Edin Hrnjica [a]
Ljiljan Veselinović [b]

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs: An Application of the Technology Acceptance Model

Abstract

This paper explores the impact of performance expectancy (PE) and effort expectancy (EE) on the behavioral intention (BI) of managers to implement environmental, social, and governance (ESG) practices in small and medium-sized enterprises (SMEs) in Bosnia and Herzegovina. Using the Technology Acceptance Model (TAM), the study analyzes how these factors influence decision-makers' engagement in sustainable business activities. A survey of 247 managers was conducted to assess their BI, PE, and EE for each ESG component. The collected data were analyzed using structural equation modeling (SEM) to construct a second-order latent model that measures the combined effects of these factors. The study fills a gap in the literature by examining sector-specific differences in the factors influencing ESG implementation. The results reveal that both PE and EE significantly affect an organization's intention to adopt ESG practices, with varying impacts between the manufacturing and service industries. The findings highlight the different challenges and complexities each industry faces in implementing ESG practices. While focusing on PE and EE, it is acknowledged that other factors such as organizational culture, stakeholder pressure, and industry-specific dynamics also play roles in ESG adoption. The main contribution of this work is the use of a second-order latent construct within the TAM model for ESG practices, offering a unique perspective on understanding behavioral intention.

Keywords: Environmental practices, Social practices, Governance practices, ESG, Small and medium-sized businesses, Structural equation modelling, SEM, Bosnia and Herzegovina

1. INTRODUCTION

Researchers continue to seek an understanding of the processes underpinning technology adoption and to predict behaviour and provide theoretical explanations for successful technology implementation (Marangunic and Granic, 2014). This understanding can inform practitioners about measures to improve technology acceptance. A sustainable business model innovation strategy is essential for new and existing businesses in terms of survival, outperforming competition, or achieving long-lasting effects beyond product or process innovation (Kiefer et al., 2017). To understand the motivation for business model innovation and why entrepreneurs choose certain business models, it is essential to identify key factors motivating the use of different business practices.

The Technology Acceptance Model (TAM) has become a crucial reference point for predicting human behaviour and willingness to accept new technologies. TAM's origins can be traced to the Theory of Planned Behaviour (TPB) (Ajzen, 1985) and the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1977). TAM suggests that perceived usefulness and perceived ease of use are important predictors of human behavioural intention (Davis, 1985). TAM has continued to develop, incorporating various models, such as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). In this paper, the logic introduced by TAM is followed to understand whether perceived usefulness and perceived ease of use can predict managers' intentions to implement environmental, social, and governance (ESG) practices.

The ESG framework presented by Park and Jang (2021) evaluates E, S, and G practices. "E" practices address environmental issues such as greenhouse gas emissions, energy consumption and efficiency, air pollutants, water use and recycling, production and waste management (water, solid, hazardous), impact on biodiversity, and innovation in environmentally friendly products and services. "S" practices concern the company's attitude towards workforce freedom of association, child labour, forced labour, workplace health and safety, customer health and safety, discrimination, diversity and equal

opportunities, community impact, supply chain management, training and education, customer privacy, and community impact. "G" practices refer to the code of conduct and business principles, accountability and transparency, data disclosure, management salary transparency, board structure diversity, rules and control mechanisms related to bribery and corruption, and stakeholder engagement (EBA, 2021). These three ESG components are interconnected to create long-term value. These practices vary in scope, focus, standardization levels, and impact on financial performance. While ESG practices are not technology per se, there is a complex relationship between ESG and technology.

This paper argues that TAM can be applied to small and medium-sized enterprises (SMEs) due to the significant role of managers in SME decision-making. Many ESG practices heavily rely on technology for implementation making it a key facilitator. For example, digital tools such as online platforms, mobile applications, and social media are increasingly used for customer and potential investor engagement. At the same time, ESG requires complex data collection processes, typically supported by digital technologies to ensure data-driven decision-making.

To understand how perceived usefulness and perceived ease of use, i.e., performance expectancy (PE) and expected effort (EE), influence decision-makers in SMEs to engage organizational resources in ESG practices, managers were surveyed on their behavioural intention, ease of use, and perceived usefulness of each ESG component separately. A more complex second-order latent construct was then constructed to be used in structural equation modelling. Given the complexity of using second-order latent constructs, the TAM model was opted for over the UTAUT model to incorporate a reasonable number of predictors. One contribution of this paper to the existing literature (Amran et al., 2014; Fassin et al., 2011; Koe et al., 2015; Tang and Tang, 2012) is to expand the analysis of attitudes towards implementing ESG business practices to SME decision-makers. Another is to include a comparative assessment of the impacts of PE and EE on behavioural intention (BI) within both manufacturing and service/trade enterprises. This extension sheds light

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

163

on how varying business environments shape decision-making processes and how different approaches need to be adjusted in relation to different industry settings.

The paper is structured as follows. A review of the relevant literature is provided in the next section. Following this, the methods used, including the survey and structural equation modelling approach, are described. The results of the analysis are presented in the subsequent section, with key findings and their implications highlighted. Finally, the limitations of the study are discussed, and concluding remarks are provided.

2. LITERATURE REVIEW

TAM, developed by Davis (1985), focuses on the processes that mediate between external factors and the actual use of the system. The preceding model to TAM was the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1977), which for the first time focused on a psychological perspective on human behaviour that was lacking in the literature at the time.

Davis (1985) identified and defined variables and validated measures that significantly correlated with system use. Building on previous empirical literature on human behaviour and technology management, Davis (1985) developed a new scale consisting of two main factors: perceived ease of use and perceived usefulness, which have been tested and validated in multiple studies. These two constructs were introduced as fundamental determinants of user acceptance. User acceptance depends on perceived usefulness and perceived ease of use of new technology/business practices compared to the effort/cost needed for implementation. Based on these findings, it was concluded that technology use is determined by evaluating the trade-off between the perceived usefulness of the application and the perceived difficulty of the application (Davis, 1985). Perceived usefulness is defined as an individual's perception of the extent to which using a given technology improves outcomes, while perceived ease of use refers to the degree to which a person believes that using a certain technology is not effortful.

The model was further validated, confirming significant relationships between perceived usefulness, perceived ease of use, intention, and usage behaviour.

According to TAM, technology acceptance is a three-stage process, starting with external factors that trigger cognitive responses (perceived ease of use and perceived usefulness), which form an effective response (attitude towards technology use/intention) and influence usage behaviour (Davis, 1985). In the TAM model, behaviour is presented as an outcome based on perceived ease of use, perceived usefulness, and behavioural intention. According to a subsequent study, behavioural intention can be replaced by attitude toward the behaviour (Davis, 1993), with the greater the affective response, the more likely the behaviour will occur. The model suggests that behavioural intention can be predicted by perceived usefulness and perceived ease of use, i.e., performance expectancy (PE) and expected effort (EE). PE is considered the degree to which an individual believes that using the technology will help achieve better work results. EE is operationalized through measurement of perceived utility (the belief that companies should focus on social and environmental concerns as much as profit), extrinsic motivation (motivation to perform a behaviour or participate in an activity to earn a reward or avoid punishment), relative comparative advantage (improved results due to reduced costs or higher revenues), and expected result (increase in productivity through cost reduction or increased earnings from business activities) (Venkatesh et al., 2003).

2.1. Utilizing TAM for Predicting Intentions to Adopt ESG Practices

TAM has been broadly accepted and proven applicable in identifying consumers' willingness to utilize ICT (Malatji, Eck, and Zuva, 2020). As noted in the introductory section, ESG practices cannot be considered technology per se, but there is a complex relationship between ESG and technology. However, it is argued that TAM can be used for SMEs due to the significant role of a manager in the decision-making process of SMEs. ESG practices heavily rely on technology,

making it a key facilitator. Digital tools are used for engagement, and ESG requires data-driven decision-making.

While TAM was originally designed for understanding technology adoption, Sargolzaei (2017) highlights its application in diverse fields beyond the initial scope, such as agriculture, construction, and urban planning. For example, Ma, Gam, and Banning's (2017) study was the first to use TAM to understand consumers' use of sustainability labels for apparel products, viewing label-reading behaviour similarly to how consumers use new informational sources for their decision-making process. Additionally, Naspetti et al. (2017) applied TAM to test various hypotheses on the attitudes and intentions of dairy farmers towards three novel sustainable production strategies. UTAUT and UTAUT2, based on the premises of TAM, have been applied in various settings, including almost all types of users, organizations, technologies, and tasks (Tamilmani, Rana, Wamba, and Dwivedi, 2017).

TAM has been widely used across various disciplines and industries for several purposes (Ajibade, 2018; Marangunic and Granic, 2014), including understanding technology adoption (predicting users' acceptance and adoption of new technologies), evaluating user interfaces (evaluating the design and usability of user interfaces for software applications, websites, and digital platforms), assessing information system success (assessing the success and effectiveness of information systems within organizations), predicting consumer behaviour (predicting consumers' acceptance and adoption of new products and services in marketing research), exploring organizational change (understanding employees' acceptance of new business practices, processes, and technologies in organizational change management) and informing policy and decision-making (informing decision-making related to technology adoption and implementation in public policy research).

2.2. Exploring Critiques of TAM

The use of TAM to understand technology acceptance by individual users in companies has faced criticism (Ajibade, 2018). One key critique is that companies' policies regarding the use of new technologies, and in some cases, their rules, take precedence over the attitudes and inclinations of employees. Following this line of argument, Ajibade (2018) argues that the personal preferences of individual employees regarding new technologies do not significantly influence the technology acceptance intention of the enterprise. Consequently, in a corporate environment, the company's rules and regulations supersede individual intentions and opinions about technology use.

However, it is important to note that the personal preferences of decision-makers in companies do influence the company's decisions on the implementation of new technology (Ajibade, 2018). Thus, TAM can explain, through perceived usefulness and perceived ease of use by decision-makers, the companies' decisions to engage organizational resources in environmental, social, and governance responsible business activities.

2.3. ESG implementation predictors

There are both external and internal factors that can influence the implementation of ESG practices. Some authors suggest that the government is the main external driver of ESG practices through regulation, economic and structural support (Gandhi et al., 2018). Fines for non-compliance may also encourage companies to adopt sustainable practices (Sáez-Martínez et al., 2016). Furthermore, studies show that customer demand for environmentally sustainable products, processes, and services can influence companies to adopt sustainable business practices, particularly in SMEs (Sáez-Martínez et al., 2016). Some research has also highlighted the influence of competitor behaviour, as companies may need to adapt to market dynamics and the practices of their competitors (Testa et al., 2016).

A company's decision to adopt sustainability practices can also be influenced by internal (organizational) factors. While some experts believe that employee initiatives play a significant role in promoting sustainability (Zhang et

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

165

al., 2009), others argue that the attitude of managers is crucial in driving the adoption of sustainable practices (Koe et al., 2015). This aligns with the research goals of this paper, as insights on how EE and PE are perceived by managers can play a role in predicting their intention to implement effective ESG practices. Furthermore, some authors suggest that creating and maintaining a positive corporate image is a key driver of implementing ESG practices (Sáez-Martínez et al., 2016). Building social capital can enhance a company's market position, create a competitive advantage, and increase stakeholder satisfaction and sales.

Both internal and external factors can influence a company's decision-makers when it comes to investing resources into ESG. These factors may include PE and EE. PE is an internal factor that refers to the expected effect of implementing ESG practices on a company's performance, which can influence a manager's intention to implement such practices. EE, on the other hand, refers to the degree of ease associated with using a system (Venkatesh et al., 2003), and the complexity of implementation affects the easier implementation of new innovative business practices in larger companies that have the capacity to deal with this complexity (Armas-Cruz et al., 2017; Dey et al., 2010). Even if the PE of ESG business practices is high, managers might be reluctant to implement them if the internal factors, such as EE, do not support it. Ultimately, the EE required for implementation might be crucial in determining whether an enterprise will engage in ESG practices (Venkatesh et al., 2003).

3. METHODS AND SAMPLE

A structural equation modelling (SEM) approach was used to study the factors influencing the intention to implement ESG practices. The aim was to examine the relationship between two predictors of interest (PE and EE) and the BI to implement ESG practices across different industries. Managers were asked about their PE, EE, and BI for each ESG component (environmental, social, and governance). A second-order model was created to test to what extend the predictors can be generalized for ESG practices. This

approach offers simplicity and addresses the issue of shared measurement error by incorporating correlated error covariances within the PE, EE, and BI scales. By correlating these errors, we obtained more precise estimates of the true effects of PE and EE on the overall intention to implement ESG practices. The data, collected via email in 2023, included 247 participants from Bosnia and Herzegovina, with a diverse representation in terms of gender, age, and industry classification (see Table 1).

Table 1. Sample Characteristics

Sample Size	247 respondents
Gender	
Male	61.13%
Female	38.87%
Age	
18-25	4.86%
26-35	13.77%
36-45	26.32%
46-55	30.77%
56-65	21.05%
Older than 65	3.24%
NACE Classification Group	
Manufacturing	22.67%
Retail	25.51%
Services	42.91%
Other	8.91%

Source: Authors

Based on the literature review and the Technology Acceptance Model (TAM), the following hypotheses have been formulated, as depicted in Figure 1:

H_1: Performance expectancy (PE) positively influences the behavioural intention (BI) of managers to implement ESG practices in SMEs.

Figure 1. Research Model
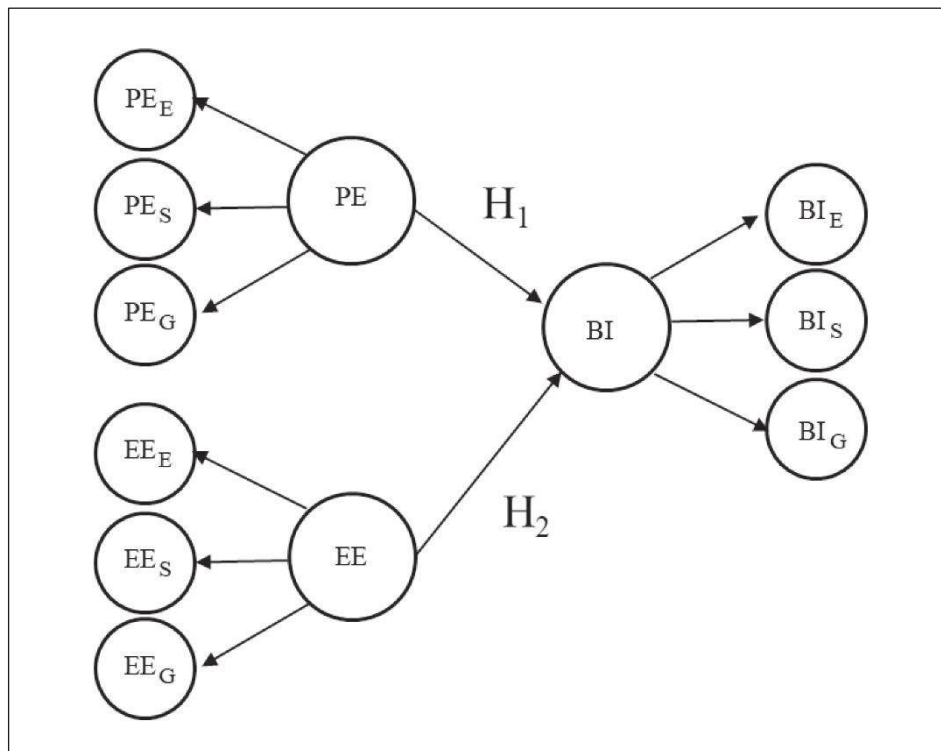
Source: Authors

H$_2$: Effort expectancy (EE) positively influences the behavioural intention (BI) of managers to implement ESG practices in SMEs.

The data collection for this study involved a structured questionnaire designed to assess PE, EE, and BI to implement ESG practices. The questionnaire consists of four questions each for PE and EE, as well as three questions for BI, designed to evaluate the ESG dimensions using previously validated scales from Kim & Lee (2020) and Venkatesh et al. (2003). This set of questions was repeated for each ESG component, providing a thorough and detailed assessment of respondents' perspectives across all aspects of ESG practices. The original questionnaire, which was in English, underwent a rigorous double translation process to ensure accuracy and avoid deviations in meaning when translated to local language. To ensure clarity and relevance,

the prepared questionnaire was shared with five owners of SMEs. These individuals were invited to review the questionnaire and provide feedback on the clarity and comprehensibility of the questions. Their comments and suggestions were incorporated into the final version of the questionnaire. Responses were collected using the LimeSurvey tool, which facilitated the distribution and management of the electronic questionnaires. The target respondents were individuals responsible for making investment decisions within their companies, including company owners, directors, financial managers, or other relevant managers. This target group was explicitly stated in the invitation letter sent to the companies.

Data on companies were sourced from entity agencies, specifically the Federation of Bosnia and Herzegovina (FIA), the Agency for Interme-

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

167

Table 2. BI, PE and EE measurement models

Factor/item	Standardized loadings	SE	z-value	CR	AVE
Behavioural Intention (BI)					
Environmental BI	0.880	0.021	42.22***		
Social BI	0.939	0.015	63.10***	0.930	0.817
Governance BI	0.914	0.017	53.79***		
Perceived Performance (PE)					
Environmental PE	0.844	0.027	30.94***		
Social PE	0.912	0.024	38.59***	0.935	0.828
Governance PE	0.953	0.193	49.59***		
Expected Effort (EE)					
Environmental EE	0.868	0.026	33.45***		
Social EE	0.917	0.022	41.85***	0.936	0.830
Governance EE	0.945	0.018	52.67***		

***$p < 0.01$ **$p < 0.05$ *$p < 0.1$.

Goodness-of-fit statistics:
BI: χ^2/df = 3.76; RMSEA 0.106; SRMR 0.025; CFI 0.981; TLI 0.955.

PE: χ^2/df = 3.75; RMSEA 0.106; SRMR 0.047; CFI 0.974; TLI 0.937.

EE: χ^2/df = 1.77; RMSEA 0.056; SRMR 0.025; CFI 0.992; TLI 0.981.

Source: Authors

diary, IT and Financial Services (APIF) for companies in the Republic of Srpska, and the municipal court of Brčko District. From this data, a total of 6,000 companies were identified and selected based on the availability of contact emails. The criteria for inclusion were companies that were active (i.e., had sales in 2021) and had between 5 and 250 employees at the end of 2021. The electronic questionnaires were sent to the contact emails of these 6,000 companies. Out of these, 247 respondents completed the survey, resulting in a response rate of approximately 4.12%. The respondents included individuals in key decision-making positions such as company owners, directors, and financial managers.

4. RESULTS

Within this section, the introducing measurement models will be followed by the presentation of the main results. A discussion of these results will then be provided.

4.1. Measurement models

Table 2 shows the standardized loadings for the individual measurement models, which indicate the strength of the relationship between each observed variable and its corresponding latent construct. The loadings for BI, PE, and EE are all above 0.8, demonstrating strong relationships and suggesting that the items are good indica-

Table 3. Model Results

All sectors	B	SE	z-value
H1: Perceived performance → Behavioural Intention	0.306	0.083	3.70***
H2: Expected effort → Behavioural Intention	0.651	0.083	7.87***
Control dummy variables			
Experience (more than 20 years)	0.003	0.044	0.07
Education (secondary school completed only)	-0.022	0.043	-0.52
Age (Younger than 35)	-0.007	0.043	-0.16
Gender (Male)	0.010	0.041	
Group 1: Manufacturing			
H1: Perceived performance → Behavioural Intention	0.316	0.129	2.44**
H2: Expected effort → Behavioural Intention	0.607	0.122	4.98***
Control dummy variables			
Experience (more than 20 years)	-0.081	0.089	-0.91
Education (secondary school completed only)	0.011	0.090	0.12
Age (Younger than 35)	-0.094	0.089	-1.06
Gender (Male)	0.074	0.089	0.84
Group 2: Service and trade			
H1: Perceived performance → Behavioural Intention	0.221	0.116	1.90*
H2: Expected effort → Behavioural Intention	0.754	0.117	6.43***
Control dummy variables			
Experience (more than 20 years)	0.017	0.046	0.36
Education (secondary school completed only)	-0.037	0.046	-0.81
Age (Younger than 35)	0.059	0.049	1.22
Gender (Male)	-0.003	0.044	-0.07

Goodness-of-fit statistics: χ^2/df = 2.03; RMSEA 0.065; SRMR 0.057; CFI 0.935; TLI 0.921.

***p < 0.01 **p < 0.05 *p < 0.1.

Source: Authors

tors of their respective constructs. The standardized loadings are statistically significant, with z-values well above the threshold for significance (p < 0.01). Additionally, the Composite Reliability (CR) and Average Variance Extracted (AVE) values for each construct are provided in Table 2. The CR values are all above 0.9, indicating excellent internal consistency and reliability of the constructs. The AVE values exceed 0.8, which signifies a high level of convergent validity, as the

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

169

constructs explain a large portion of the variance in their indicators. The goodness-of-fit indices indicate that the measurement models fit the data well. Specifically, the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values are all above 0.9, suggesting a good fit, while the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) values are within acceptable ranges.

4.2. Model results and discussion

The model results presented in Table 3 support the hypotheses that PE and EE are significant predictors of BI to implement ESG practices across all industries, as well as within specific industry groups.

For all industries, PE (β = 0.306, p < 0.01) and EE (β = 0.651, p < 0.01) showed significant positive associations with BI. In the manufacturing group, PE (β = 0.316, p < 0.05) and EE (β = 0.607, p < 0.01) also exhibited significant positive relationships with BI. Similarly, in the service and trade group, EE (β = 0.754, p < 0.01) showed a significant positive association with BI, while PE (β = 0.221, p < 0.1) showed a marginally significant positive relationship. The standardized coefficients remained consistent when compared to the manufacturing group and the integrated model (all sectors).

The importance of factors varies when considering models with all enterprises, manufacturing alone, and enterprises in the service and trade sector. Managers in the service and trade sectors place more importance on EE than PE, with PE being significant only at the 10% level. Specifically, PE and EE showed strong positive associations with BI in both the overall model and the manufacturing sector, while EE demonstrated a particularly strong effect in the service and trade sector.

None of the control variables (gender, age, education, and work experience of a manager) significantly predict BI, which is consistent with the findings of Morris et al. (2005) that demographic factors may be disappearing in predicting technology adoption behaviours in professional settings. More specifically, clear gender differences existed and remained stable over time for older workers, while men and women

in the younger generation were more alike than different. This contrast to the findings in Venkatesh et al. (2003) that the effect of PE is stronger for men and younger workers, while the effect of EE is stronger for women, older workers, and those with limited experience.

Convergent and discriminant validity assessments were conducted using STATA 18. To ensure discriminant validity, AVE values should be greater than the squared correlations among latent variables. Similarly, for convergent validity, AVE values should be greater than 0.5. According to the results presented in Table 4, no issues related to convergent and discriminant validity were identified.

Table 4. Convergent and discriminant validity assessment.

	PE	EE	BI	Composite Reliability (CR)
PE	**0.817**			0.928
EE	0.590	**0.828**		0.925
BI	0.653	0.794	**0.830**	0.935

Source: Authors

The squared correlations between variables are shown in the table. Please note that the Average Variance Extracted (AVE) values have been highlighted in bold for ease of interpretation.

The results indicate that both PE and EE play crucial roles in influencing the BI to implement ESG practices across different sectors. These results align with the predictions of the TAM, which suggests that perceived usefulness and perceived ease of use are critical determinants of behavioural intention. In addition, Venkatesh et al. (2003) in their Unified Theory of Acceptance and Use of Technology (UTAUT) model, found that both PE and EE are critical determinants of BI across various contexts (Venkatesh et al., 2003). The higher the perceived performance of implementing ESG practices, the greater the intention to adopt them. This suggests that surveyed SMEs in Bosnia and

Figure 2. Comparison of Model Results Across Manufacturing and Service Sectors
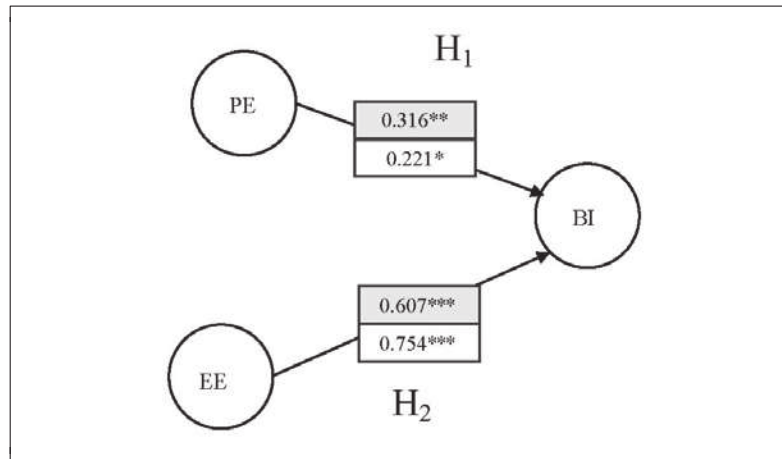
Coefficients for the manufacturing sector are presented in shaded boxes, while those for the service sector are shown in white boxes.

Source: Authors

Herzegovina tend to prioritize the actions that they perceive will positively impact their environmental, social, and governance responsibilities. EE also emerged as a significant predictor across all industries and industry groups. This finding implies that the perceived level of effort required to implement ESG practices strongly influences organizations' intentions to engage in such activities. Higher perceived effort may act as a barrier to implementation, while lower perceived effort may facilitate adoption.

The finding presented in Table 3 and Figure 2 that EE has a higher value of path coefficient than PE in predicting BI to implement ESG practices has potential implications for both theory and practice. These results contradict Venkatesh et al. (2003) and Wang and Shih (2009), who found that while PE is the strongest predictor of intention and EE is significant only during the initial period, EE becomes insignificant in the extended and sustained usage period. As ESG is a relatively new concept in the context of SMEs in Bosnia and Herzegovina, EE might play a more important role in influencing intention, with the possibility of its effect diminishing as the implementation of ESG practices increases due to environmental pressures. In the context

of a developing country, Apfel and Herbes (2021) indicated that SMEs may underestimate the efforts required to adopt renewable technologies due to overly optimistic expectations stemming from a prevailing knowledge deficit about renewable energies. On the contrary, our paper demonstrates that managers are aware of the effort required to implement renewable technologies, especially when confronted with limited resources. In that context, managers might consider trade-offs among ESG dimensions due to resource and time-consuming efforts, making EE a theoretical construct of higher importance in decision-making about ESG implementation compared to PE. In particular, companies do not consider all aspects of E, S, and G as their priorities, and "it is unrealistic to expect that companies do not have to make hard trade-offs within and among ESG dimensions, or that they can lead on every topic" (Pérez et al., 2022, p. 5). Even investment managers do not consider full ESG integration. As Cappucci (2018, p. 24) observed, "A number of recent surveys and rating data suggest that the overwhelming majority of investment managers have not implemented a strategy of full ESG integration." Pérez et al. (2022) introduced three levels of ambition in ESG: minimum practice, common practice, and

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

171

"next-level practice," but also pointed out that ESG is a process, not an outcome. As such, ESG being a process could create mental barriers among managers when considering ESG implementation, giving higher importance to EE than the expected performance of such practices. The results of this study align with those of Kabra et al. (2017), who analysed disaster relief operations data from middle-level managers and found that the path coefficient for EE (0.566) was higher than the path coefficient for PE (0.293) for IT adoption, suggesting that the perceived complexity of the IT system may lead to resistance and anxiety toward its adoption.

The differences observed between industry groups are also noteworthy. In the manufacturing sector, both perceived performance and expected effort had significant positive effects on behavioural intention, albeit with slightly lower coefficients compared to the overall industry sample. This may be attributed to the specific challenges and complexities associated with implementing ESG practices in manufacturing, such as regulatory compliance, resource efficiency, and supply chain management. In the service and trade sector, EE emerged as the stronger predictor, with a substantially higher coefficient compared to PE. This suggests that organizations in this sector may prioritize actions based on the perceived ease or difficulty of implementation rather than solely on perceived performance outcomes since customer satisfaction and operational efficiency are critical for business success. The difference may also be attributed to the development phase of SMEs. Davis (1989) found that ease of use often takes precedence over perceived usefulness during the initial adoption phases. Additionally, the marginally significant relationship between PE and BI in this group may indicate that other factors not accounted for in the study could also influence intentions to adopt ESG practices.

5. CONCLUSION

This study found that both PE and EE play important roles in an organization's intention to implement ESG practices across different industries. The higher the perceived performance, the greater the intention to adopt ESG practices. The perceived level of effort required to implement

ESG practices strongly influences an organization's intention to engage in such activities. The study revealed that EE has a higher standardized loading than PE in predicting BI to implement ESG practices, suggesting that time-consuming and resource-intensive requirements could lead managers to prioritize effort over performance. The differences observed between industry groups suggest that the challenges and complexities associated with implementing ESG practices vary by industry, with the manufacturing sector facing specific challenges related to regulatory compliance, resource efficiency, and supply chain management. Conversely, organizations in the service and trade group prioritize actions based on the perceived ease or difficulty of implementation.

This study contributes to the existing literature by utilizing a second-order latent construct within the TAM model for ESG practices, presenting a unique approach to understanding behavioural intention. By aggregating BI, PE, and EE for each ESG dimension into a higher-level construct, a more holistic view of organizations' overall inclination towards implementing ESG practices has been captured. This approach could offer valuable insights into overall ESG commitment and the need for generalizability. However, it also highlights the need for assessing subtle differences within each ESG area.

This study extends the Technology Acceptance Model by incorporating a second-order latent construct to evaluate the impact of performance expectancy and effort expectancy on the behavioural intention to implement ESG practices. By applying TAM to the context of ESG in SMEs, the paper contributes to the broader understanding of how traditional technology acceptance frameworks can be adapted to new domains, such as sustainability. The findings highlight the importance of both perceived performance and effort in shaping managerial intentions, thus providing a more comprehensive understanding of the factors driving ESG adoption.

From a practical perspective, our findings offer valuable insights for SMEs seeking to implement ESG practices. Managers can prioritize strategies that enhance the perceived ease of implementing ESG initiatives, thereby reducing potential barriers related to effort expectancy. Highlighting the

performance benefits of ESG practices can also further encourage adoption. Policymakers and industry leaders can use these insights to design targeted interventions and support mechanisms that address the specific challenges faced by different industry sectors, promoting broader ESG adoption across the board.

This study has several limitations. First, the focus on PE and EE excludes other potentially significant factors that may impact organizations' intentions and behaviours related to ESG implementation, such as organizational culture, stakeholder pressure, and industry-specific dynamics. Second, the integration of full predictors from the UTAUT model could provide a more comprehensive understanding of the factors influencing ESG adoption. Lastly, the cross-sectional nature of the data limits our ability to infer causality. Future research could explore additional factors and utilize longitudinal studies to provide insights into the long-term effects of implementing ESG practices on organizational performance and sustainability outcomes.

References

Apfel, D., & Herbes, C. (2021). What drives Senegalese SMEs to adopt renewable energy technologies? Applying an extended UTAUT2 model to a developing economy. Sustainability, 13(16), 9332. Available on https://www.mdpi.com/2071-1050/13/16/9332

Ajzen, I. (1985). *From intentions to actions: A theory of planned behaviour*. In J. Kuhl, & J. Beckmann (Eds.), Action control: From cognition to behaviour (pp. 11–39). Springer. Available on https://link.springer.com/chapter/10.1007/978-3-642-69746-3_2

Ajzen, I., & Fishbein, M. (1977). Attitude-Behaviour Relations: A Theoretical Analysis and Review of Empirical Research. In *Psychological Bulletin* (Vol. 84, Issue 5). Tittle & Hill. Available on https://www.academia.edu/download/50677830/Attitude-Behavior_Relations_A_Theoretica20161202-4487-123ef61.pdf

Ajibade, P. (2018). Technology acceptance model limitations and criticisms: Exploring the practical applications and use in technology-related studies, mixed-method, and qual-

itative researches. *Library Philosophy and Practice*, 9. Available on https://core.ac.uk/download/pdf/189486068.pdf

Amran, A., Lee, S. P., & Devi, S. S. (2014). The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality. *Business Strategy and the Environment*, *23*(4), 217–235. Available on https://www.academia.edu/download/64697128/Amran_et_al_2014_Business_Strategy_and_the_Environment.pdf

Armas-Cruz, Y., Gil-Soto, E., & Oreja-Rodríguez, J. R. (2017). Environmental management in SMEs: organizational and sectoral determinants in the context of an Outermost European Region. *Vilnius Gediminas Technical University*, *18*(5), 935–953. Available on https://jau.vgtu.lt/index.php/JBEM/article/download/1268/999

Cappucci, M. (2018). The ESG integration paradox. *Journal of Applied Corporate Finance*, 30(2), 22-28. Available on https://www.researchgate.net/profile/Michael-Cappucci-2/publication/317594451_The_ESG_Integration_Paradox/links/5b83f12d92851c1e12352f66/The-ESG-Integration-Paradox.pdf

Davis, F. D. (1985). A technology acceptance model for empirically testing new end-user information systems: Theory and results. [Thesis (Ph. D.), Massachusetts Institute of Technology], Sloan School of Management. Available on https://dspace.mit.edu/handle/1721.1/15192

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340. Available on https://www.jstor.org/stable/249008

Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International journal of man-machine studies*, 38(3), 475-487. Available on https://deepblue.lib.umich.edu/bitstream/handle/2027.42/30954/0000626.pdf?sequence=1

Dey, P. K., Petridis, N. E., Petridis, K., Malesios, C., & Ghosh, K. (2010). Environmental Management and Corporate Social Responsibility Practices of Small and Medium-sized Enterprises Aston University, Birmingham B4 7ET, United Kingdom Department of Rural Development, Democritus University of Thrace, Greece Coventry Universi. 1–35.

Performance and Effort Expectations in Implementing ESG Practices in Bosnian and Herzegovinian SMEs...
EKONOMSKI PREGLED, 76 (2) 161-174 (2025)

173

Available on https://pureportal.coventry.ac.uk/files/20363988/Binder2.pdf

EBA. (2021). Report On Management and Supervision of ESG Risks for Credit Institutions and Investment Firms. 18. Available on https://www.eba.europa.eu/sites/default/files/document_library/Publications/Reports/2021/1015656/EBA%20Report%20on%20ESG%20risks%20management%20and%20supervision.pdf

Fassin, Y., Van Rossem, A., & Buelens, M. (2011). Small-Business Owner-Managers' Perceptions of Business Ethics and CSR-Related Concepts. *Journal of Business Ethics*, *98*(3), 425–453. Available on http://biblio.ugent.be/publication/2962681

Gandhi, N. S., Thanki, S. J., & Thakkar, J. J. (2018). Ranking of drivers for integrated lean-green manufacturing for Indian manufacturing SMEs. *Journal of Cleaner Production*, 171, 675-689. Available on https://www.sciencedirect.com/science/article/pii/S0959652617323326

Kabra, G., Ramesh, A., Akhtar, P., & Dash, M. K. (2017). Understanding behavioural intention to use information technology: Insights from humanitarian practitioners. Telematics and Informatics, 34(7), 1250-1261. Available on https://doi.org/10.1016/j.tele.2017.05.010

Kiefer, C. P., Carrillo-Hermosilla, J., Del Río, P., & Callealta Barroso, F. J. (2017). Diversity of eco-innovations: A quantitative approach. *Journal of Cleaner Production*, *166*, 1494–1506. Available on https://www.academia.edu/download/55148971/Diversity_of_eco-innovations_A_quantitative_approach.pdf

Kim, J. R., & Lee, J. (2020). Factors Affecting Technology Acceptance of Smart Factory. *Journal of Information Technology Applications and Management*, 27(1), 75–95. Available on https://koreascience.kr/article/JAKO202013363974826.pdf

Koe, W.-L., Omar, R., & Sa'ari, J. R. (2015). Factors Influencing Propensity to Sustainable Entrepreneurship of SMEs in Malaysia. *Procedia - Social and Behavioral Sciences*, *172*, 570–577. Available on https://www.sciencedirect.com/science/article/pii/S1877042815004413/pdf?md5=82e3af2aa7d166bbfdf9d9e8a005c1a3&pid=1-s2.0-S1877042815004413-main.pdf&_valck=1

Malatji, W. R., Eck, R. V., & Zuva, T. (2020). Understanding the usage, modifications, limitations and criticisms of technology acceptance model (TAM). *Advances in Science, Technology and Engineering Systems Journal*, 5(6), 113-117. Available on https://pdfs.semanticscholar.org/fd6c/9c9dceaf77de8f4d-4d83c49897ed9021bf00.pdf

Marangunić, N., & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. *Universal Access in the Information Society*, 14, 81-95. Available on https://link.springer.com/article/10.1007/s10209-014-0348-1

Ma, Y. J., Gam, H. J., & Banning, J. (2017). Perceived ease of use and usefulness of sustainability labels on apparel products: application of the technology acceptance model. *Fashion and Textiles*, 4, 1-20. Available on https://link.springer.com/article/10.1186/s40691-017-0093-1

Morris, M. G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and age differences in employee decisions about new technology: An extension to the theory of planned behavior. IEEE Transactions on Engineering Management, 52(1), 69-84. Available on https://ieeexplore.ieee.org/abstract/document/1388699

Naspetti, S., Mandolesi, S., Buysse, J., Latvala, T., Nicholas, P., Padel, S., Van Kiim E. J., & Zanoli, R. (2017). Determinants of the acceptance of sustainable production strategies among dairy farmers: Development and testing of a modified technology acceptance model. *Sustainability*, 9(10), 1805. Available on https://www.mdpi.com/2071-1050/9/10/1805/pdf

Park, S. R., & Jang, J. Y. (2021). The impact of ESG management on investment decision: Institutional investors' perceptions of country-specific ESG criteria. *International Journal of Financial Studies*, 9(3), 48. Available on https://www.mdpi.com/2227-7072/9/3/48/pdf

Pérez, L., Hunt, V., Samandari, H., Nuttall, R., & Bellone, D. (2022). How to make ESG real. *The McKinsey Quarterly*. Available on https://digitalrosh.com/wp-content/uploads/2022/09/how-to-make-esg-real-vf.pdf

Sáez-Martínez, F. J., Díaz-García, C., & González-Moreno, Á. (2016). Factors promoting environmental responsibility in European SMEs: The effect on performance. *Sustainability*, *8*(9). Available on https://www.mdpi.com/2071-1050/8/9/898/pdf

Sargolzaei, S. (2017). Developing technology acceptance models for decision making in urban management. *MOJ Civil Engineering*, 2(6), 180-182. Available on https://www.academia.edu/download/107471038/MO-JCE-02-00050.pdf

Tang, Z., & Tang, J. (2012). Stakeholder-firm power difference, stakeholders' CSR orientation, and SMEs' environmental performance in China. *Journal of Business Venturing*, *27*(4), 436–455. Available on https://www.sciencedirect.com/science/article/abs/pii/S0883902611001303

Tamilmani, K., Rana, N. P., & Dwivedi, Y. K. (2017). A systematic review of citations of UTAUT2 article and its usage trends. In Digital Nations–Smart Cities, Innovation, and Sustainability: 16th IFIP WG 6.11 Conference on e-Business, e-Services, and e-Society, I3E 2017, Delhi, India, November 21–23, 2017, Proceedings 16 (pp. 38-49). Springer International Publishing. Available on https://link.springer.com/chapter/10.1007/978-3-319-68557-1_5

Testa, F., Gusmerottia, N. M., Corsini, F., Passetti, E., & Iraldo, F. (2016). Factors Affecting Environmental Management by Small and Micro Firms: The Importance of Entrepreneurs' Attitudes and Environmental Investment. *Corporate Social Responsibility and Environmental Management*, *23*(6), 373–385. Available on https://onlinelibrary.wiley.com/doi/abs/10.1002/csr.1382

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, 27(3), 425–478. Available on https://www.jstor.org/stable/30036540

Wang, Y., & Shih, Y. (2009). Why do people use information kiosks? A validation of the unified theory of acceptance and use of technology. Government Information Quarterly, 26(1), 158-165. Available on https://www.sciencedirect.com/science/article/abs/pii/S0740624X08000865?via%3Dihub

Zhang, B., Bi, J., & Liu, B. (2009). Drivers and barriers to engage enterprises in environmental management initiatives in Suzhou Industrial Park, China. *Frontiers of Environmental Science and Engineering in China*, *3*(2), 210–220. Available on https://journal.hep.com.cn/fese/EN/10.1007/s11783-009-0014-7

Očekivani učinak i napor u implementaciji ESG praksi u bosanskohercegovačkim malim i srednjim poduzećima: Primjena modela prihvaćanja tehnologije

Sažetak

Ovaj rad istražuje utjecaj očekivane korisnosti (PE) i očekivanog napora (EE) na bihevioralne namjere (BI) menadžera da implementiraju okolišne, društvene i upravljačke prakse (ESG) u malim i srednjim poduzećima (MSP) u Bosni i Hercegovini. Koristeći Model prihvaćanja tehnologije (TAM), studija analizira kako ovi čimbenici *utječu na angažman donositelja odluka u održivim poslovnim aktivnostima. Provedena je anketa među 247 menadžera kako bi se procijenile njihove BI, PE i EE za svaku komponentu ESG-a. Prikupljeni podaci analizirani su korištenjem modeliranja strukturnih jednadžbi (SEM) kako bi se konstruirao latentni model drugog reda koji mjeri kombinirane učinke ovih* čimbenika. *Studija popunjava prazninu u literaturi analizirajući sektorske razlike u* čimbenicima *koji utječu na implementaciju ESG-a. Rezultati otkrivaju da i PE i EE značajno utječu na namjeru organizacije da usvoji ESG prakse, s različitim učincima između proizvodnih i uslužnih djelatnosti. Nalazi ističu različite izazove i složenosti s kojima se svaka industrija suočava prilikom implementacije ESG praksi. Iako se ova studija fokusira samo na PE i EE, treba imati u vidu da i drugi* čimbenici, *kao* što *su organizacijska kultura, pritisak dionika i industrijska dinamika, također mogu igrati ulogu u usvajanju ESG-a. Glavni doprinos ovog rada je korištenje latentnog konstrukta drugog reda unutar TAM modela za ESG prakse,* što *nudi jedinstvenu perspektivu u razumijevanju bihevioralne namjere menadžera.*

Ključne riječi: Okolišne prakse, društvene prakse, upravljačke prakse, ESG, mala i srednja poduzeća, modeliranje strukturnih jednadžbi, SEM, Bosna i Hercegovina