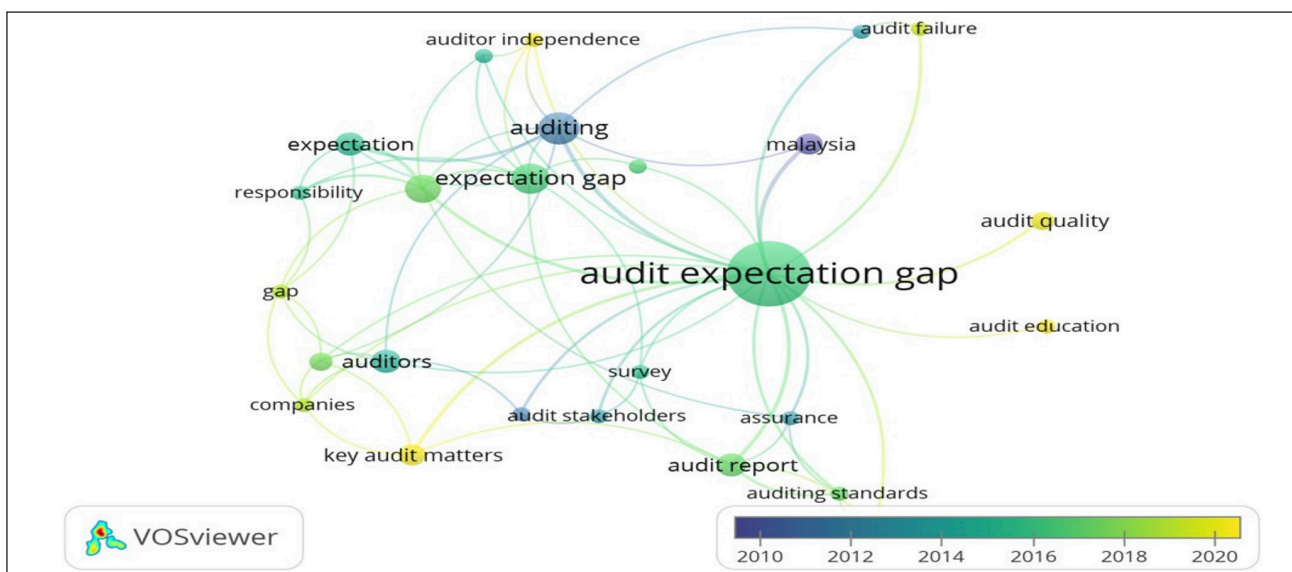


Figure 6: Co- occurrence - author keywords network visual (WoS)

independence and audit education are the keywords that stand out in recent years. (Figure 6). The common keywords pointed out in both database publications are auditors, auditor's report, key audit matters, audit standards and audit quality. The findings of the study highlighted the concepts associated with AEG.

CONCLUSIONS

Analysing the nature of AEG will provide useful information in identifying effective ways to close this gap (Lee 2007). The findings of this study are rich in two aspects. Firstly, the findings on AEG are presented through a different method. Secondly, the findings are put forward comparatively through the results of both databases. To the best of the author's knowledge, this is the first study to present both the methodology and the findings in a wide perspective. The findings of the bibliometric analysis of 117 scientific publications on AEG covering the years 1992-2024 in Scopus and 2006-2024 in WoS are as follows:

The number of journals is 63 in Scopus and 41 in WoS. A total of 77 journals were included in the study. The number of overlapping journals is 27 (35%). The number of overlapping journal publications is 54 in Scopus and 43 in WoS. 42.9% of the journals in Scopus and 65.9% of the journals in WoS overlap. Publications per journal are 1.6 in Scopus and 1.5 in WoS. It is seen that Scopus stands out in terms of journal coverage. The journal with the highest number of publications in Scopus is *Managerial Auditing Journal* (10 pb.), while in WoS it is *International Journal of Auditing* (7 pb.). The journal is also ranked second in Scopus.

The number of publications is 98 in Scopus and 60 in WoS. A total of 117 publications were included in the research. The number of overlapping publications is 41 (35%). 42% of the publications in Scopus and 68% of the publications in WoS overlap. Scopus stands out in terms of journal and publication coverage.

The number of Scopus authors is 159. In the research, 19 single-authored and 78 multi-authored publications were found. While the number of publications per author is 1.64, the number of authors per publication is 0.61. The number of authors in WoS is 117. In the research, 11 single-authored (9 authors) and 78 multi-authored publications were found. While the number of publications per author is 1.95, the number of authors per publication is 0.51.

In both databases, the most published year was 2020 and the most cited year was 2023. It was noticed that the number of publications and citations in both databases

has been increasing in recent years and approximately 40% of the publications have been published in the last five years. Humphrey, C. in Scopus and Lee, T.H. in WoS stand out as the most productive name in publication and co-authorship.

The number of countries for publication is 34 in Scopus, 31 in WoS and the overlapping number is 29. In Scopus, United Kingdom and Australia lead both in the number of publications and citations. In WoS, Malaysia and Iran are leading in the number of publications, and Netherlands and Australia are leading in the number of citations.

The citation total of the publications in Scopus is 1.508, citations average per year 47.12, average per item 15.39. In WoS, the total number of citations is 507, citations average per year 28.17, average per item 8.45 and h-index value is 11. In Scopus, the most highly cited and the most contributing authors are Humphrey, Moizer & Turley (1992), Monroe & Woodliff (1993) and Gray, Turner, Coram & Mock (2011). WoS authors are Gray, Turner, Coram & Mock (2011), Gold, Gronewold & Pott (2012) and Ruhnke & Schmidt (2014).

In the keyword network analysis, 47 of 255 keywords were frequently used in Scopus and AEG was found to have strong links with the keywords auditing, auditors, audit quality, auditor's report, key audit matters and accounting. In WoS, 26 of 202 keywords were frequently used and AEG was found to have strong links with the keywords auditing, auditors, audit report and key audit matters. The audit report is the most important and only means of communication between users of financial information and auditors. All kinds of arrangements for the report (enriching its content, making it more transparent, understandable, informing/educating users, etc.) play an important role in narrowing the AEG. In addition, the concepts of auditing standards, accounting standards, financial statements, experience, auditor independence, audit performance, materiality, audit fees and assurance are key words that draw attention with AEG.

When the results are evaluated as a whole, it is seen that Scopus is more prominent in representing the AEG literature.

This study has important findings and thus contributions in many respects. First, it is the first study to evaluate the impact/interactions of AEG research in terms of both databases. It presents the historical development of AEG literature according to a specific geography and type of information source. The findings are informative and

have practical implications. It shows researchers the focal points and trends of AEG. They provide ideas to guide new research approaches. It also helps to understand the coverage of both the existing literature and the relevant databases through the themes, co-occurrences and co-operation networks revealed.

AEG is a multidisciplinary concept and in this study, it is addressed from the perspective of accounting audit. In the Scopus database research, 898 publications were found in 21 subject areas in the "All fields - "Audit Expectation Gap" search. In WoS, this number is again 60. In future studies, AEG can be examined from a multidisciplinary perspective, analysed with different techniques and data can be compared. Secondly, although studies on AEG have increased in recent years, it is seen that the number of studies in the field is quite low in the relevant databases. For example, the relevant databases do not include studies from Turkey and many other countries that provide evidence on AEG. It would be valuable to contribute to the literature in these aspects. Thirdly, the research has limitations besides its originality. Different databases such as Google Scholar and Dimensions were ignored in the research. Therefore, researches covering different databases will be complementary to the current findings. Fourthly, field research can be conducted on the concepts related to AEG underlined in the findings of the research.

END NOTES

- ¹ Audit refers to "independent audit" and auditor refers to "independent auditor".
- ² The WoS Core Collection was used as the primary source of the WoS database. It will be referred to as WoS in the rest of the research.
- ³ Data calculated according to Traditional overlap (TO) and Relative overlap (see, as cited in Sánchez, Del Río & García, 2017: 10).

REFERENCES

- Adeyemi, S. B., & Uadiale, O. M. (2011). An empirical investigation of the audit expectation gap (AEG) in Nigeria.
- Agustí, M. A. & Orta-Pérez, M. (2022). Big data and artificial intelligence in the fields of accounting and auditing: A bibliometric analysis. *Spanish Journal of Finance and Accounting/Revista Española De Financiación Y Contabilidad*, 1-27.
- Akther, T., & Xu, F. (2020). Existence of the audit expectation gap and its impact on stakeholders' confidence: The moderating role of the financial reporting council. *International Journal of Financial Studies*, 8(1), 4.
- Aytaç, A. & Gençoğlu, Ü. G. (2020). Key audit matters: A perspective based on bibliometric analysis. *Muhasebe Bilim Dünyası Dergisi*, 22(3), 547-562.
- Baron, C. D., Johnson, D. A., Searfoss, D. G. & Smith, C. H. (1977). Uncovering corporate irregularities: are we closing the expectation gap? *Journal of Accountancy* (pre- 1986), 144(000004), 56.
- Behrend, J., Eulerich, M., & Wood, D. A. (2022). The Intellectual Structure of Audit Committee Research: A Bibliometric Analysis (1969–2020). Available at SSRN 3496040. <http://Dx.Doi.Org/10.2139/SSrn.3496040>
- Best, P. J., Buckby, S., & Tan, C. (2001). Evidence of the audit expectation gap in Singapore. *Managerial Auditing Journal*, 16(3), 134-144.
- Broadus, R. N. (1987). Toward a definition of "bibliometrics" scientometrics, Vol. 12. Nos 5-6, 373-379. Access address: <https://link.springer.com/content/pdf/10.1007/BF02016680.pdf>, 16.09.2022.
- Campbell, D. R. & Michenzi, A. R. (1987). Revising the audit report: A response to the expectation gap. *The CPA Journal*, New York Vol. 57, Iss. 4:34.
- Ciger, A. (2020). Audit quality: A bibliometric analysis (1981-2020). *Scientific Annals of Economics and Business*, 67(4), 473-494.
- Conceptual Framework for Financial Reporting. (2018). Access address: <https://www.kgk.gov.tr/>, 14.05.2024.
- Cohen Commission (1978). Report of the commission on auditors' responsibilities; conclusions and recommendations, New York: American Institute of Certified Public Accountants. Access address: https://egrove.olemiss.edu/aicpa_assoc/433 16.09.2022.
- Cruceana, A. C. (2021). A bibliometric analysis of the audit quality at global level. *Accounting and Management Information Systems (AMIS)*, 316-331.
- Deepal, A. G., & Jayamaha, A. (2022). Audit expectation gap: a comprehensive literature review. *Asian Journal of Accounting Research*, 7(3), 308-319.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285-296.
- Dönmez, G., Tosunoğlu, B., & Cengiz, S. (2020). Bağımsız denetim kalitesi konusunda ulusal ve uluslararası dergiler üzerine bibliyometrik bir araştırma. *The Journal of International Scientific Researches*, 5(Ek), 78-86.
- Enago Akademi. (2021). Popüler veri tabanları hakkında hızlı kılavuz. Access address: <https://www.enago.com.tr/academy/popular-databases-for-researchers/?ga=2.84549853.594312023.1634629811-217887020.1631020895-8798258#>, 14.05.2024.
- Fotoh, L. E., & Lorentzon, J. I. (2023). Audit digitalization and its consequences on the audit expectation gap: A critical perspective. *Accounting Horizons*, 37(1), 43-69.
- Gold, A., Gronewold, U., & Pott, C. (2012). The ISA 700 auditor's report and the audit expectation gap–Do explanations matter?. *International Journal of Auditing*, 16(3), 286- 307.
- Gonthier-Besacier, N., Hottegindre, G., & Fine-Falcy, S. (2016). Audit Quality Perception: Beyond the 'Role-Perception Gap'. *International Journal of Auditing*, 20(2), 186-201.
- Gray, G. L., Turner, J. L., Coram, P. J., & Mock, T. J. (2011). Perceptions and misperceptions regarding the unqualified auditor's report by financial statement preparers, users, and auditors. *Accounting Horizons*, 25(4), 659-684.
- Keleş, D. (2022). İç denetim konusundaki uluslararası çalışmaların görsel ağ haritalaması destekli bibliyometrik analizi. *Uşak Üniversitesi Uygulamalı Bilimler Fakültesi Dergisi*, 2(1), 42-58.
- Kessler, M. M. (1963). Bibliographic coupling between scientific papers. *American Documentation*, 14(1), 10-25.

- Kurbanova, M., & Cavlak, H. (2021). Blokzincir ve denetim alanındaki makalelerin bibliyometrik analizi. *Tide Academia Research*, 3(2), 213-246.
- Lee, T. H., Gloeck, J. D., & Palaniappan, A. K. (2007). The audit expectation gap: an empirical study in Malaysia. *Southern African Journal of Accountability and Auditing Research*, 7(1), 1-15.
- Liggio, C. D. (1974). The expectation gap: the accountant's waterloo. *Journal of Contemporary Business*, Vol. 3, No. 3, ss. 27-44.
- Lin, Z. J., & Chen, F. (2004). An empirical study of audit 'expectation gap'in the People's Republic of China. *International Journal of Auditing*, 8(2), 93-115.
- Maggiorani, M. (2022). A systematic and bibliometric review of the audit quality in the public sector. *International Journal of Business Innovation*, 1(1), e27682. <https://doi.org/10.34624/ijbi.v1i1.27682>
- Marques, R.P. & Santos, C. (2017). Sürekli denetim üzerine araştırma: bibliyometrik bir analiz. 12th Iberian Conference on Information Systems and Technologies (CISTI). Ieee. Doi: 10.23919/CISTI.2017.7976048
- McEnroe, J. E., & Martens, S. C. (2001). Auditors' and investors' perceptions of the "expectation gap". *Accounting Horizons*, 15(4), 345-358
- Moroney, R., Campbell, F. & Hamilton J. (2017). *Auditing: a practical approach*. 3rd Edition, John Wiley & Sons Australia, Ltd.
- Olojede, P., Erin, O., Asiriwa, O., & Usman, M. (2020). Audit expectation gap: an empirical analysis. *Future Business Journal*, 6, 1-12.
- Öztürk, S. & Yılmaz, C. (2018). Denetim ve adli muhasebe alanındaki çalışmaların bibliyometrik analiz tekniği ile incelenmesi. *Karadeniz Uluslararası Bilimsel Dergi*, 39(39), 173-188.
- Özçelik, M. (2022). Muhasebe ve denetim alanında bilgi uçurma (whistleblowing) niyetini etkileyen faktörler: bibliyometrik ve sistematik bir analiz. *Sayıştay Dergisi*, 33(125), 257- 289.
- Pierce, B. & Kilcommins, M. (1996). The audit expectations gap: the role of auditing education, DCU Business School Research Paper Series, Paper No. 13, ss.3.
- Pizzi, S., Venturelli, A., Variale, M., & Macario, G. P. (2021). Assessing The Impacts Of Digital Transformation On Internal Auditing: A Bibliometric Analysis. *Technology in Society*, 67, 101738.
- Porter, B. (1993). An empirical study of the audit expectation-performance gap. *Accounting and business research*, 24(93), 49-68.
- Pourheydari, O., & Abousaiedi, M. (2011). An empirical investigation of the audit expectations gap in Iran. *Journal of Islamic Accounting and Business Research*, 2(1), 63- 76.
- Pranckutė, Raminta. "Web of Science (WoS) and Scopus: The titans of bibliographic information in today's academic world." *Publications* 9.1 (2021): 12.
- Pritchard, A., & Wittig, G. R. (1981). *Bibliometrics*. Watford: ALLM Books.
- Ruhnke, K., & Schmidt, M. (2014). The audit expectation gap: existence, causes, and the impact of changes. *Accounting and Business research*, 44(5), 572-601.
- Salehi, M. (2007). Reasonableness of Audit Expectation Gap: Possible Approach to Reducing. *ICFAI Journal of Audit Practice*, 4(3).
- Salehi, M., Mansoury, A., & Azary, Z. (2009). Audit independence and expectation gap: Empirical evidences from Iran. *International Journal of Economics and Finance*, 1(1), 165-174.
- Salehi, M. (2011), Audit expectation gap: Concept, nature and trace, *African Journal of Business Management* Vol. 5(21), pp. 8376-8392, 23 September, <http://www.academicjournals.org/AJBM>
- Salehi, M., Jahanbin, F., & Adibian, M. S. (2020). The relationship between audit components and audit expectation gap in listed companies on the Tehran stock exchange. *Journal of Financial Reporting and Accounting*, 18(1), 199-222.
- Sánchez, A. D., Del Río, M. D. L. C., & García, J. Á. (2017). Bibliometric analysis of publications on wine tourism in the databases Scopus and WoS. *European Research on Management and Business Economics*, 23(1), 8-15.
- Secinaro, S., Dal Mas, F., Brescia, V. & Calandra, D. (2021). Blockchain in the accounting, auditing and accountability fields: A bibliometric and coding analysis. *Accounting, Auditing & Accountability Journal*.

- Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, 126, 5113-5142. https://www.elsevier.com/products/scopus?dgcid=RN_AGCM_Sourced_300005030/products/scopus?dgcid=RN_AGCM_Sourced_300005030, 14.05.2024.
- Sikka, P., Puxty, A., Willmott, H., & Cooper, C. (1998). The impossibility of eliminating the expectations gap: some theory and evidence. *Critical perspectives on accounting*, 9(3), 299-330. <https://www.scopus.com/search/form.uri?display=basic#basic>, 18.05.2024.
- Silva, R., Inácio, H., & Marques, R. P. (2022). Blockchain Implications For Auditing: A Systematic Literature Review And Bibliometric Analysis. *The International Journal Of Digital Accounting Research*, 22(28), 163-192.
- Taki, M., Rahmawati R., Bandi B., Payamta P. & Rusydiana, A.S. (2021). Audit Quality Research: A Bibliometric Analysis. *Library Philosophy And Practice (Ejournal)*.
- Turkish Accounting Standarts (TAS). Presentation of Financial Statements. Access address: <https://www.kgk.gov.tr/>, 14.05.2024.
- Web of Science Core Collection Citation Report. (2024). Access address: <https://www.webofscience.com/wos/woscc/basic-search?state=%7B%7D>
- Web of Science Core Collection (2024). Access address: <https://www.webofscience.com//wos/woscc/basic-search?state=%7B%7D>
- Van Eck, N. J., & Waltman, L. (2011). Text mining and visualization using VOSviewer. *arXiv preprint arXiv:1109.2058*, <https://doi.org/10.48550/arXiv.1109.2058>
- Van Leeuwen, T. (2004). Descriptive versus evaluative bibliometrics. *Handbook of quantitative science and technology research: The use of publication and patent statistics in studies of S&T systems*, 373-388.
- Yan, L., & Zhiping, W. (2023). Mapping the literature on academic publishing: a bibliometric analysis on WOS. *Sage Open*, 13(1), 21582440231158562.
- Yuan, X. E., & Liu, Y. (2016, August). Causes and Control of Dynamic Audit Expectation Gap. In 3d International Conference on Applied Social Science Research (ICASSR 2015) (pp. 424-426). Atlantis Press. <https://clarivate.com>, 14.05.2024.

Social Impact Analysis: An Evaluation of Aibs Located in Bursa in the Context of Facebook Social Media Platform

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ABSTRACT

CSOs are critical actors in terms of economic, social, cultural and political activities. The externality they have created makes important contributions to the development and change of society in various aspects. From the industrial point of view, it is observed that the participation of entrepreneurs and professionals in the Associations of Industrialists and Businessmen (AIBs) is gradually increasing. However, as a CSO, it remains unclear to what extent AIBs are effective and to what rate they create social benefits. In this context, this study aims to analyse the social impacts of the AIBs located in Bursa. In this study, the effectiveness levels of the AIBs were analysed using qualitative research methods via the Facebook social media platform. For this purpose, the Facebook accounts of the 97 AIBs located in Bursa were reviewed, a total of 31,663 posts were analysed, and the posts were coded according to various categories. In addition, data on critical codes were also recorded and used as evidence in evaluations. The most remarkable finding of the study is that AIBs are far from trying to influence society strongly in the "economy" category, which can be expressed as the reason for their existence. On the other hand, the findings reveal that AIBs intend to influence society mainly through education, information, and stakeholder relations management.

Keywords: Social Impact, Associations of Industrialists and Businessmen, Effectiveness in Civil Society Organizations, Social Media, Facebook.

JEL Classification Codes: L3, L30, L31

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INTRODUCTION

The term civil society organization, or CSO, was first defined in 1945 by the United Nations Council as all international organizations that are not based on interstate agreements. The term was used synonymously with the term "non-governmental organization," and many institutions ranging from orchestras, research institutes, religious structures, daycare centres, guidance institutions and hospitals were included in this definition (Mostashari, 2005). In terms of its historical development, there are many definitions that emphasize different aspects of the CSO phenomenon. According to Akçadağ (2011), CSOs include structures and activities such as associations, foundations, etc., which operate outside the areas dominated by the state and are formed by voluntary citizens coming together within the framework of their common wishes and desires. Yerasimos (2001) defines CSOs as horizontal organizations established by individuals with equal contributions and responsibilities and working towards a common goal, while Kongar

(1991) defines CSOs as voluntary organizations developed with a sense of citizenship outside the formal organization of the state. In general, CSOs are non-profit organizations that work for the benefit of society and form public opinion in this direction, contribute to the solution of problems and develop a culture of pluralism and participation, have a democratic functioning, and consist of individuals who come together voluntarily (Aslan & Kaya, 2004). Another source (Teegen et al., 2004) defines CSOs as private organizations that operate in social, political, economic fields such as education, health, environmental protection, human rights, and advocate for social interests in these fields. The common conclusion that emerges from the definitions is that CSOs are non-profit organizations and are entirely oriented toward social goals. CSOs, by their very nature, operate in many different social fields. For example, CSOs are important actors in many critical and diverse issues such as focusing on values such as justice, equality, human rights, solidarity (Hall & O'Dwyer), supporting

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disadvantaged groups such as people with disabilities, socially excluded, minorities, the elderly (Anheier, 2000), democracy, good governance, poverty alleviation, women's empowerment, infectious diseases (Alekhue & Segiru, 2018).

CSOs are organizations that work to improve the general welfare of society and find solutions to social problems. Therefore, CSOs are organizations that are expected to create social impact. It is not possible to find a single agreed definition of social impact in the relevant literature. This is due to the fact that the concept of social impact is discussed from different perspectives in different disciplines. The phenomenon of social impact is defined in psychology literature as a change in individual feelings and thoughts (Latane, 1981; Nowak et al., 1990), while in sociology (Freudenburg, 1986), it focuses on the potential positive or negative effects of social activity. In the field of management (Maas & Liket, 2011; Grieco et al., 2015; Rawhouser et al., 2019; Siemieniako et al., 2021), it can be conceptualized as the outcome of an organization's activities to create social value for society. An organization's social impact can be defined as the possible consequences or outcomes of organizational activities on the development of individuals and society (Perrini & Vurro, 2013; Rakhmatullayeva et al., 2020). Hadad and Gauca (2014) define social impact as positive, meaningful, and sustainable changes and actions that benefit society in general and disadvantaged groups in particular. Social impact measurement is the process of identifying the social outputs and potential impacts arising from the activities of organizations with a specific methodology (Burdge & Vanclay, 1996). Social impact measurement is important in terms of revealing the distance travelled by an organization, identifying areas for improvement, and determining the potential to use resources in a way that creates maximum impact. It is seen that organizations that can manage the social impact measurement process correctly can build their long-term impact strategies more effectively and create a transparent and reliable image toward all potential stakeholders (Mütügil Yağın et al., 2016).

A review of the social impact measurement literature reveals that there are multiple classifications of social impact measurement. Maas and Liket (2011), Clark et al. (2004), Grieco et al. (2015), Rinaldo (2010), Arena et al. (2015), and Zippala and Lyons (2009) can be cited as examples.

Whether CSOs as institutions have the expected social impact remains a matter of curiosity. The ability

of civil society organizations (CSOs) operating in diverse fields to produce social outcomes is a critical issue that requires scrutiny. Social media platforms are undoubtedly one of the channels where CSOs can be seen to be active. This research seeks to identify the possible social impact of CSOs through the posts made on social media platforms.

As it is known, the use of social media platforms is gradually increasing (Bozkurt & Sadedil, 2021). It is clear that social media platforms have different characteristics from traditional media tools (TV, Radio, Newspapers, Magazines, etc.). It is observed that social media platforms are preferred over traditional media tools because they provide more social interaction opportunities (Bendaş, 2022). Participants often create, share, or evaluate the content on social media platforms. In this respect, social media platforms enable more accessible and faster sharing of different thoughts and perspectives among various segments of the society, and provide an opportunity for the content subject to sharing to reach wider audiences (Komito & Bates, 2009). The bond established between organizations and target audiences through social media platforms significantly increases the effectiveness of corporate activities. On the other hand, digital platforms also create added value in disseminating the organization's goals and mission to the target audience and mediate the free announcement of events and actions that mainstream media organizations ignore (Abdülmeçid, 2020).

Based on the idea that social media platforms are a tool to increase the social impact capacity of CSOs, this study aims to analyse the social impact capacity of Associations of Industrialists and Businessmen (AIBs) operating in a specific geographical area (Bursa) through their Facebook social media accounts. According to data from the Provincial Directorate of Civil Society Relations, there are 5300 CSOs in Bursa, but this research is limited to AIBs. Within this wide range of CSOs, it was decided to conduct the study on AIBs, considering that they function more actively than many other forms of civil organizations, that they are a critical component of the economic chain, that their relative intensity of activity is at an advanced level compared to many forms of CSOs, and that they contain a vital segment (entrepreneurs, professional managers, etc.) that will contribute to the research in terms of providing data and receiving opinions (Kalkavan, 2020; Danişman, 1997).

SOCIAL IMPACT AND SOCIAL IMPACT MEASUREMENT

It is assumed that CSOs are created to meet a specific need or problem. It is, therefore, necessary to verify whether such organizations achieve the expected results (social impact) and whether these results impact the social environment in which the organization operates (social impact measurement). As social impact is a multifaceted concept, it can mean different things in different contexts (Onyx, 2014). Santos (2012) defines social impact as "positive social change". Gezon (2014), who explores the impacts associated with a tourist intensification program in specific regions of Madagascar, sees social impact as community development and improved quality of life. On the other hand, Vanclay (2003) defines social impact as all events that directly or indirectly affect people (lifestyles, culture, political systems, environment, health and well-being, personal and property rights, etc.) and all changes that occur in the context of these events. Klochikhin (2012) sees social impact as effects related to innovation and technological development, while Wichmann (2017) discusses social impact in the context of sporting events. Mushtaque et al. (2004), who investigate the impact of microfinance, consider social impact as a specific goal (e.g., poverty reduction) planned by organizations, while Gilligan and Golden (2009) link social impact to the concept of social profit in a more economic interpretation. Considering the field of business management and accounting, authors such as Nicolopoulou et al. (2017) and Sigala (2016) define social impact as the ability to create social value and meet social needs. Pawluczuk et al. (2019) examine the technological domain and conceptualize social impact as the development of digital skills. As can be seen from the basic definitions above, social impact is handled in different ways in different disciplines; therefore, it does not seem possible to make a single common definition.

Social impact measurement, another important concept in this study, refers how a CSO achieves a social goal, analyses a social change, and monitors the possible outcomes. Social impact measurement is an important tool used by CSOs to track social goals, analyse social change, and be results-oriented. In this context, social impact measurement and its results indicate which areas CSOs should focus more on and enable them to take a strategic position to provide better services to society (Hadad & Gauca, 2014). Since social impact measurement and the outputs achieved will determine which areas CSOs should focus on, it will allow all organizational resources to be used in the "intended" areas, ensuring

the effective use of resources, and thus positively reflecting on the performance of the organization (Burdge & Vanclay, 1996). In other words, social impact measurement is a critical practice to increase the legitimacy of a CSO in the eyes of its stakeholders (Kocollari & Lugli, 2020). Social impact measurement can also help reduce information asymmetry between CSOs and their stakeholders (Haski-Leventhal & Mehra, 2016). According to Dunn and Mathews (2001), CSOs engage in social impact measurement in order to provide excellent services to their beneficiaries, to increase the motivation of their human resources by creating spaces for learning and development, to raise funds, and to increase their level of accountability and transparency in the eyes of society.

Despite its many added values, social impact measurement remains an area that CSOs need help implementing. Carman (2007) notes that only some CSOs have systematically adopted and applied any social impact measurement tool. A study of 237 CSOs in Chicago (Thomson, 2010) provides evidence that the majority of CSOs do not make significant use of any social impact measurement tool. Mütügil Yalçın et al. (2016) state that CSOs in Turkey do not follow a systematic process for social impact measurement, and instead of social impact measurement, they try to manage their social impact processes through simple reports. Hoefer (2000) points out that social impact measurement and all related activities require a certain number of resources and emphasizes that CSOs do not have sufficient resources to conduct systematic social impact measurement.

SOCIAL MEDIA PLATFORMS IN THE CONTEXT OF SOCIAL IMPACT

Social media platforms (Facebook, Twitter, Instagram, LinkedIn, etc.) are one of the current technological tools used by CSOs to create social impact. Many studies on CSOs' use of social media can be found in the relevant literature. In their study of 75 US-based international CSOs, Seo et al. (2009) argue that social media platforms serve two important functions; improving corporate image and generating financial resources. In their study, Lovejoy and Saxton (2012) examined the Twitter usage practices of the 100 largest CSOs in the US and found that CSOs use the Twitter platform effectively to make public announcements, establishing two-way interaction with the community, and sharing social responsibility projects with the community. Guo and Saxton (2013), in their study of 188 CSOs' social media use practices, conclude that Twitter is a powerful communication tool and that tweets facilitate social action and support lobbying. In

another study, Ihm (2015) analysed the Twitter accounts of the 100 largest CSOs in the US and found that the use of social media strengthens two-way communication between CSOs and stakeholders. Brengarth and Mujkic (2016) underline that social media platforms are flexible information transfer interfaces that CSOs can use in times of crisis.

National research also reinforces that social media platforms are important tools for CSOs' efforts to create social impact. For example, in Şardağı's (2017) study on the use of Twitter by 178 foundations and associations in Turkey, it was found that they actively use Twitter and try to interact with their followers in this environment. In another study (Öztürk and Şardağı, 2018), it was concluded that CSOs within the scope of the research conducted their communication processes with the society mainly through the Facebook platform. In his study, Aydın (2019) states that social media platforms are an effective medium for CSOs' activities based on volunteerism (for CSOs to receive the support of volunteers and use the power they obtain from them). Çiftçi (2020) examined the social media usage practices of CSOs founded predominantly by women in the Turkish Republic of Northern Cyprus and found that they mostly use Facebook social media platforms to spread awareness of gender equality. Bozkanat (2020) conducted a content analysis on the posts shared on the Facebook page of the Green Crescent, one of the oldest CSOs in Turkey, for one year and found that the Green Crescent uses the Facebook platform to participate in its activities, disseminate information and announce its activities to the target audience. Vona Kurt (2021) analyses the use of Twitter by health CSOs and finds that despite its potential to encourage interaction with stakeholders, it is not used effectively by CSOs. Silsüpür and Övüç (2022) state in their study that women founded CSOs use their corporate Instagram and Twitter accounts to raise awareness of violence against women and femicides.

Despite the many functions mentioned above and seen in the relevant literature, it should be addressed that social media platforms are not used as effectively as desired in terms of creating social impact. For example, Bortree and Seltzer's (2009) study of 50 environmental advocacy CSOs and Greenberg and MacAulay's (2009) study of 43 Canadian environmental CSOs found that the opportunities offered by social media platforms such as Facebook, Twitter, and blogs were not fully utilized. Other studies (Waters et al., 2009; Aksu, 2013; Kanter and Fine, 2010; Saatçioğlu, 2017; Abdülmecid, 2020) have also found that CSOs are not effective in using social media platforms for social impact.

The explanations mentioned above and research results concerning the social impact literature are generally related

to "CSO" organizations without specifying a specific field. On the other hand, research on the "social impact and measurement" of AIBs, a form of CSO "in private," has not been found in the relevant literature. On a national scale, there are only two theses that project the AIBs. The first of these theses is on the identification of the management and organization problems of AIBs (Danışman, 1997). The second one is aimed at questioning the relationship between the core values and personality traits of the members of AIB (Kağızman, 1998). Therefore, there is no direct research on "AIB and Social Impact" either on a national scale or in an international context. In this framework, this study aims to fill this gap.

METHOD

The content analysis technique, one of the qualitative research methods, was used in the study. Content analysis is used to make reproducible and valid inferences from texts regarding their context of use (Krippendorff, 1989). Content analysis is defined as the technique of systematically summarizing the text or discourse on a subject with words or groups of words that reflect its content, categorizing it into categories, and creating codes within the rules predetermined by the researchers. As it is known, in the content analysis process, qualitative data that are similar to each other are first organized under specific themes and categories, then examined and interpreted in the form of cause-and-effect relationships, and some conclusions are reached (Eroğlu & Bektaş, 2016). In this context, the Bursa Provincial Directorate of Civil Society Relations was contacted, and the current list of AIBs (Associations of Industrialists and Businessmen) in Bursa as of 2022 was obtained. It was observed that there were 97 AIBs in total, and the entire list was included in the scope of the research. The general profile of 97 AIBs shows that their objectives, missions and fields of activity are homogeneous. Likewise, when the corporate websites of AIB organizations are examined in general terms, it will be seen that the published regulations are almost similar in terms of content. An analysis of the contents of the Regulations reveals that the organizational forms of the AIBs, their formal boards, and their stated objectives are largely similar and parallel across AIBs. Therefore, it seems possible to conclude that AIBs are symbiotic structures and should be perceived as a single CSO form. When the literature on AIBs is examined, it will be seen that AIBs are not subjected to any categorization, and in terms of public organization, they are not classified according to any criteria from the perspective of the Provincial Directorate of Civil Society Relations.

Table 1. Categories and Codes Created within the Scope of Content Analysis

Category Name	Codes
Economy	Inflation, Employment and Women Employment, Growth, Energy and Costs, Covid 19, Incentives and Supports, Housing Loan, TOGG, Exports, Foreign Exchange and Currency, Value Added Tax Rate, Minimum Wage, Reform Packages, Interest Rate Cuts, Supporting Domestic Production, Cost Increases, Digitalization, Foreign Trade, Difficulty Accessing Finance, Current Account Deficit, Entrepreneurship, Lease Agreements.
Training and Informing	Announcements, Meetings, Training and Course Activities, Summits, Seminars, Panels, Workshops, Congress, Conferences, Symposiums, Forums, Webinars, Video Conferencing, Interviews, E-Journals, E-Newsletters, Magazines, Promotional Movie and Launches, Projects, Reports, Declarations, Books.
Ecology	Earthquake, Flood Disaster, Forest Fires, Avalanche, Landslide, Recycling, Bursa Ecological System, Environmental Pollution and Waste, Paper Consumption, Greenhouse Gas Emissions, Afforestation, Hunting.
Social Responsibility	Traditional Iftar, Ashura Distribution, Helping the Needy, Vaccination and Blood Donation Campaign, Aid to Disaster Victims, Helping Children, Aid to Educational Institutions, Sapling Donation, Equality between Women and Men, Helping People with Disabilities, Aid to Health Institutions, Helping Refugees, Support for Sports Activities, Sensitivity to Social Health Issues.
Celebrations	Celebrations of Specific Days and Weeks, Celebrations Related to Religious and National Days, Motivational Posts (Good Luck, Get Well, Get Well Soon, Thank You, Congratulations, Good Day, etc.), Anniversaries of Death and Decease, Foundation Anniversary Messages, Opening Messages for the New Academic Year.
Stakeholder Relations	Member Relations, Visits, Hospitality, Relations with Public Institutions, Relations with Universities, Relations with Private Sector Organizations, Relations with Associations, Relations with Educational Institutions, Relations with Professional Chambers, Relations with Media Organizations, Social Activities to Improve Stakeholder Relations.
National and International Agenda	Martyrs, Terrorism, Accidents and Fires, War, Genocide, Attack, Explosion, International Conventions, Child Abuse and Child Murders, Violence Against Women and Femicide, Racism.

Since the research will be conducted through Facebook social media accounts, it was determined whether all the AIBs mentioned in the list have official Facebook social media accounts. The data shows that 54 (56%) AIBs have an official Facebook account, while 43 (44%) do not. Among those with official Facebook accounts, only 1 AIB did not post anything and was excluded from the scope. Therefore, the research was conducted on a total of 53 AIBs that were found to have an official Facebook account and were found to be sharing posts.

In the next research stage, we focused on the posts made on Facebook. In this context, a total of 31,663 posts published by 53 AIBs between 2006 and 2022 were included in the analysis. In the historical process, it is seen that the shares extend only until 2006. The data consists of posts between 2006 and 2022. The fact that no digital program was used during the data collection and analysis stages caused serious time losses in the subsequent stages. In addition, since the AIBs within the scope of the research frequently post on social media platforms, it was necessary to end the data collection process at a certain point. For this reason, the data collection activities of

the research were finalized as of December 2022, and the data processing process was completed in the first 6 months of 2023. In early 2024, the general framework of the study was finalized.

It is clear that the manual process of data collection and analysis is laborious. Of course, collecting and analyzing data through a digital software program will allow for much faster results. However, in this study, the data collection and analysis process was carried out manually by the author. In this context, the official Facebook accounts of 53 AIBs within the scope of the research were scanned, all posts were transferred to a Word document by the author and an inductive method was followed. The posts were read one by one and coded thematically. In other words, following an inductive method, each post on the official Facebook accounts of the AIBs operating in Bursa was analyzed separately and codes were created according to the content of the post. In the next stage, the related codes were brought together and the categories (Economy, National and International Agenda, Training and Information, Ecology, Social Responsibility, Celebrations, Stakeholder Relations) were created within the framework of AIBs' operational objectives. Three experts from the same organization agreed on the codes and categories created as a result of various interviews. In addition, frequency data for each code were also recorded. In this context, the categories and codes are given in Table 1.

VALIDITY AND RELIABILITY

Unlike quantitative research, concepts such as credibility, transferability, consistency, and confirmability are used to determine the validity and reliability of qualitative research. In addition, validity is an important factor in determining reliability in qualitative research. If the information collected in research is valid, there is a high probability of obtaining similar, if not identical, information in another research of the same type. For this reason, the issue of validity in qualitative research becomes more prioritized than the issue of reliability. (Başkale, 2016; Yıldırım & Şimşek, 2013). In this study, the "prolonged interaction" method was utilized to ensure internal validity in the context of credibility. Within the scope of this methodology, a working group consisting of AIB representatives was formed, and the activities of AIBs were discussed in intermittent meetings lasting six months. During the meetings, it was shared in detail how and in what ways AIBs affect society. Therefore, this sharing supported the content analysis's coding process and increased the coding's credibility.

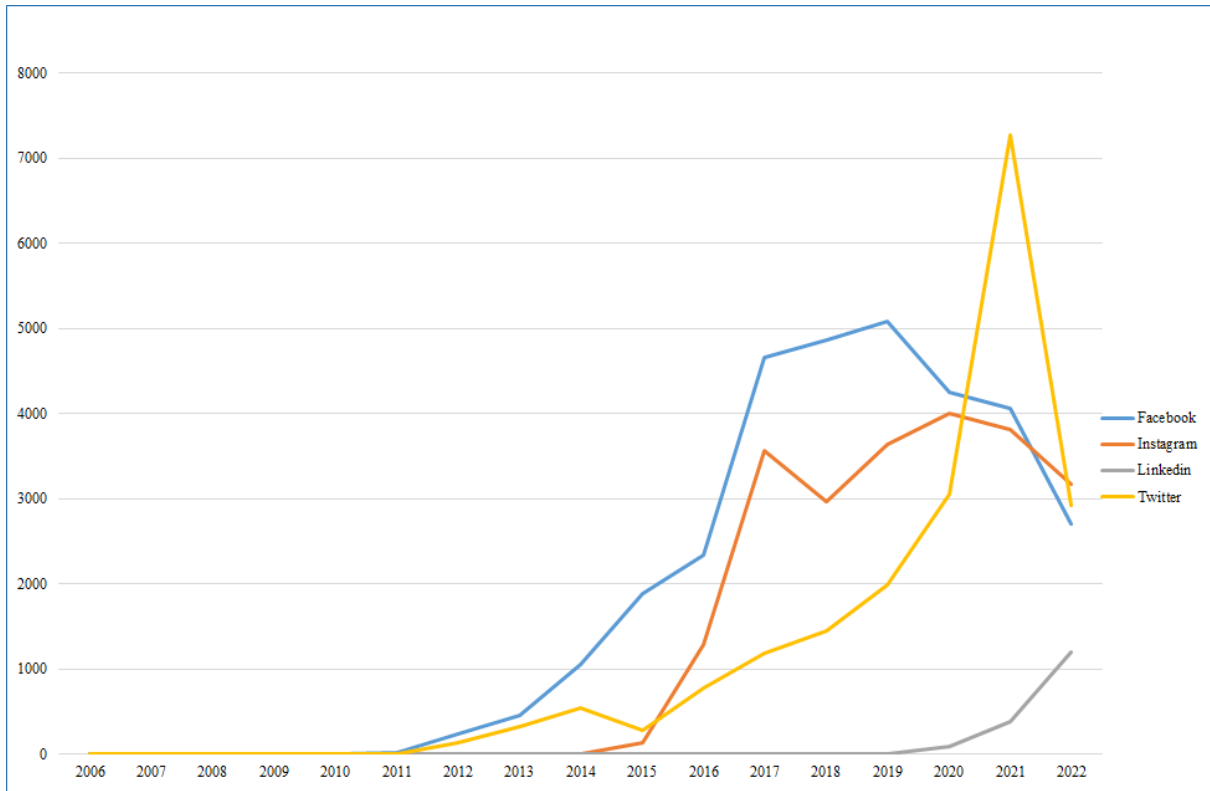
In the context of the validity of the study, another measure that can be taken in terms of credibility is to ask people who have general knowledge about the research topic and who specialize in qualitative research methods to examine the research in various dimensions (Başkale, 2016; Arslan, 2022; Creswell, 2016). In this context, the methodology, coding and categorization process, findings, analysis and discussion sections of the study were submitted to the opinions of 2 expert academics conducting scientific activities in the departments of Business Administration, Public Administration and Political Science. In order to overcome the time problem, the key points of the study were shared with the experts via e-mail and the information of each expert was consulted. E-mail correspondence continued until the revision requests were exhausted, and the process was completed when the final consensus was reached.

Similarly, the method of "detailed presentation of research methods" was also included to ensure reliability (Başkale, 2016; Yıldırım & Şimşek, 2013). In this framework, the scope of the research, the data source, the way the data were obtained, the coding and categorization of the data, the analysis and interpretation process were defined in the study in all aspects. Therefore, the level of reliability was increased by providing a detailed introduction. In addition, to ensure reliability, validity was given importance in the study based on the idea that validity guarantees reliability to a great extent, and this importance is a measure taken to ensure reliability.

FINDINGS

Levels of AIBs' Use of Social Media Tools

At this stage of the study, we aim to answer why only Facebook posts are taken into account in analysing the social impact of AIBs. For this purpose, all social media tools (Facebook, LinkedIn, Instagram, Twitter) used by 97 AIBs based in Bursa were analysed for the period 2006-2022. The total number of posts made by all AIBs on each social media tool was compared, and the social media tool with the highest number of posts was preferred. In this framework, the findings show that the AIBs within the scope of the research shared the highest number of posts on Facebook between 2006 and 2022. Therefore, this study was conducted only on Facebook social media platform posts. Other social media tools and related posts were excluded from the scope of the study due to the time cost and high effort required. The comparative status of the social media tools used by AIBs in terms of the number of shares is presented in Graph 1, and the number of shares of each social media tool between 2006 and 2022 is presented in Table 2.



Graph 1. Levels of Use of Social Media Tools by AIBS Based in Bursa between 2006-2022

Table 2. Number of Social Media Posts of AIBs Based in Bursa between 2006 and 2022

Years	Facebook	Instagram	LinkedIn	Twitter
2006	2	0	0	0
2007	6	0	0	0
2008	0	0	0	0
2009	6	0	0	0
2010	4	0	0	0
2011	23	0	0	0
2012	241	0	0	128
2013	460	0	0	329
2014	1,048	0	0	539
2015	1,888	128	0	286
2016	2,346	1,283	0	781
2017	4,664	3,567	0	1,192
2018	4,866	2,960	0	1,448
2019	5,091	3,646	7	1,994
2020	4,253	4,011	95	3,050
2021	4,058	3,818	385	7,270
2022	2,707	3,176	1,201	2,920
Total Number of Shares	31.663	22.589	1.688	19.937

Table 2 shows that between 2006 and 2022, AIBs used the social media tool Facebook the most, with 31,663 posts. This is followed by Instagram, Twitter and LinkedIn, respectively. Again, when Table 2 is evaluated, it is understood that most of the posts took place after

2012. Looking at the field, it can be said that the Turkish mother tongue harmonization studies of these four social media tools are a variable that should be taken into consideration in terms of frequency of use. In other words, considering that Facebook was adapted to Turkish

Table 3. Codes and Frequencies of Facebook Posts between 2006 and 2022 by Category

Category	Codes	Frequency
Economy	Employment and Women Employment	52
	Inflation	40
	Energy and Costs	24
	Growth	17
	Covid 19	16
	Incentives and Supports	13
	Housing Loan	11
	TOGG	9
	Exports	8
	Foreign Exchange and Currency	8
	Value Added Tax Rate	8
	Minimum Wage	7
	Reform Packages	6
	Interest Rate Cuts	5
	Supporting Domestic Production	4
	Cost Increases	4
	Digitalization	3
	Foreign Trade	3
	Difficulty Accessing Finance	3
Current Account Deficit	2	
Entrepreneurship	1	
Lease Agreements	1	
Total Number of Shares		245
Training and Informing	Announcements	3.803
	Meetings	3.183
	Summits, Seminars, Panels, Workshops, Congress, Conferences, Symposiums, Forums, Webinars, Video Conferencing, Interviews	831
	Training and Course Activities	276
	E-Journals, E-Newsletters, Magazines, Promotional Movie and Launches	155
	Projects	27
	Reports	15
	Declarations	5
	Books	2
	Total Number of Shares	
Ecology	Earthquake, Flood Disaster, Forest Fires, Avalanche, Landslide	144
	Recycling	21
	Bursa Ecological System	15
	Environmental Pollution and Waste	11
	Paper Consumption	2
	Greenhouse Gas Emissions	2
	Afforestation	1
	Hunting	1
	Total Number of Shares	197

	Support for Sports Activities	116
	Sensitivity to Social Health Issues	98
	Traditional Iftar, Ashura Distribution	54
	Helping the Needy	24
	Aid to Educational Institutions	24
	Vaccination and Blood Donation Campaign	20
	Aid to Disaster Victims	17
Social Responsibility	Helping Children	17
	Sapling Donation	14
	Aid to Health Institutions	9
	Equality between Women and Men	6
	Helping People with Disabilities	4
	Helping Refugees	4
	Total Number of Shares	407
	Celebrations of Specific Days and Weeks, Celebrations Related to Religious and National Days	4.273
	Motivational Posts (Good Luck, Get Well, Get Well Soon, Thank You, Congratulations, Good Day, etc.)	1.309
Celebrations	Anniversaries of Death and Decease	548
	Foundation Anniversary Messages	122
	Opening Messages for the New Academic Year	47
	Total Number of Shares	6.299
	Member Relations	4.284
	Relations with Media Organizations	4.190
	Visits (Various Stakeholders)	3.819
	Social Activities to Improve Stakeholder Relations	2.754
	Hospitality (Various Stakeholders)	309
Stakeholder Relations	Relations with Public Institutions	147
	Relations with Universities	50
	Relations with Private Sector Organizations	46
	Relations with Associations	39
	Relations with Other Educational Institutions	19
	Relations with Professional Chambers	9
	Total Number of Shares	15.666
	Martyrs	296
	Terrorism	77
	Accidents and Fires	54
	War	40
	Genocide	27
National and International Agenda	Attack	20
	Explosion	16
	International Conventions	14
	Child Abuse and Child Murders	3
	Violence Against Women and Femicide	3
	Racism	2
	Total Number of Shares	552

in 2008, Twitter and LinkedIn in 2011, and Instagram in 2012, there is a significant difference between the global usage history and the usage history in Turkey. Therefore, on a national scale, AIBs started actively using social media tools in 2012.

Another noteworthy point in Table 2 is the deficient level of sharing on LinkedIn. Considering the direct relationship of AIBs with the business world and the mission they carry for the business world, it is a deficiency that sharing in the context of LinkedIn has not occurred at the desired intensity. In particular, the fact that LinkedIn is a direct platform for the business world increases the necessity for AIBs to come together with their stakeholders through LinkedIn. On the other hand, Facebook, Instagram, and Twitter posts are more dominant. This emphasizes the need for AIBs to use LinkedIn more.

Content Analysis of AIBs' Posts on Facebook Platform

In this phase of the study, the codes and sharing frequencies of the Facebook posts of AIBs based in Bursa between 2006 and 2022 are presented. In this phase, the AIBs' *raison d'être* and mission will be taken into account, and whether the sharing is in line with these objectives will be discussed. In other words, the extent to which AIBs serve the institutional purposes attributed to them within the framework of social impacts will be interpreted, and various inferences will be made. The codes and frequencies created based on categories are presented in Table 3.

First, the findings across all categories are presented. When the frequency data are analysed, it is seen that the most shared categories are stakeholder relations and training and informing. Subsequently, the AIBs were posted in categories such as celebrations, national and international events, social responsibility, economy, and ecology. From this point of view, considering the founding objectives of AIBs, it is understood that sharing in the categories of economy, social responsibility, and ecology is outside the desired priorities of a CSO. Given the cyclical economic downturn and negative global ecological impacts, AIBs are expected to increase their efforts to create social impact by sharing more in these areas.

Analysis of the Economy Category

When considered on a category basis, "economy-based" posts, which can be interpreted as the *raison d'être* of AIBs, should be considered in the first place.

From this perspective, it is seen that the primary agenda of AIBs based in Bursa is "employment and women's employment" in terms of the economy. Similarly, it is understood that posts on "inflation," which has negatively affected the national economic structure in recent years, have also come to the fore as it is a concept directly related to employment. On the other hand, it was found that the "growth" phenomenon related to inflation and employment problems was also evaluated within this framework, and these three related codes were used in the posts. In parallel to this, it is seen that the posts related to Covid 19 are also prominent, and it is interpreted that the Covid 19 pandemic process is associated with economic processes. Inflation and the resulting increase in input costs, and hence the rise in energy costs, constitute another of AIBs' priority sharing issues. Within the economic category, another critical issue of value for AIB organizations is the area of "incentives and supports." The fact that AIBs disseminate the content of public support and incentives provided to their members and enterprises in general, which constitute significant financial resources, is evidence that they constitute an important social impact context. This issue has been very much on the agenda of enterprises in recent years, making it essential to employ specialized project staff to benefit from incentives and support. Therefore, it is clear that any disclosure of incentives and support will impact enterprises' competitive structure. In addition, a higher frequency of sharing is desirable. However, in the economy category, various codes that show low frequency but characterize current development areas are subject to very weak sharing. In this context, it is understood that the codes of digitalization, support for domestic production, exports, and entrepreneurship are shared at a shallow level and are far from creating social impact in this area. Similarly, it is observed that the TOGG organization, which aims to produce domestic automobiles, has not been examined in the desired manner and has not been shared with society at the desired level.

Analysis of the Training and Informing Category

Training and informing are one of the most critical areas of activity for AIBs in the context of social impact. Under this category, AIBs are expected to systematically inform various social segments within the framework of their activities and contribute to the development of stakeholders through their educational activities. Therefore, it is of particular importance that this category, which will enable the transformation of the institutional environment, is subjected to a detailed evaluation in

terms of content. A closer look reveals that the AIBs within the scope of the research shared the most in the context of the announcement code. This situation should be considered quite natural. This is because, as civil society organizations, AIBs must regularly share with their stakeholders all the activities they plan within the framework of their objectives. Looking at the content of the announcements in general, it is seen that announcements regarding seminars, interviews, symposiums, webinars, etc., announcements regarding the activities of public institutions and organizations, announcements regarding the relevant AIB's board of directors, ordinary general assembly or systematic meeting announcements, announcements regarding job vacancies, announcements regarding the AIB's digital environments (website, social media accounts, cyber security, etc.), announcements regarding the activities of AIBs with a national organization and a branch in Bursa, and announcements regarding planned social activities stand out. On the other hand, it is revealed that there are intensive social media posts within the framework of the meeting code in this category. When the content related to the meeting code is evaluated, it is understood that the posts are generally made within the scope of the economy, employment, technology, education and professional qualifications, trade collaborations, international relations, acquaintances, and regular meetings of AIBs, etc.

Summits, panels, seminars, workshops, congresses, conferences, symposiums, forums, webinars, video conferences, and interviews are among the most essential areas of this category. Through these events, various segments of society can be informed or raise awareness in different areas of expertise. AIBs need to be particularly sensitive to this category. Between 2006-2022, the number of activities planned and organized by AIBs directly based in Bursa is 831. Based on this data, the extent to which the number of activities is satisfactory is relative. However, it was observed that AIBs within the scope of the research are making a significant effort in the category of training and informing. Within the scope of this code, it is demanded and desired to achieve higher activity rates. A more detailed look reveals that the events are mainly focused on themes such as economy, technology management, employment, energy management, institutionalization, ecosystem and management, sectoral analysis, innovation, quality, philosophy and literature, international relations, investment, and grant incentives. In this respect, it is understood that AIBs act within the framework of their core missions.

The code of training and course activities is also part of AIBs' *raison d'être*. When we look at the details of the training and course activities organized, we see that they are organized on themes such as digital management, ecology, health, economy, personal development, entrepreneurship, occupational safety, gender equality, etc. However, it is observed that course activities have not been implemented at the same rate. Only two course activities were identified. In this respect, there is a need for more emphasis on course planning.

In the context of social impact, AIBs should regularly inform the public about their activities. It is significant that they simultaneously present their activities to the views and information of stakeholders through magazines, e-newsletter, etc. This will increase the level of stakeholders' awareness of AIB activities and, at the same time, strengthen participation in AIB activities. Therefore, effective use of communication tools is essential. In this respect, it can be concluded that the AIBs within the scope of the research effectively inform the society.

Based on the number of social media posts, it is seen that AIBs within the scope of the study have been extremely weak in the codes of projects, reports, declarations, and books over a long period of time, such as 2006-2022. In the case of Bursa, it is clear that AIBs do not have the habit of periodic reporting, especially in technical and social work fields. In general terms, the reasoning based on individual experiences has yet to be transformed into the behaviour of collecting and analysing data from the field. Although there are occasional reporting initiatives by specific AIBs on various issues, it does not seem possible to talk about a generalized attitude and actual behaviour and a systematic effort to produce information. On the other hand, it is observed that the culture of project and related cooperation is in limited development among AIBs. Based on the shares, it is understood that the projects are social and cultural in nature and that the content of projects that support economic and technological development or entrepreneurship is quite limited. Similarly, it is observed that scientific studies such as declarations and books are almost non-existent. This situation can be explained by the distance of AIBs from academic institutions. AIBs' distant approach to various knowledge-producing institutions, especially universities, hinders the emergence of scientific studies.

Analysis of the Ecology Category

When all categories are evaluated, it is observed that the lowest level of sharing is in the ecology category. Nevertheless, as CSOs, AIBs are expected to show

high sensitivity to environmental issues as they do in the economy. On critical ecological issues such as the protection of the ecological system, natural disasters, recycling, consumption of environmentally harmful products, hunting, etc., AIBs need to be more intensively involved, even if they are not a dominant environmental organization. From this point of view, the number of posts of AIBs in the study indicates that their ecological sensitivity is relatively low. It is seen that most of the posts in this category are about disasters such as earthquakes, floods, forest fires, avalanches, or landslides, to which society reacts highly. On the other hand, it is understood that issues such as recycling, waste management, paper consumption, greenhouse gas emissions, and afforestation are not emphasized enough in terms of being proactive or preventive. Greenhouse gas emissions due to air pollution caused by industry should be one of the main agenda items of AIBs.

Analysis of the Social Responsibility Category

It is observed that the overall social responsibility performance of the AIBs within the scope of the research is low. It is clear that, as CSOs, AIBs should attempt to influence society more regarding social responsibility regarding the number and quality of their activities. An analysis of the content of the existing posts reveals that they mostly try to make social contributions to sports and health. In the context of sporting activities, supporting local sports clubs, and sharing national team achievements with the community are more prominent. In the context of health awareness, it is seen that messages informing society and raising awareness were shared on COVID-19, SMA, and healthy living. Sharing support for vaccination and blood donation campaigns and donating devices, masks, protective visors, gowns, medical equipment, etc., to health institutions can be considered within this scope. However, they do not seem to be at a sufficient level. Distributing food and food aid to those in need, building libraries, donating computers and books to educational institutions, and renovating classrooms and school gardens constitute another social responsibility of the AIBs surveyed, albeit not at the desired level. Similarly, aid to disaster victims, children, people with disabilities, and refugees and sapling donation practices, albeit at a low level, point to existing efforts in the context of the social responsibility category.

Analysis of the Celebrations Category

Considering the number of posts, this category emphasizes that social sensitivities are considered. In other words, in the context of this category, it is

understood that there is sensitivity to the religious and national values of the society in which the company operates and that there is a focus on critical issues expressed by specific days and weeks (such as the day of persons with disabilities, cancer week, world peace day, journalists' day, children's rights day, human rights day, etc.). This points to the "values" dimension of CSOs' effectiveness and emphasizes that it is a critical stage in achieving effectiveness. In this category, it is also noteworthy that AIBs within the scope of the research make motivational posts for various stakeholders. It is believed that these posts aim to motivate the people or organizations with whom they interact and to support their work to a moral extent.

Analysis of the Stakeholder Relations Category

Within the scope of the research, it is seen that the most sharing is in the category of stakeholder relations. As a CSO, this category is where AIBs show the most sensitivity. In particular, the management of member relations interaction with the media, public institutions, universities, private sector organizations, professional associations, other associations, and educational institutions is essential for the sustainable effectiveness of AIBs. As an association, the fact that AIBs develop healthy and systematic relations with their environment can be interpreted as the most expected attitude in the social context. In terms of the number and diversity of posts, AIBs within the scope of the research have taken steps to establish strong relations with different segments of society. The first of these decisive steps is directly related to the structuring of member relations. In the context of this code, the public announcement of new members, providing a commercial advantage to member organizations by promoting different products produced by member organizations in the corporate sense or informing members on current issues and raising their awareness, can be shown as evidence. On the other hand, AIBs also try to maintain close media relations. They are in constant contact with local media organizations in Bursa through press conferences, launches, press releases, newspaper/magazine articles, and interviews. Similarly, based on the frequency of sharing, it can be concluded that AIBs try to keep stakeholder relations warm by directly visiting various individuals or organizations. Furthermore, based on the low sharing frequency, it would be possible to infer those relations with universities and other educational institutions, private sector organizations, other associations, professional chambers, and public institutions are not at the desired level. In particular, in line with the nature of the AIB,

initiatives to improve relations with the private sector were perceived to be relatively weak. Again, relations with universities and other educational institutions are below the expected level, and dialogue with other CSOs is less effective than desired. This situation creates the feeling that AIBs have difficulty getting close enough to critical stakeholders.

Although not at the desired level, detailed evidence suggests that relations with universities and other educational institutions are being pursued through joint cooperation protocols, educational seminars, conferences, webinars, internship programs, support for surveys, or scholarship opportunities. Although weak, in the context of relations with other associations and professional chambers, it is found that supporting campaigns, organizing joint training and awareness programs, or providing assistance to those in need come to the fore. Within the scope of relations with the public sector, support for aid campaigns organized by the public sector, contributions to public-based training programs, and cooperation protocols draw attention to social media posts.

When we look at the posts related to social events, it is seen that the posts are generally based on social activities (nature walks, dinner organizations, trips, etc.), important day receptions, competitions, festivals, birthdays, and opening day celebrations. This finding concludes that AIBs engage in frequent meetings and dialogues with various stakeholder segments. Although it may seem very simple at first glance, it would not be wrong to conclude that conducting various activities through social events paves the way for AIBs to establish a social network with their stakeholders and with the other AIBs.

Analysis of the National and International Agenda Category

This category includes AIBs' posts on the national and international agenda. The posts reveal that AIBs within the scope of the research show more sensitivity to developments, especially on a national scale. It is observed that posts on events that closely concern national feelings on a national scale, such as terrorism, martyrs, war, attacks, explosions, major accidents, and fires, attract attention. In addition, although there are posts on child abuse and child murders, violence against women, and femicide, it is understood that AIBs are far from creating a social impact in the depth and quantity that would guide society. While many current developments could have been shared in this category, it was found that the AIBs in the research scope could

not make satisfactory posts on these developments. This situation has created a perception that they have difficulty keeping up with current developments.

CONCLUSION

The first point that draws attention in the literature review is that academic studies on "associations of industrialists and businessmen" at the national level are extremely insufficient. Although scientific publications examine various dimensions of civil society organizations in general, almost no national studies address the concepts of "social impact and AIB" together. Only two postgraduate thesis studies (Danışman, 1997; Kağızman, 1998) were found in this field. It is also observed that some publications are written specifically for various AIBs (TÜSİAD, MÜSİAD, etc.) and focus only on the relevant AIB. Therefore, it is understood that studies conducted on any AIB population are extremely limited. In this context, it is concluded that there is a need for postgraduate theses and publications that question AIBs.

Since the study was structured on a social media platform, the extent to which AIBs within the scope of the study use social media tools in general was also examined. The findings indicate that AIBs within the scope of the study use the Facebook social media platform the most. This was followed by Instagram, Twitter and LinkedIn, respectively. This table reveals the necessity of more intensive use of LinkedIn, which is based on posts directly related to business life. Considering the core activities of AIBs, it should not be overlooked that LinkedIn is a crucial sharing and data source platform for both sharing business-related activities and keeping track of environmental ones. Similarly, it is critical that Instagram, which is used more actively by the relatively young population, is also actively utilized. Within the young workforce and entrepreneurs' framework, Instagram is a relevant sharing platform. It is recommended that AIB administrations within the scope of the research activate their official social media accounts in this regard.

On a categorical basis, it was observed that the highest level of sharing was on the management of stakeholder relations. This was followed by posts in the categories of training and informing, and celebrations. The category with the lowest level of sharing is ecology. Other categories with low levels of sharing are economy, social responsibility, national and international agenda. Looking at the overall weight of the posts, it is expected that the organizations within the scope of the research, in their capacity as an AIB, would post more on the economy, national and international agenda and ecology.

In particular, the economy category is expected to be the area with the highest number of posts.

When the prominent category-based posts of AIBs within the scope of the research are evaluated, it is seen that employment, inflation, and energy costs in the economy category, announcements of meetings, seminars, conferences, etc., in the training and informing category, national crises such as earthquakes, floods and forest fires in the ecology category, sports, health and traditional days in the social responsibility category, and religious and national days and specific days and weeks in the celebrations category are predominant.

AIBs are expected to be positioned close to the areas that are currently discussed in business life and to set an agenda in line with local, national, and global trends. On the contrary, it is believed that social media posts are far from current and popular discussion topics. For example, in the economy category, it is seen that codes such as entrepreneurship, digitalization, foreign trade, exports, and localization in production need to be sufficiently processed and transformed into social messages. Similarly, it is understood that greenhouse gas emissions, environmental pollution, waste management, and recycling are not sufficiently emphasized in the ecology category. In the social responsibility category, it is revealed that discourses on codes such as refugee problem, equality between women and men, and solidarity are not strong enough. In the category of training and informing, academic studies such as declarations, books, project-based activities, and primarily focused reporting are relatively not at the desired level of effectiveness. In the national and international agenda category, it is observed that there are no strong posts on sensitive issues such as racism, violence against women, femicide, and child abuse. In the areas mentioned above, AIBs have not made sufficient efforts to impact society. In this context, there is a need for richer content and more frequent posts on current and relatively sensitive issues. The fact that AIBs act with more dominant discourses in areas of direct concern to society and drive society towards positive change also characterizes a social expectation.

The social impact expected from AIBs can only be achieved through the logic of cooperation with stakeholder groups and the ability to collaborate. Therefore, it is essential for AIBs to come together with various social segments in addition to their institutional efforts. In particular, it is important that they act in partnership with academic institutions, private sector organizations, and public sector representatives. Collective consciousness will undoubtedly generate

a wealth of new ideas and resources. However, while the findings emphasize relations with the media, they suggest that interaction with critical stakeholder groups is weak. While it is true that relations with the media will strengthen the social impact of the AIB, the stakeholders with whom the activities towards the main organizational goals will be carried out should be addressed. For example, cooperation with private sector representatives, academic-based studies with universities and other educational institutions, project-based studies with other associations and professional chambers, and activities that will provide joint action with public institutions do not occur at the desired intensity.

This research is important in that it projects AIBs, which have been the subject of very few studies in the Turkish literature and aims to fill the gap in the field. It is also believed that it will contribute to the domestic literature in terms of examining the social impact context of AIBs. It is clear that the findings of this study will provide input for scientific studies in the field. In particular, it is expected to help the current management of the AIBs within the scope of the research in planning their future activities and to provide guidance on which categories they should focus more on. For the public authorities, it also provides clues as to which areas should be scrutinized more in systematic audits of AIB activities.

FUTURE RESEARCH

This research is structured around the posts shared by the AIBs on the social media platform "Facebook". In the study, other social media platforms are emphasized only in one place, and the relevant number of social media posts are shared as data. In other words, the content of posts made on LinkedIn, Instagram, and Twitter was not addressed. Therefore, in future research, compiling the non-Facebook social media posts of the AIB population in Bursa and making various inferences will create added value, and a comparative analysis with Facebook will be revealed.

On the other hand, it seems possible to enrich the study with the interview method. In this context, it would be beneficial to share the compiled shares by conducting face-to-face interviews with the relevant AIB representatives and especially to discuss the main conclusions of the study to be carried out. In this way, the accuracy of the findings could be ensured to a certain extent.

REFERENCES

- Abdlmecid, M. (2020). *Sivil toplum örgtlerinin sosyal medya kullanımı: World Uyghur Congress Facebook sayfası örneđi*. Yüksek lisans tezi, İstanbul Ticaret Üniversitesi.
- Akçadađ, E. (2011). Avrupa Birliđi sürecinde kamu diplomasisi faaliyetlerinde sivil toplum kuruluşlarının rolü. *Politika Dergisi*, 1-15.
- Aksu, O. (2013). *Trkiye'de sivil toplum örgtlerinin sosyal medya kullanım analizi: Hiv/aids konusunda bir durum çalıřması*. Yüksek lisans tezi, Anadolu Üniversitesi.
- Aleakhue, I., & Segiru, S. (2018). Global journal of human-social science: H interdisciplinary type: Double blind peer reviewed. *International Research Journal*, 18(6), 13-20.
- Anheier, H. (2000). Managing non-profit organizations: Towards a new approach. *LSE Research Online Documents on Economics*, 1-21.
- Arena, M., Azzone, G., & Bengo, I. (2015). Performance measurment for social enterprises. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organization*, (26)2, 649-672. <https://doi.org/10.1007/s11266-013-9436-8>
- Arslan, E. (2022). Nitel arařtırmalarda geçerlilik ve güvenilirlik. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 51, 395-407. <https://doi.org/10.30794/pausbed.1116878>
- Aslan, M., & Kaya, G. (2004). 1980 sonrası Trkiye'de siyasal katılımı sivil toplum kuruluşları. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 5(1), 213-223.
- Aydın, B. (2019). *Sivil toplum kuruluşlarının sosyal medya içeriklerinde gönülllk faaliyetlerinin deđerlendirilmesi: Deniztemiz Derneđi örneđi*. Yüksek lisans tezi, İstanbul Üniversitesi.
- Başkale, H. (2016). Nitel arařtırmalarda geçerlik, güvenilirlik ve örneklem büyüklğnn belirlenmesi. *Dokuz Eylül Üniversitesi Hemřirelik Fakltesi Elektronik Dergisi*, 9(1), 23-28.
- Bendař, K. (2022). Dijitalleşen dünyada medyanın dönüşümü: Geleneksel medyadan yeni medyaya geçiř ve Trkiye'de internet haberciliđi. *Anasay*. 6(22), 373-396.
- Bortree, D. S., & Seltzer, T. (2009). Dialogic strategies and outcomes: An analysis of environmental advocacy groups' Facebook profiles. *Public Relations Review*, 35, 317-319. <https://doi.org/10.1016/j.pubrev.2009.05.002>
- Bozkanat, E. (2020). Sivil toplum kuruluşlarının sosyal medyada iliřki kurma ve iletiřim stratejileri: Yeřilay Trkiye Facebook sayfası örneđi. *Erciyes İletişim Dergisi*, 7(1), 149-168. <https://doi.org/10.17680/erciyesiletisim.595111>
- Bozkurt, C., & Sadedil, S. N. (2021). Medya ve toplumsal bellek: Toplumsal olayların hatırlanması çerçevesinde sosyal medya ve geleneksel medyanın karşılaştırılması. *Yeni Yzyıl'da İletişim Çalıřmaları Dergisi*, (2)2, 61-79.
- Brengarth, L. B., & Mujkic, E. (2016). Web 2.0: How social media applications leverage nonprofit responses during a wildfire crisis. *Computers in Human Behavior*, 54, 589-596. <https://doi.org/10.1016/j.chb.2015.07.010>
- Burdge, R. J., & Vanclay, F. (1996). Social impact assessment: A contribution to the state of the art series. *Impact Assessment*, 14(1), 59-86. <https://doi.org/10.1080/07349165.1996.9725886>
- Carman, J. (2007). Evaluation practice among community-based organisations: Research into the reality. *American Journal of Evaluation*, 28(1), 60-75. <http://dx.doi.org/10.1177/1098214006296245>
- Clark, C., Rosenweig, W., Long, D., & Olsen, S. (2004). *Double bottom line project report: Assessing social impact in double bottom line ventures* [Working paper]. The Rockefeller Foundation. https://escholarship.org/content/qt80n4f1mf/qt80n4f1mf_noSplash_d7b877830b866dbf76da4b51adc93cb0.pdf?t=krnk3u.
- Creswell, J. W. (2016). *Nitel arařtırma yöntemleri*. (Çev. M. Btn, S. B. Demir, M. Aydın, A. Budak, İ. Budak, G. Hacımerođlu, S. Ünal, T. Özsevgeç, A. Bacanak, A. Bakla, O. Birgin ve Y. Dede). Ankara: Siyasal Kitabevi.
- Çiftçi, D. (2020). Sivil toplum örgtleri ve dijital dönüşmler: Kuzey Kıbrıs kadın sivil toplum kuruluşları üzerine bir inceleme. *Erciyes İletişim Dergisi*, 7(1), 451-472. <http://doi.org/10.17680/erciyesiletisim.578496>

- Danışman, A. (1997). *Türkiye'deki sanayici ve iş adamları derneklerinin yönetim ve organizasyon sorunlarının tespit ve çözümüne ilişkin bir araştırma*. Yüksek lisans tezi, Çukurova Üniversitesi.
- Dunn, B., & Mathews, S. (2001). The pursuit of excellence is not optional in the voluntary sector, it is essential. *International Journal of Health Care Quality Assurance*, (14)3, 121-125. <https://doi.org/10.1108/09526860110391595>
- Eroğlu, S., & Bektaş, O. (2016). STEM eğitimi almış fen bilimleri öğretmenlerinin STEM temelli ders etkinlikleri hakkındaki görüşleri. *Eğitimde Nitel Araştırmalar Dergisi*, 4(3), 43-67. <https://doi.org/10.14689/issn.2148-2624.1.4c3s3m>
- Freudenburg, W. R. (1986). Social impact assessment. *Annual Review of Sociology*, 12, 451-478. <https://doi.org/10.1146/annurev.so.12.080186.002315>
- Gezon, L.L. (2014). Who wins and who loses? Unpacking the "local people" concept in ecotourism: a longitudinal study of community equity in Ankarana, Madagascar. *Journal of Sustainable Tourism*, 22(5), 821-838. <https://doi.org/10.1080/09669582.2013.847942>
- Gilligan, C., & Golden, L. (2009). Re-branding social good: Social profit as a new conceptual framework. *Academy of Marketing Studies Journal*, 13(2), 97-117.
- Greenberg, J., & MacAulay, M. (2009). NPO 2.0? Exploring the web presence of environmental nonprofit organizations in Canada. *Global Media Journal-Canadian Edition*, 2(1), 63-88.
- Grieco, C., Micheline, L., & Iasevoli, G. (2015). Measuring value creation in social enterprises: A cluster analysis of social impact assessment models. *Nonprofit and Voluntary Sector Quarterly*, 44(6), 1173-1193. <https://doi.org/10.1177/0899764014555986>
- Guo, C., & Saxton, G. D. (2013). Tweeting social change: How social media are changing nonprofit advocacy. *Nonprofit and Voluntary Sector Quarterly*, XX(X), 1-23. <https://doi.org/10.1177/0899764012471585>
- Hadad, S., & Gauca, O. D. (2014). Social impact measurement in social entrepreneurial organizations. *Management and Marketing*, 9(2), 117-134.
- Hall, M., & O'Dwyer, B. (2017). Accounting, non-governmental organizations and civil society: The importance of nonprofit organizations to understanding accounting, organizations and society. *Accounting, Organizations and Society*, 63, 1-76. <https://doi.org/10.1016/j.aos.2017.11.001>
- Haski-Leventhal, D., & Mehra, A. (2016). Impact measurement in social enterprises: Australia and India. *Social Enterprise Journal*, (12)1, 78-103. <https://doi.org/10.1108/SEJ-05-2015-0012>
- Hoefer, R. (2000). Accountability in action: Program evaluation in nonprofit human service agencies. *Nonprofit Management & Leadership*, 11(2), 167-177. <https://doi.org/10.1002/nml.11203>
- Ihm, J. (2015). Network measures to evaluate stakeholder engagement with nonprofit organizations on social networking sites. *Public Relations Review*, 41(4), 1-3. <https://doi.org/10.1016/j.pubrev.2015.06.018>
- Kağızman, T. (1998). Çukurova bölgesi sanayici ve iş adamları dernekleri (SİAD) üyelerinin temel değerleri ile kişisel ve kurumsal özellikleri arasındaki ilişki. Yüksek lisans tezi, Çukurova Üniversitesi.
- Kalkavan, H. (2020). *Sivil toplumun 10 yılı*. İlke Yayınları
- Kanter, B., & Fine, A. (2010). *The networked nonprofit connecting with social media to drive change* (1. Baskı). San Francisco: Jossey-Bass.
- Klochikhin, E. A. (2012). Linking development and innovation: What does technological change bring to the society? *European Journal of Development Research*, 24(1), 41-55. <https://doi.org/10.1057/ejdr.2011.20>
- Kocollari, U., & Lugli, E. (2020). Social accounting at work: An analysis of social impact measurement models. *Journal of Modern Accounting and Auditing*, (16)1, 31-43. <https://doi.org/10.17265/1548-6583/2020.01.003>
- Komito, L., & Bates, J. (2009). Virtually local: Social media and community among polish nationals in Dublin. *Aslib Proceedings*, 61(3), 232-244. <https://doi.org/10.1108/00012530910959790>
- Kongar, E. (1991). Sivil toplum ve kültür. (Ed.) Y. Fincancı, *Sivil Toplum* (ss. 109-114). İstanbul: TÜSEV Yayınları.
- Krippendorff, K. (1989). Content analysis. (Ed.) E. Barnouw, G. Gerbner, W. Schramm, T. L. Worth, L. Gross, *International Encyclopedia of Communication* (ss. 403-407). New York: Oxford University Press.

- Latane, B. (1981). The psychology of social impact. *American Psychologist*, 36(4), 343–356. <https://doi.org/10.1037/0003-066X.36.4.343>
- Lovejoy, K., & Saxton, G. D. (2012). Information, community, and action: How nonprofit organizations use social media. *Journal of Computer-Mediated Communication*, 17, 337–353. <https://doi.org/10.1111/j.1083-6101.2012.01576.x>
- Maas, K., & Liket, K. (2011). Social impact measurement: Classification of methods. (Ed.) In R. Burritt, S. Schaltegger, M. Bennett, T. Pohjola, & M. Csutora, *Environmental management accounting and supply chain management* (ss. 71–202). Dordrecht, Netherlands: Springer.
- Mostashari, A. (2005). An introduction to non-governmental organizations (NGO) management. *Iranian Studies Group*, 1-18.
- Mushtaque, A., Chowdhury, R., & Mosley, P. (2004). The social impact of microfinance. *Journal of International Development*, 16, 291-300. <https://doi.org/10.1002/jid.1087>
- Mütügil Yalçın, A., Güner, D., & Kisbu Sakarya, Y. (2016). Türkiye’de sivil toplum kuruluşlarının sosyal etki ölçümleme algısı ve pratiği. *Elektronik Sosyal Bilimler Dergisi*, 15(58), 849-865.
- Nicolopoulou, K., Karatas-Ozkan, M., Vas, C., & Nouman, M. (2017). An incubation perspective on social innovation: The London Hub – a social incubator. *R and D Management*, 47(3), 368-384. <https://doi.org/10.1111/radm.12179>
- Nowak, A., Szamrej, J., & Latane, B. (1990). From private attitude to public opinion: A dynamic theory of social impact. *Psychological Review*, 97(3), 362–376. <https://doi.org/10.1037/0033-295X.97.3.362>
- Onyx, J. (2014). Social impact, a theoretical model. *Cosmopolitan Civil Societies An Interdisciplinary Journal*, 6(1), 1-18.
- Öztürk, C., & Şardağı, E. (2018). Kurumsal kimlik aracı olarak Facebook: Türkiye’deki sivil toplum kuruluşları (STK) üzerine bir değerlendirme. *İletişim*, 28, 116-141. <https://doi.org/10.16878/gsuilet.436038>
- Pawluczuk, A., Webster, G., Smith, C., & Hall, H. (2019). The social impact of digital youth work: What are we looking for. *Media and Communication*, 7, 59-68. <https://doi.org/10.17645/mac.v7i2.1907>
- Perrini, F., & Vurro, C. (2013). *La valutazione degli impatti sociali: Approccie strumenti applicativi*. Milan: Egea Spa.
- Rakhmatullayeva, D., Khajiyeva, A., Kakizhanova, T., & Boluspayev, S. (2020). *Study of the social impact of investment activities of foreign companies on the development of society: A review and analysis*. The 1st International Conference on Business Technology for a Sustainable Environmental System, (1-10. ss.). Kazakhstan.
- Rawhouser, H., Cummings, M., & Newbert, S. L. (2019). Social impact measurement: Current approaches and future directions for social entrepreneurship research. *Entrepreneurship Theory and Practice*, 43(1), 82–115. <https://doi.org/10.1177/1042258717727718>
- Rinaldo, H. (2010). *Getting started in social impact measurement: A guide to choosing how to measure social impact*. The Guild, Middlesex University, Southampton University. <https://www.oneeastmidlands.org.uk/sites/default/files/library/Getting%20started%20in%20social%20impact%20measurement.pdf>.
- Saatçioğlu, E. (2017). Sivil toplum örgütlerinin sosyal medya kullanımları: Greenpeace Türkiye Facebook sayfası örneği. *Selçuk İletişim*, 10(1), 158-187. <https://doi.org/10.18094/josc.330941>
- Santos, F. (2012). A positive theory of social entrepreneurship. *Journal of Business Ethics*, 1–17.
- Seo, H., Kim, J. Y., & Yang, S. (2009). Global activism and new media: A study of transnational NGOs. *Online Public Relations, Public Relations Review*, 2(35), 123–126. <https://doi.org/10.1016/j.pubrev.2009.02.002>
- Siemieniako, D., Kubacki, K., & Mitreğa, M. (2021). Inter-organisational relationships for social impact: A systematic literature review. *Journal of Business Research*, 132, 453–469. <https://doi.org/10.1016/j.jbusres.2021.04.026>
- Sigala, M. (2016). Learning with the market: A market approach and framework for developing social entrepreneurship in tourism and hospitality. *International Journal of Contemporary Hospitality Management*, 28(6), 1245-1286. <https://doi.org/10.1108/IJCHM-06-2014-0285>
- Silsüpür, Ö., & Övüç, M. (2022). Kadına yönelik şiddete karşı toplumsal farkındalık yaratma ve kamuoyu oluşturma aracı olarak sosyal medya: Kadın sivil

- toplum kuruluşları üzerine bir araştırma. *Uluslararası Medya ve İletişim Araştırmaları Hakemli Dergisi*, 5(1), 1-25. <https://doi.org/10.33464/mediaj.997282>
- Şardağı, E. (2017). Sosyal medyada kurumsal kimlik: Türkiye'deki vakıf ve derneklerin Twitter kullanımının değerlendirilmesi. *Uşak Üniversitesi Sosyal Bilimler Dergisi*, 10(3), 338-362. <https://doi.org/10.12780/usaksosbil.348958>
- Teegen, H., Doh, J. P., & Vachani, S. (2004). The importance of nongovernmental organizations (NGOs) in global governance and value creation: An international business research agenda. *Journal of International Business Studies*, 35(6), 463-483. <https://doi.org/10.1057/palgrave.jibs.8400112>
- Thomson, D. (2010). Exploring the role of funders' performance reporting mandates in nonprofit performance measurement. *Nonprofit and Voluntary Sector Quarterly*, 39(4), 611-629. <http://dx.doi.org/10.1177/0899764009360575>
- Vanclay, F. (2003). International principles for social impact assessment. *Impact Assessment and Project Appraisal*, 21(1), 5-12. <https://doi.org/0.3152/147154603781766491>
- Vona Kurt, E. (2021). Sağlık iletişimi ve sosyal medya: Sivil toplum kuruluşlarının Twitter kullanımı üzerine bir değerlendirme. *Manisa Celal Bayar Üniversitesi Sosyal Bilimler Dergisi*, 19, 89-109. <https://doi.org/10.18026/cbayarsos.649858>
- Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri* (9. Baskı). Ankara: Seçkin Yayıncılık.
- Yerasimos, S. (2000). Sivil toplum, Avrupa ve Türkiye. (Ed.) S. Yerasimos ve diğerleri, *Türkiye'de Sivil Toplum ve Milliyetçilik* (ss. 13-23). İstanbul: İletişim Yayınları.
- Zippala, G., & Lyons, M. (2009). *Recent approaches to measuring social impact in the third sector: An overview* [Working paper]. Centre for Social Impact. https://www.eval.ru/book_files/Zappala_Recent%20approaches%20to%20measuring%20social%20impact%20in%20the%20Third%20sector_135.pdf.
- Waters, R. D., Burnett, E., Lamm, A., & Lucas, J. (2009). Engaging stakeholders through social networking: How nonprofit organizations are using Facebook. *Public Relations Review*, 35, 102-106. <https://doi.org/10.1016/j.pubrev.2009.01.006>
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