

# SUSTAINABILITY KNOWLEDGE AND PERCEIVED CORPORATE SECURITY: BUSINESS STUDENTS' PERSPECTIVES ON ORGANIZATIONAL RESILIENCE AND ESG INTEGRATION

**Danguolė OŽELIENĖ**

Vilnius University

Saulėtekio g. 22, LT-01513 Vilnius, Lithuania

E-mail: [danguole.ozeliene@vu.lt](mailto:danguole.ozeliene@vu.lt)

ORCID ID: [0000-0003-1003-5242](https://orcid.org/0000-0003-1003-5242)

**Dileta JATAUTAITĖ**

Vilnius University

Saulėtekio g. 22, LT-01513 Vilnius, Lithuania

E-mail: [dileta.jatautaite@vu.lt](mailto:dileta.jatautaite@vu.lt)

ORCID ID: [0000-0003-4753-618X](https://orcid.org/0000-0003-4753-618X)

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**Abstract.** This study examines how sustainability knowledge relates to perceptions of corporate security and organizational resilience among future business professionals. Amid rising Environmental, Social, and Governance (ESG) requirements and the European Union's implementation of the Corporate Sustainability Reporting Directive (CSRD), sustainability competencies are increasingly recognized as strategic capabilities linked to risk governance, reputational security, and long-term organizational resilience.

A quantitative design was used, with a structured questionnaire administered to undergraduate business students in international business and finance programs. The research model included five dimensions of corporate security: financial stability, reputational security, risk management, regulatory compliance, and organizational resilience. Data were analyzed using descriptive statistics, reliability testing (Cronbach's alpha), and correlation analysis.

Results indicate that sustainability knowledge is most strongly associated with reputational security and risk management, with a weaker association with financial stability. No statistically significant relationships were observed for regulatory compliance or organizational resilience. Demographic variables showed limited explanatory power.

The study concludes that sustainability knowledge functions primarily as a cognitive framing mechanism that shapes perceptions of external legitimacy and risk, rather than as a driver of compliance-oriented or structural organizational dimensions. The findings highlight the need to strengthen sustainability competencies in business education to better support future managerial decision-making and organizational resilience.

**Keywords:** sustainability, ESG, corporate security, organizational resilience, business education, CSRD, reputational security, risk management

## Introduction

Sustainability has shifted from a peripheral concern to a strategic necessity for contemporary organizations. Increasing environmental uncertainty, geopolitical instability, climate-related risks, stakeholder expectations, and regulatory transformation have intensified the need for organizations to integrate sustainability principles into strategic governance and decision-making processes. Consequently, sustainability is no longer understood solely as an ethical or environmental issue but increasingly as a multidimensional organizational capability linked to long-term competitiveness, resilience, and corporate security.

A growing body of academic research demonstrates that environmental, social, and governance (ESG) factors are systematically associated with corporate performance through multiple mechanisms, including strategic positioning, stakeholder management, reputational legitimacy, and proactive risk governance (Da Cunha et al., 2025). Policarpo, de Oliveira,

Abdala, & do Nascimento Rebelatto, 2025). Systematic reviews indicate that although the short-term financial effects of ESG integration may vary across industries and organizational contexts, the long-term relationship between sustainability performance and organizational outcomes tends to be predominantly positive (Da Cunha et al., 2025). In particular, sustainability-oriented organizations are increasingly perceived as more resilient, adaptive, and strategically prepared to respond to rapidly changing business environments.

Contemporary literature further suggests that ESG integration contributes not only to financial performance but also to non-financial organizational dimensions, including stakeholder trust, corporate legitimacy, crisis preparedness, and reputational security (Da Cunha et al., 2025). Sustainability-related practices support organizational resilience by enabling companies to identify emerging environmental and social risks before they escalate into operational disruptions or reputational crises. As a result, sustainability is increasingly conceptualized as a strategic mechanism supporting long-term organizational continuity and security.

Within the European Union, sustainability governance has become institutionalized through mandatory regulatory frameworks emphasizing corporate transparency and accountability. The Corporate Sustainability Reporting Directive (CSRD; Directive (EU) 2022/2464) significantly expands sustainability disclosure requirements for large companies and listed small and medium-sized enterprises operating within EU markets (Directive (EU) 2022/2464, 2022). Compared with the previous Non-Financial Reporting Directive (NFRD), the CSRD introduces broader ESG reporting obligations designed to improve transparency, comparability, and reliability of sustainability disclosures across Member States (European Commission, 2025). These developments demonstrate that sustainability governance has become closely connected to organizational risk management, compliance systems, and strategic resilience planning.

The implementation of the CSRD has important implications not only for organizations but also for higher education institutions responsible for preparing future business professionals. Universities and business schools increasingly integrate sustainability and ESG-related competencies into business and management curricula to foster responsible leadership, systems thinking, ethical governance, and strategic foresight (European Commission, 2025). Globally, business education institutions are aligning their educational practices with sustainability principles in order to prepare future managers capable of responding to ESG-related organizational challenges and regulatory requirements.

Research on sustainability disclosure practices within the Baltic region indicates that organizations demonstrate uneven levels of preparedness for adapting to evolving EU sustainability reporting standards (Jokūbauskas & Šalienė, 2025). While sustainability reporting among Baltic companies is becoming increasingly widespread, differences remain in ESG integration practices, reporting quality, and strategic sustainability governance. These findings highlight the importance of strengthening sustainability-related competencies among future business professionals, particularly in regions undergoing rapid regulatory and organizational transformation.

Academic literature conceptualizes sustainability through several theoretical perspectives relevant to organizational security and resilience. The resource-based view argues that sustainability competencies and ESG-related capabilities may function as strategic organizational resources that generate long-term competitive advantage and operational stability (Barney, 1991). Dynamic capabilities theory emphasizes that organizations capable of adapting to rapidly changing environments through innovation and strategic flexibility are more resilient in uncertain contexts (Teece, Pisano, & Shuen, 1997). Stakeholder theory further

suggests that sustainability practices contribute to organizational legitimacy, transparency, and stakeholder trust, thereby reducing reputational and relational risks (Freeman, 1984). Institutional theory additionally explains how regulatory frameworks such as the CSRD create external pressures encouraging organizations to adopt sustainability-oriented governance and compliance practices.

Despite the growing body of literature on ESG integration and corporate sustainability, important research gaps remain. Existing studies predominantly focus on the relationship between sustainability performance and corporate financial outcomes, while considerably less attention has been devoted to how future business professionals perceive sustainability as a factor of corporate security and organizational resilience. Furthermore, empirical studies investigating sustainability-related perceptions among business students remain limited within the Baltic context.

This gap is particularly significant because business students represent future managers, decision makers, and governance actors who will be responsible for implementing sustainability strategies and complying with evolving ESG-related regulatory frameworks. Their understanding of sustainability may influence future approaches to strategic risk management, organizational resilience, reputational governance, and corporate security.

Therefore, understanding how future business professionals conceptualize sustainability-related organizational dimensions is both theoretically and practically relevant. Assessing student perceptions enables a better understanding of how sustainability knowledge may shape future managerial decision-making and organizational governance practices.

The scientific problem addressed in this study is formulated as follows: how is sustainability knowledge associated with perceptions of corporate security and organizational resilience among future business professionals?

**The object of the research** is the relationship between sustainability knowledge and perceptions of corporate security and organizational resilience among business students.

**The study aims** to evaluate the relationship between sustainability knowledge and perceptions of corporate security dimensions among future business professionals.

**The research objectives:**

1. To analyze the theoretical relationship between sustainability, ESG integration, corporate security, and organizational resilience.
2. To assess business students' perceptions of sustainability-related organizational dimensions, including financial stability, reputational security, risk management, regulatory compliance, and organizational resilience.
3. To evaluate the relationship between sustainability knowledge and perceptions of corporate security dimensions.
4. To determine whether demographic variables influence sustainability-related perceptions.

Based on the theoretical assumptions and prior empirical studies, the following **hypotheses were formulated:**

H1. Sustainability knowledge is positively associated with selected dimensions of corporate security, including financial stability, reputational security, risk management, regulatory compliance, and organizational resilience.

H2. The strongest positive relationships between sustainability knowledge and corporate security dimensions are expected in reputational security and risk management.

H3. Sustainability knowledge has a positive but weaker association with financial stability compared to reputational security and risk management.

H4. Sustainability knowledge is not significantly associated with regulatory compliance and organizational resilience perceptions.

H5. Demographic variables (age, gender, and work experience) have limited or no significant influence on perceptions of sustainability-related corporate security dimensions.

The study contributes to sustainability and management research in several ways. First, it expands the understanding of sustainability by examining it through the perspective of corporate security and organizational resilience. Second, it provides empirical evidence from the Baltic higher education context, where research on sustainability perceptions remains relatively limited. Third, the findings may contribute to the development of business education curricula aimed at strengthening sustainability-related competencies, ESG awareness, and resilience-oriented managerial thinking among future professionals.

## Literature review

Sustainability has increasingly evolved from a primarily environmental concern into a multidimensional strategic concept closely associated with corporate governance, organizational resilience, and long-term competitiveness. Contemporary organizations are expected not only to generate economic value but also to demonstrate accountability, transparency, adaptability, and social responsibility within increasingly uncertain business environments (Elkington, 1997; Carroll, 1991). Consequently, sustainability is progressively integrated into strategic management and organizational governance frameworks.

Academic literature demonstrates that Environmental, Social, and Governance (ESG) integration contributes to organizational performance through multiple mechanisms, including stakeholder trust, reputational legitimacy, operational stability, and proactive risk governance (Da Cunha et al., 2025). Moreover, systematic reviews indicate that although the short-term financial effects of ESG implementation may vary depending on organizational and industry-specific contexts, the long-term relationship between ESG performance and organizational outcomes tends to be predominantly positive, particularly regarding strategic resilience and non-financial performance indicators (Da Cunha et al., 2025).

The relationship between sustainability and organizational performance can be explained through several theoretical perspectives. One of the most influential approaches is the resource-based view (RBV), developed by Barney (1991), which argues that organizational resources and competencies capable of creating value and strategic differentiation may become sources of sustainable competitive advantage. Within this framework, sustainability-related competencies, ESG governance capabilities, and responsible organizational practices may function as strategic assets supporting operational continuity, competitiveness, and long-term resilience (Barney, 1991; Da Cunha et al., 2025). Therefore, sustainability integration enables organizations to strengthen organizational stability while simultaneously improving their capacity to adapt to environmental and market-related challenges.

Another important theoretical perspective is the dynamic capabilities theory proposed by Teece et al. (1997). According to this perspective, organizations capable of integrating, reconfiguring, and developing internal competencies are more likely to maintain competitiveness and achieve resilience within rapidly changing environments. Sustainability competencies may therefore be understood as dynamic organizational capabilities that enhance adaptability, strategic flexibility, and crisis preparedness (Teece et al., 1997). Consequently, sustainability-oriented governance supports organizational resilience by enabling organizations to anticipate environmental, social, and regulatory disruptions more effectively.

In addition, stakeholder theory, introduced by Freeman (1984), provides a significant theoretical foundation for understanding sustainability governance. Freeman (1984) argues that organizations must maintain legitimacy, transparency, and trust among diverse stakeholder groups in order to ensure long-term organizational survival and sustainable development. From this perspective, sustainability reporting and ESG disclosure practices contribute to stakeholder confidence by improving accountability and organizational transparency. As a result, sustainability-oriented governance helps organizations mitigate reputational and relational risks while strengthening corporate credibility and public trust.

The growing strategic relevance of sustainability is also strongly associated with organizational risk management. ESG integration improves organizations' ability to identify, assess, and mitigate environmental, social, and governance-related risks before they escalate into significant operational or reputational disruptions (Da Cunha et al., 2025). Accordingly, sustainability-oriented organizations are increasingly perceived as more capable of responding proactively to crises, regulatory uncertainty, and external environmental pressures.

Furthermore, institutional theory explains how external regulatory and normative pressures influence organizational sustainability practices. According to DiMaggio and Powell (1983), organizations adapt their structures and governance mechanisms in response to legal, social, and institutional expectations. Within the European Union, sustainability governance has become increasingly institutionalized through mandatory ESG reporting frameworks, particularly the Corporate Sustainability Reporting Directive (CSRD). The CSRD requires companies to disclose standardized sustainability-related information concerning environmental, social, and governance performance in order to improve transparency, comparability, and accountability across Member States (Directive (EU) 2022/2464, 2022; European Commission, 2025). Consequently, sustainability reporting is becoming increasingly integrated into organizational governance, compliance systems, and strategic risk management processes.

These developments have substantial implications not only for organizations but also for higher education institutions. Universities and business schools are increasingly integrating sustainability-related competencies into business and management curricula in order to prepare future professionals for ESG-related governance challenges and regulatory requirements. Wiek et al. (2011) emphasize that sustainability education should foster systems thinking, anticipatory competence, strategic problem-solving, ethical reasoning, and collaborative decision-making skills necessary for addressing complex sustainability challenges. Similarly, Rieckmann (2012) argues that higher education institutions play a critical role in developing sustainability competencies and responsible leadership among future professionals.

Moreover, Lozano et al. (2017) highlight that sustainability integration within higher education should extend beyond environmental awareness by incorporating governance, organizational responsibility, and long-term strategic thinking into academic curricula. Consequently, sustainability education is increasingly associated with the development of organizational resilience, ESG literacy, and responsible managerial decision-making.

Within the Baltic context, Jokūbauskas and Šalienė (2025) found that publicly listed companies demonstrate uneven levels of preparedness regarding sustainability disclosure and ESG implementation practices. Their findings indicate that although sustainability reporting is becoming increasingly widespread, many organizations continue to demonstrate selective implementation of ESG-related practices and limited regulatory readiness.

Despite the growing body of literature examining ESG integration, sustainability governance, and organizational resilience, important research gaps remain. Existing studies primarily focus on corporate sustainability performance and reporting practices, whereas

considerably less attention has been devoted to understanding how future business professionals perceive sustainability as a factor influencing corporate security and organizational resilience. Furthermore, empirical studies investigating sustainability-related perceptions among business students remain limited within the Baltic region.

Therefore, the present study seeks to address this research gap by examining the relationship between sustainability knowledge and perceptions of corporate security dimensions among future business professionals.

## Research methodology and design

Based on a comprehensive review of academic literature, a conceptual research model was developed in which sustainability knowledge is conceptualized as a multidimensional cognitive construct influencing five interrelated dimensions of organizational security: financial stability, reputational security, risk management, regulatory compliance, and long-term organizational resilience.

The model assumes that sustainability knowledge operates as an antecedent variable shaping managerial cognition and organizational perception patterns across security-related organizational domains. The conceptual structure reflects the theoretical assumptions derived from stakeholder theory, institutional theory, dynamic capabilities theory, and the resource-based view.



**Figure 1. Conceptual research model of sustainability knowledge and organizational security dimensions**

*Source: developed by the authors.*

A quantitative, cross-sectional research design was employed to examine the relationships between sustainability knowledge and organizational security dimensions among future business professionals.

The selected design enables:

- systematic measurement of latent constructs;
- statistical examination of inter-variable relationships;
- standardized comparison across organizational dimensions;
- generalizable inference within the analyzed sample context.

The analytical workflow consisted of four sequential stages: instrument development, questionnaire administration, statistical processing, and empirical interpretation.

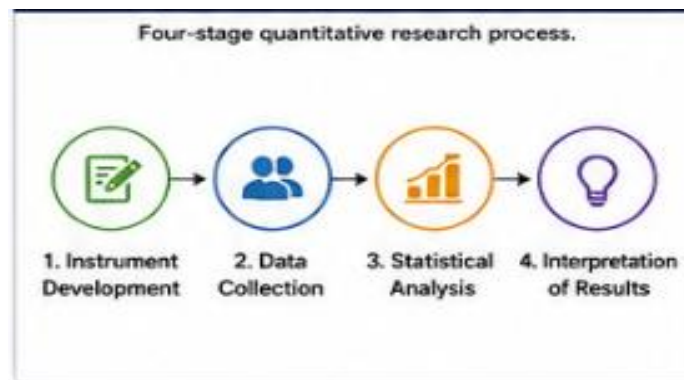


**Figure 2. Quantitative research design and analytical workflow**  
*Source: developed by the authors.*

The target population consisted of undergraduate students enrolled in business-related study programs, including international business, business administration, finance, and management.

This population was selected due to several theoretical and practical considerations. First, business students represent future organizational decision-makers who will operate within increasingly sustainability-oriented governance environments. Second, ESG-related competencies are becoming progressively integrated into higher education curricula. Third, this population provides an appropriate context for examining emerging sustainability cognition structures before extensive professional socialization occurs.

A purposive sampling approach with random selection elements was applied in order to ensure accessibility while maintaining respondent variability.

The final sample consisted of  $N = 78$  respondents, predominantly aged between 18 and 25 years.

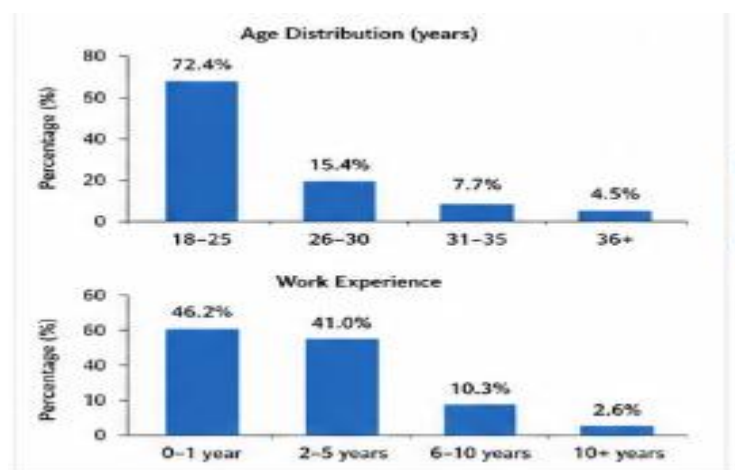


**Figure 3. Sampling design and demographic profile of respondents**  
*Source: developed by the authors.*

The research instrument was developed based on the theoretical assumptions identified in the literature review concerning sustainability, ESG integration, organizational security, and resilience. The questionnaire was designed to evaluate how sustainability knowledge is

associated with perceptions of organizational security dimensions among future business professionals.

The instrument is structured into five theoretical dimensions aligned with the conceptual research model:

1. Financial Stability (FS)
2. Reputational Security (RS)
3. Risk Management (RV)
4. Regulatory Compliance (RL)
5. Long-Term Organizational Resilience (OA)

Each construct consists of three reflective indicators, resulting in a total of 15 measurement items. All items were coded for statistical processing and analyzed using descriptive statistics, reliability analysis, and correlation analysis.

**Table 1. Measurement model structure**

*Source: developed by the authors based on empirical research data.*

| Construct                 | Code | Items   |
|---------------------------|------|---------|
| Financial Stability       | FS   | FS1–FS3 |
| Reputational Security     | RS   | RS1–RS3 |
| Risk Management           | RV   | RV1–RV3 |
| Regulatory Compliance     | RL   | RL1–RL3 |
| Organizational Resilience | OA   | OA1–OA3 |

The questionnaire employed a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).



**Figure 4. Measurement instrument structure and construct mapping**

*Source: developed by the authors.*

Internal consistency reliability was evaluated using Cronbach's alpha coefficients.

**Table 2. Reliability statistics**

*Source: developed by the authors based on empirical research data.*

| Construct | Cronbach's Alpha |
|-----------|------------------|
| FS        | 0.679            |
| RS        | 0.740            |
| RV        | 0.680            |
| RL        | 0.627            |
| OA        | 0.675            |
| Total     | 0.680            |

The highest reliability coefficient was observed for Reputational Security ( $\alpha = 0.740$ ), indicating relatively strong internal consistency among items within this construct. Regulatory Compliance demonstrated the lowest coefficient ( $\alpha = 0.627$ ), although it remained acceptable for exploratory social science research.

Overall, all constructs exceeded the minimum exploratory threshold of  $\alpha \geq 0.60$ , confirming acceptable internal reliability.

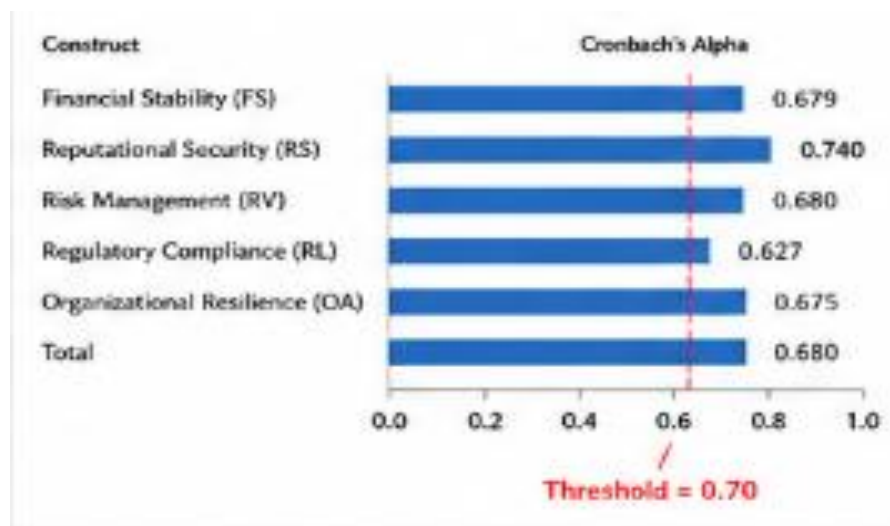


**Figure 5. Cronbach's alpha reliability results across constructs**

*Source: developed by the authors.*

The study followed established academic research ethics principles.

Participation in the survey was voluntary, anonymous, and based on informed consent. No personally identifiable information was collected during data acquisition, and all responses were used exclusively for academic research purposes.

Respondents were informed about the purpose of the study, confidentiality procedures, and the right to discontinue participation at any stage of the survey process.

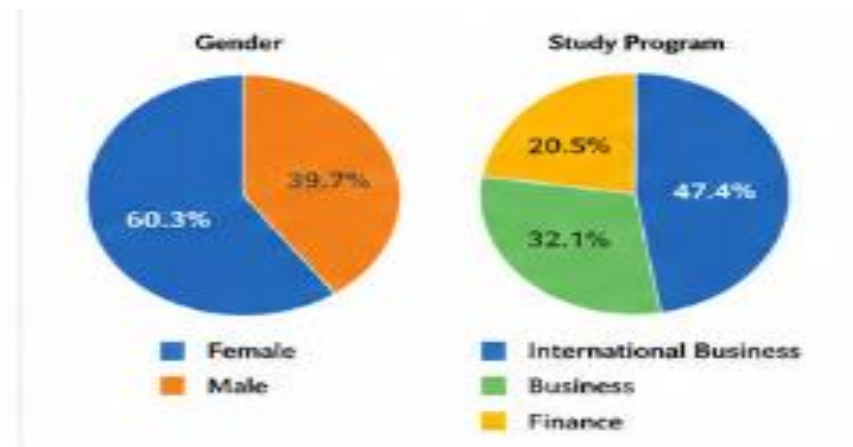


**Figure 6. Ethical framework and data protection principles**

*Source: developed by the authors.*

Several methodological limitations should be acknowledged when interpreting the findings of this study.

First, the cross-sectional design limits the ability to establish causal relationships between sustainability knowledge and organizational security perceptions, as the analysis captures relationships at a single point in time. Second, the study focuses exclusively on undergraduate business students, which strengthens relevance for future managerial cognition but limits broader generalizability to experienced organizational practitioners.

Third, the use of self-reported questionnaire data introduces potential common method bias and social desirability effects. Fourth, the relatively small sample size ( $N = 78$ ) may reduce statistical sensitivity for detecting weaker relationships among variables.

Finally, the study evaluates perceived organizational security dimensions rather than objective organizational performance indicators. Therefore, the findings should be interpreted primarily as cognitive-perceptual relationships rather than direct organizational outcomes.

Future studies should apply longitudinal approaches, larger multi-country samples, and mixed-method research designs integrating both perceptual and objective organizational measures.

The empirical analysis was conducted on a sample of 78 respondents, predominantly aged between 18 and 25 years, representing a relatively young academic population characterized by emerging exposure to sustainability-related organizational concepts.

Most respondents reported limited professional experience ranging from 0 to 5 years, suggesting that the identified perception structures reflect early-stage managerial cognition rather than fully institutionalized professional expertise.

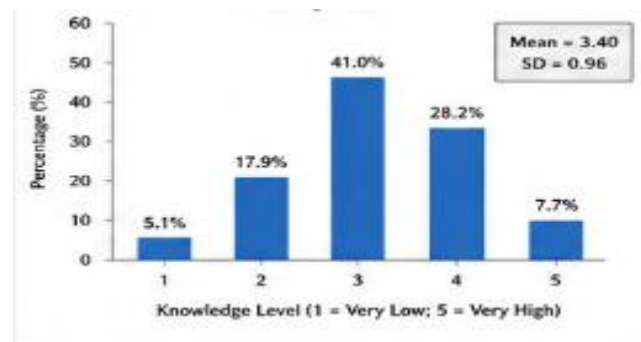


**Figure 7. Demographic distribution of respondents**

*Source: developed by the authors.*

Sustainability knowledge was assessed using a five-point Likert scale. The results indicate a moderate overall level of perceived sustainability knowledge ( $M = 3.4$ ), suggesting that respondents possess basic conceptual familiarity with sustainability but lack advanced or specialized expertise.

The moderate knowledge level is analytically important because it indicates that observed relationships are formed within developing cognitive structures rather than expert-level sustainability specialization.

The calculated standard deviation values indicate the extent to which respondent evaluations deviate from the arithmetic mean. Lower standard deviation values demonstrate relatively stable perception structures among respondents, whereas higher values indicate greater variability in sustainability-related evaluations.

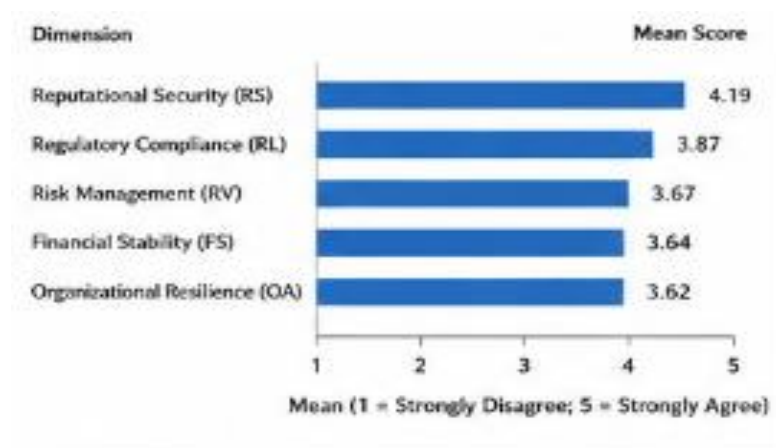


**Figure 8. Distribution of sustainability knowledge scores**

*Source: developed by the authors.*

Descriptive statistical analysis was conducted to examine variations across five organizational security dimensions: financial stability, reputational security, risk management, regulatory compliance, and organizational resilience. Each construct was measured using three reflective indicators assessed on a five-point Likert scale.

**Table 3. Item-Level Descriptive Statistics**

*Source: developed by the authors based on empirical research data.*

| Statement | Min | Max | Mean | Std. Deviation |
|-----------|-----|-----|------|----------------|
| FS1       | 1   | 5   | 3.84 | 0.96           |
| FS2       | 1   | 5   | 3.26 | 0.97           |
| FS3       | 1   | 5   | 3.83 | 0.85           |
| RS1       | 1   | 5   | 4.16 | 0.83           |
| RS2       | 1   | 5   | 4.06 | 0.99           |
| RS3       | 1   | 5   | 4.38 | 0.80           |
| RV1       | 1   | 5   | 3.62 | 0.99           |
| RV2       | 1   | 5   | 3.74 | 1.02           |
| RV3       | 1   | 5   | 3.64 | 0.93           |
| RL1       | 1   | 5   | 3.90 | 0.85           |
| RL2       | 1   | 5   | 3.71 | 1.09           |
| RL3       | 1   | 5   | 3.99 | 0.94           |
| OA1       | 1   | 5   | 3.32 | 1.11           |
| OA2       | 1   | 5   | 3.61 | 0.98           |
| OA3       | 1   | 5   | 3.92 | 0.82           |

The item-level results indicate moderate to relatively high agreement across most indicators. Reputational Security items consistently received the highest mean values, whereas Organizational Resilience and Financial Stability contained comparatively lower-scoring items, suggesting weaker perceived associations with sustainability knowledge.

To further summarize these findings at the construct level, composite mean scores were calculated for each dimension.

**Table 4. Comparative Mean Scores Across Dimensions**

*Source: developed by the authors based on empirical research data.*

| Dimension                      | Mean | Rank |
|--------------------------------|------|------|
| FS (Financial Stability)       | 3.64 | 4    |
| RS (Reputational Security)     | 4.19 | 1    |
| RV (Risk Management)           | 3.67 | 3    |
| RL (Regulatory Compliance)     | 3.87 | 2    |
| OA (Organizational Resilience) | 3.62 | 5    |

The comparative results show clear variation across the five dimensions. Reputational Security achieved the highest mean score ( $M = 4.19$ ), indicating that respondents most strongly associate sustainability with stakeholder trust, corporate legitimacy, and reputational protection.

Regulatory Compliance ( $M = 3.87$ ) and Risk Management ( $M = 3.67$ ) occupy intermediate positions, suggesting a moderate cognitive association between sustainability knowledge and governance- and risk-related organizational functions.

Financial Stability ( $M = 3.64$ ) and Organizational Resilience ( $M = 3.62$ ) received the lowest mean scores, indicating comparatively weaker associations with long-term structural and economic interpretations of sustainability.

Overall, the results demonstrate that sustainability knowledge is primarily associated with externally oriented dimensions, particularly reputational legitimacy, while internal structural dimensions such as organizational resilience and financial stability appear less strongly integrated into respondents' cognitive perceptions.

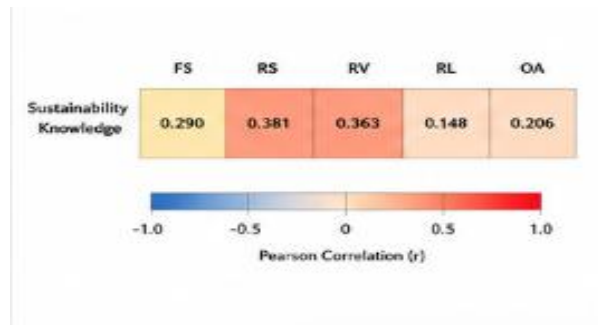


**Figure 9. Comparative mean values across organizational security dimensions**

*Source: developed by the authors.*

Reputational Security demonstrates the highest mean value ( $M = 4.19$ ), indicating that respondents most strongly associate sustainability with stakeholder trust, public legitimacy, and corporate image protection.

By contrast, Organizational Resilience ( $M = 3.62$ ) and Financial Stability ( $M = 3.64$ ) demonstrate comparatively lower evaluations, suggesting that long-term structural interpretations of sustainability remain less cognitively dominant among respondents.

Risk Management and Regulatory Compliance occupy intermediate positions, reflecting moderate integration of sustainability within operational governance perceptions.

Overall, the descriptive findings indicate that respondents conceptualize sustainability primarily through externally visible and reputationally oriented dimensions.

Item-level analysis was conducted to evaluate variability within individual construct indicators.

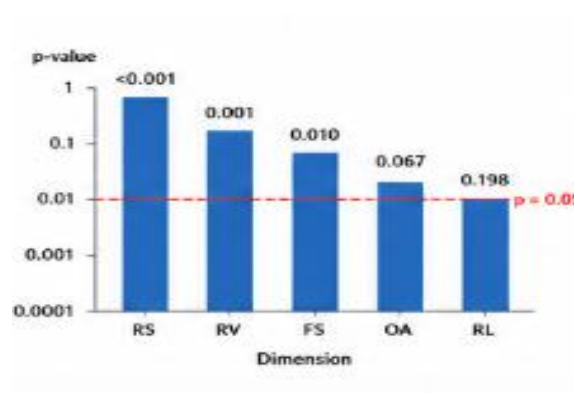


**Figure 10. Item-level descriptive distribution across all constructs**

*Source: developed by the authors.*

Observed response ranges were distributed as follows:

- FS: 3.26–3.84
- RS: 4.06–4.38
- RV: 3.62–3.74
- RL: 3.71–3.99
- OA: 3.32–3.92

Reputational Security items consistently achieved the highest evaluations, particularly RS3, indicating strong respondent agreement that sustainability contributes to reputational risk reduction and stakeholder confidence.

The relatively limited dispersion across items suggests internally stable perception structures within the analyzed sample.

Pearson correlation analysis was conducted to examine the relationships between sustainability knowledge and perceived organizational security dimensions, including financial stability, reputational security, risk management, regulatory compliance, and organizational resilience. In addition, demographic variables (age, gender, and work experience) were included to assess their potential influence on the examined constructs.

**Table 5. Correlation Matrix**

*Source: developed by the authors based on empirical research data.*

| Variable        | FS    | RS    | RV    | RL    | OA     |
|-----------------|-------|-------|-------|-------|--------|
| Knowledge       | 0.290 | 0.381 | 0.363 | 0.148 | 0.206  |
| Age             | 0.015 | 0.137 | 0.030 | 0.153 | -0.127 |
| Gender          | 0.101 | 0.202 | 0.203 | 0.254 | 0.141  |
| Work experience | 0.156 | 0.175 | 0.205 | 0.088 | 0.072  |

The results indicate that sustainability knowledge is positively associated with all examined organizational security dimensions, although the strength of these relationships varies.

The strongest correlation was observed between sustainability knowledge and Reputational Security ( $r = 0.381$ ), followed closely by Risk Management ( $r = 0.363$ ). Financial Stability also demonstrated a moderate positive relationship ( $r = 0.290$ ), indicating a weaker but still meaningful association with sustainability knowledge.

Organizational Resilience showed a weak positive correlation ( $r = 0.206$ ), while Regulatory Compliance exhibited a very weak relationship ( $r = 0.148$ ), suggesting limited cognitive linkage between sustainability knowledge and compliance-oriented perceptions.

Among demographic variables, all correlations were weak and non-significant, with no clear pattern of influence on sustainability-related perceptions.

Although all correlations are positive, correlation analysis does not imply causality. Therefore, statistical significance testing was conducted to determine whether the observed relationships are statistically reliable rather than occurring by chance.

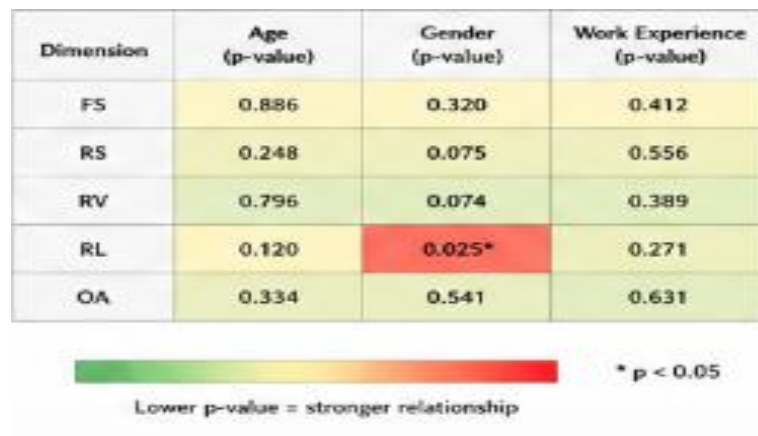


**Figure 11. Correlation heatmap of sustainability knowledge and organizational dimensions**

*Source: developed by the authors.*

To evaluate the robustness of the identified correlations, statistical significance testing was conducted for each organizational security dimension. The analysis examined whether the observed relationships between sustainability knowledge and organizational dimensions were statistically reliable.

**Table 6. Statistical Significance of Correlations**

*Source: developed by the authors based on empirical research data.*

| Dimension                      | r     | t    | p-value | Result        |
|--------------------------------|-------|------|---------|---------------|
| Financial Stability (FS)       | 0.290 | 2.64 | 0.010   | Significant   |
| Reputational Security (RS)     | 0.381 | 3.61 | <0.001  | Significant   |
| Risk Management (RV)           | 0.363 | 3.38 | 0.001   | Significant   |
| Regulatory Compliance (RL)     | 0.148 | 1.30 | 0.198   | Insignificant |
| Organizational Resilience (OA) | 0.206 | 1.86 | 0.067   | Insignificant |

The results confirm statistically significant positive relationships between sustainability knowledge and three organizational dimensions: Financial Stability, Reputational Security, and Risk Management.

Among these dimensions, Reputational Security demonstrated the strongest and most statistically significant relationship ( $p < 0.001$ ), followed by Risk Management ( $p = 0.001$ ). Financial Stability also demonstrated a statistically significant but comparatively weaker relationship ( $p = 0.010$ ).

In contrast, Regulatory Compliance and Organizational Resilience did not reach conventional statistical significance thresholds ( $p > 0.05$ ). These findings suggest that sustainability knowledge is more strongly associated with externally oriented dimensions related to reputation and risk perception than with compliance-oriented or long-term structural organizational dimensions.

Overall, the significance analysis supports the interpretation that sustainability knowledge functions as a selective cognitive mechanism influencing only specific aspects of organizational security perception.



**Figure 12. Statistical significance classification of organizational dimensions**

*Source: developed by the authors.*

The findings confirm statistically significant relationships between sustainability knowledge and three organizational dimensions:

- Financial Stability;
- Reputational Security;
- Risk Management.

Among these, Reputational Security demonstrates the strongest statistical significance ( $p < 0.001$ ), followed by Risk Management ( $p = 0.001$ ).

In contrast, Regulatory Compliance and Organizational Resilience fail to reach conventional significance thresholds, indicating limited explanatory power of sustainability knowledge within these domains.

Additional analysis was conducted to evaluate the influence of demographic variables on organizational security perceptions.

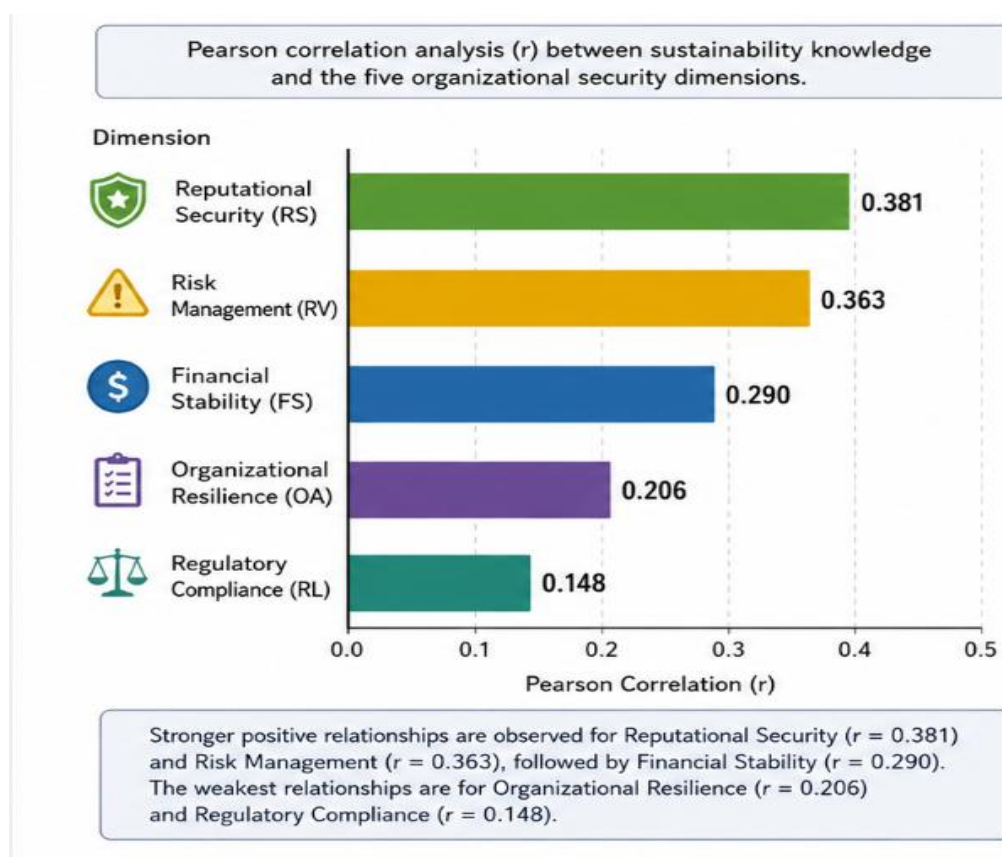


**Figure 13. Demographic influence analysis**

*Source: developed by the authors.*

The analysis revealed that age does not demonstrate statistically significant relationships with any of the examined organizational dimensions.

Gender demonstrated a statistically significant relationship only with Regulatory Compliance (RL) ( $r = 0.254$ ,  $p = 0.025$ ). Reputational Security and Risk Management demonstrated trends toward statistical significance; however, the relationships did not reach conventional significance thresholds. Financial Stability and Organizational Resilience did not demonstrate statistically significant relationships with gender.

Reputational Security ( $RS = 0.202$ ,  $p = 0.075$ ) and Risk Management ( $RV = 0.203$ ,  $p = 0.074$ ) demonstrated trends toward significance but did not reach accepted statistical thresholds.

Work experience did not demonstrate statistically significant relationships with any organizational dimension, as all p-values exceeded 0.05.

These findings suggest that sustainability-related organizational perceptions are shaped primarily by cognitive sustainability awareness rather than demographic characteristics.

The combined analytical results reveal a coherent empirical pattern.

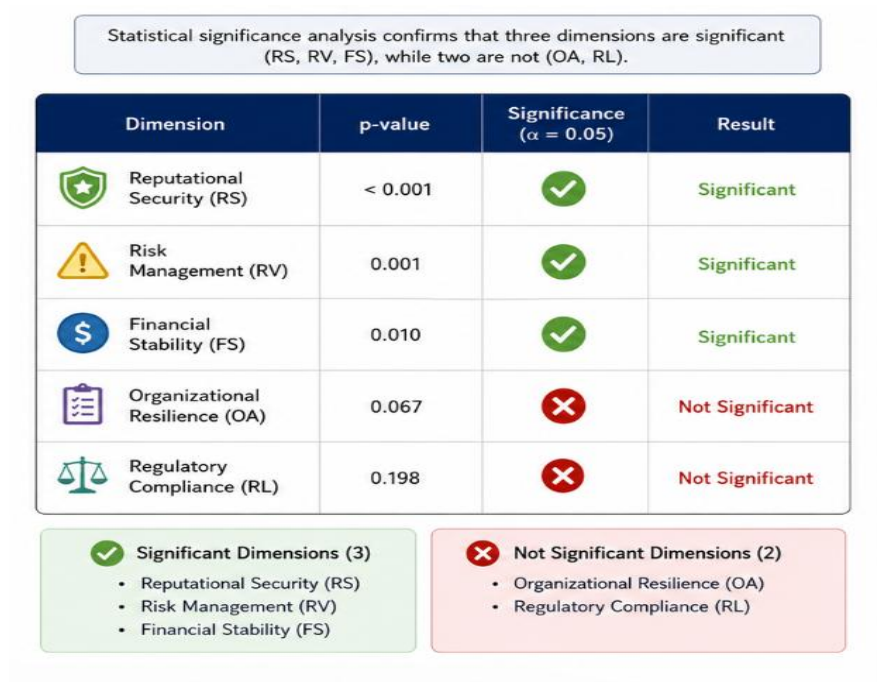


**Figure 14. Integrated analytical interpretation model**

*Source: developed by the authors.*

Descriptive statistics demonstrate reputational dominance, correlation analysis confirms moderate positive associations, and significance testing identifies only three statistically robust organizational dimensions.

Together, these findings indicate that sustainability knowledge operates as a selective cognitive framing mechanism rather than a universal predictor of organizational security perceptions.

#### Key Empirical Insight

The final empirical synthesis demonstrates that sustainability knowledge is primarily associated with:

- reputational legitimacy;
- risk management awareness;
- financial perception stability.

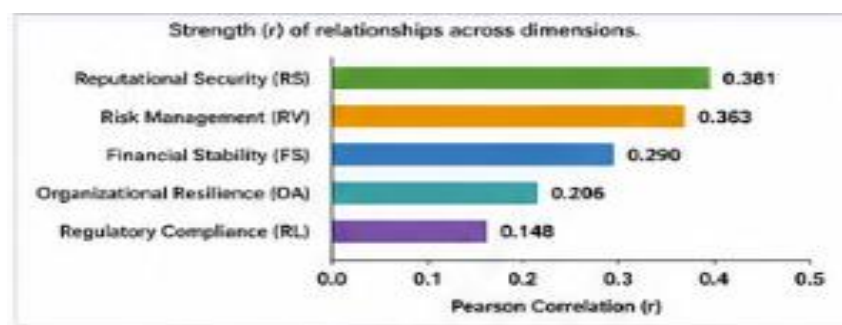


**Figure 15. Comparative effect strength across organizational dimensions**

*Source: developed by the authors.*

By contrast, sustainability knowledge demonstrates comparatively weak explanatory influence regarding:

- regulatory compliance;
- organizational resilience.

This pattern suggests the existence of a cognitively asymmetric sustainability perception structure in which external legitimacy and uncertainty reduction dominate respondent interpretations of sustainability-related organizational outcomes.

To evaluate the consistency and stability of the identified relationships, an additional robustness analysis was conducted across demographic subgroups, including age, gender, and work experience categories. The findings overall suggest that sustainability-related organizational perceptions are primarily cognitively rather than demographically structured.

The analysis demonstrates that the statistically significant relationships observed for Reputational Security, Risk Management, and Financial Stability remain relatively stable across subgroup distributions. Minor variations in coefficient magnitude were observed; however, the overall direction and significance structure of the relationships remained consistent.

The robustness assessment, therefore, confirms that the identified empirical patterns are not substantially distorted by demographic segmentation effects.

| Dimension                      | Age Groups<br>(18–20 / 21–25)<br><i>r</i> | Gender<br>(F / M)<br><i>r</i> | Exp. (0–2 / 3+)<br><i>r</i> |
|--------------------------------|-------------------------------------------|-------------------------------|-----------------------------|
| Financial Stability (FS)       | 0.28 / 0.30                               | 0.27 / 0.30                   | 0.26 / 0.32                 |
| Reputational Security (RS)     | 0.37 / 0.39                               | 0.36 / 0.39                   | 0.34 / 0.40                 |
| Risk Management (RM)           | 0.35 / 0.36                               | 0.34 / 0.37                   | 0.32 / 0.38                 |
| Regulatory Compliance (RC)     | 0.15 / 0.16                               | 0.13 / 0.17                   | 0.12 / 0.17                 |
| Organizational Resilience (OR) | 0.20 / 0.21                               | 0.14 / 0.22                   | 0.18 / 0.23                 |

Relationships remain consistent across demographic subgroups.

**Figure 16. Robustness analysis across demographic subgroups**

*Source: developed by the authors.*

The findings further reinforce the interpretation that sustainability-related organizational perceptions are primarily cognitively structured rather than strongly dependent on demographic characteristics.

A structural validation model was developed to summarize supported and unsupported empirical relationships identified during hypothesis testing.

The model demonstrates that sustainability knowledge significantly predicts perceptions of Financial Stability, Reputational Security, and Risk Management, while the relationships with Regulatory Compliance and Organizational Resilience remain statistically unsupported.

Among all constructs, Reputational Security demonstrates the strongest validated relationship, confirming the dominant role of external legitimacy and stakeholder-oriented perception structures within sustainability cognition.

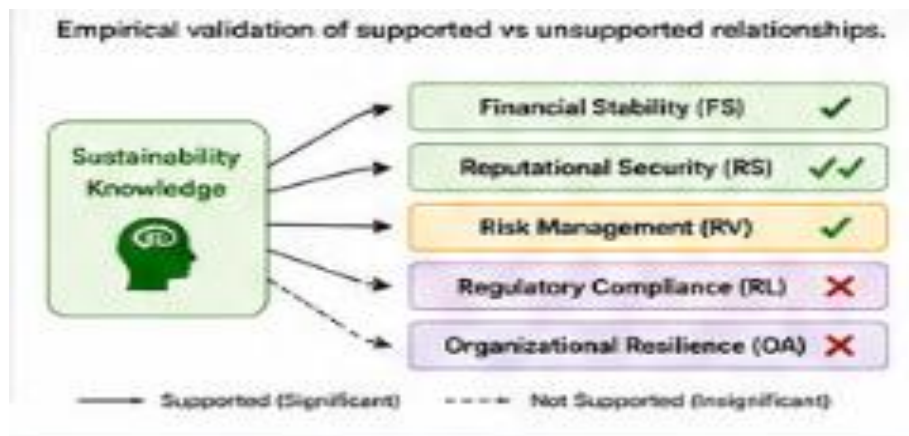


**Figure 17. Structural validation model of supported and unsupported relationships**

*Source: developed by the authors.*

The structural validation model visually confirms the asymmetric distribution of sustainability-related organizational perceptions across dimensions.

The final empirical model integrates the complete set of descriptive, correlational, and statistical findings into a unified interpretative framework.

The model confirms partial validation of the proposed hypotheses and demonstrates that sustainability knowledge primarily influences externally oriented organizational dimensions associated with legitimacy, stakeholder trust, and uncertainty reduction.

Conversely, sustainability knowledge demonstrates limited explanatory influence regarding institutionally embedded dimensions such as Regulatory Compliance and long-term Organizational Resilience.



**Figure 18. Final validated empirical model of sustainability knowledge effects**

*Source: developed by the authors.*

Overall, the final model suggests that sustainability knowledge functions primarily as a selective cognitive framing mechanism shaping reputational and risk-oriented organizational interpretations rather than universally influencing all dimensions of corporate security and resilience.

## Discussion

The present study investigated the relationship between sustainability knowledge and perceived dimensions of corporate security among business students, focusing on financial stability, reputational security, risk management, regulatory compliance, and organizational resilience. The findings reveal a differentiated and non-uniform pattern of associations, suggesting that sustainability knowledge does not operate as a generalized predictor across all organizational security dimensions.

The strongest and most consistent relationship was observed between sustainability knowledge and reputational security. This indicates that respondents primarily associate sustainability with external legitimacy, stakeholder perception, and corporate image protection. Such an outcome may reflect the increasing prominence of ESG communication and reporting practices, where sustainability is frequently framed through visibility, branding, and reputational positioning rather than internal operational transformation. From a stakeholder theory perspective (Freeman, 1984), this suggests that sustainability knowledge is strongly linked to externally oriented legitimacy-building mechanisms.

A similarly meaningful association was identified between sustainability knowledge and risk management perceptions. This finding suggests that respondents perceive sustainability as relevant to uncertainty reduction and organizational risk mitigation. This aligns with previous research emphasizing ESG integration as a mechanism for early risk identification and prevention of environmental, social, and governance-related disruptions (Teece et al., 1997; Da Cunha et al., 2025). However, the moderate strength of this relationship suggests that risk-oriented interpretations of sustainability remain developing rather than fully consolidated among future business professionals.

Financial stability demonstrated a weaker but statistically significant relationship with sustainability knowledge. This suggests that respondents partially associate sustainability with economic performance and long-term financial security, although this association is less pronounced compared to reputational and risk-related dimensions. This finding is consistent with the resource-based view (Barney, 1991), which conceptualizes sustainability-related capabilities as potential contributors to long-term competitive advantage, even if they are not yet perceived as direct financial drivers at the student cognition level.

In contrast, regulatory compliance and organizational resilience did not demonstrate statistically significant relationships with sustainability knowledge. This indicates that these dimensions are not strongly cognitively associated with sustainability within the studied sample. One possible explanation is that regulatory compliance is perceived as an externally imposed institutional requirement rather than a knowledge-driven organizational capability. Similarly, organizational resilience may be conceptualized as a structural or system-level characteristic that extends beyond individual cognitive interpretations of sustainability.

From an institutional theory perspective (DiMaggio & Powell, 1983), these findings may suggest that compliance-oriented sustainability practices are interpreted primarily as responses to external regulatory pressure rather than as internally integrated cognitive constructs. Likewise, organizational resilience may be perceived as an abstract macro-level outcome that is not yet fully integrated into sustainability-related cognitive schemas among students.

Demographic variables showed limited explanatory power across all examined dimensions. Age and work experience were not significantly associated with any of the constructs, while gender demonstrated only a weak relationship with regulatory compliance. This suggests that sustainability-related perceptions among business students are primarily shaped by cognitive rather than demographic or experiential factors. Accordingly, sustainability

knowledge appears to function as a cognitive framing mechanism rather than a socially differentiated perception system.

Overall, the results indicate that sustainability knowledge is selectively associated with organizational security perceptions, with the strongest emphasis on reputational and risk-related dimensions. Rather than influencing all aspects of corporate security equally, sustainability operates as a perceptual lens that prioritizes external legitimacy and uncertainty reduction over compliance structures and systemic resilience.

### **Theoretical contributions**

This study contributes to the literature in three key ways.

First, it extends sustainability cognition research by demonstrating that sustainability knowledge operates as a selective rather than universal cognitive mechanism. This challenges the implicit assumption in prior literature that sustainability uniformly influences organizational perceptions and outcomes.

Second, the study contributes to organizational security theory by empirically decomposing corporate security into five distinct dimensions and demonstrating that sustainability knowledge exhibits uneven explanatory power across them. The strongest effects are observed in reputational security and risk management, highlighting the centrality of externally oriented perception systems in sustainability cognition.

Third, the study contributes to the ESG and cognitive management literature by showing that sustainability knowledge is more strongly aligned with stakeholder perception and risk-interpretation frameworks than with compliance-oriented or resilience-based organizational dimensions. This refines the understanding of how sustainability-related knowledge translates into differentiated organizational perception structures.

### **Conclusions**

This study examined the relationship between sustainability knowledge and perceived dimensions of corporate security among business students, focusing on financial stability, reputational security, risk management, regulatory compliance, and organizational resilience. The findings provide a nuanced understanding of how sustainability knowledge is cognitively translated into differentiated perceptions of organizational security.

The results demonstrate that sustainability knowledge does not function as a uniform predictor across all examined dimensions. Instead, its influence is selective and unevenly distributed. Statistically significant relationships were identified for financial stability, reputational security, and risk management, while regulatory compliance and organizational resilience did not demonstrate statistically significant associations.

Among all examined dimensions, reputational security emerged as the strongest and most consistent outcome. This indicates that respondents primarily associate sustainability knowledge with external legitimacy, stakeholder perception, and corporate reputation. Risk management also showed a statistically significant and relatively strong relationship, suggesting that sustainability knowledge is meaningfully linked to perceptions of uncertainty reduction and organizational risk mitigation. Financial stability demonstrated a weaker but still significant association, indicating partial integration of sustainability considerations into perceptions of long-term economic security.

In contrast, regulatory compliance and organizational resilience did not exhibit statistically significant relationships with sustainability knowledge. This suggests that these

dimensions are perceived as being more strongly driven by institutional frameworks and structural organizational factors rather than individual cognitive understanding of sustainability.

Demographic analysis further revealed that age and work experience do not significantly influence perceptions across the examined constructs, while gender shows only a limited effect on regulatory compliance. Overall, these results indicate that sustainability-related perceptions are primarily shaped by cognitive rather than demographic factors.

In conclusion, sustainability knowledge operates as a selective cognitive framing mechanism that primarily shapes perceptions of external legitimacy and risk-related organizational dimensions, rather than uniformly influencing all aspects of corporate security and resilience.

#### Managerial Implications.

The findings of this study have several implications for managers, educators, and policymakers involved in sustainability integration and corporate governance.

First, the results suggest that sustainability knowledge primarily shapes perceptions of reputational security and risk management. This indicates that organizations should explicitly link ESG initiatives to reputational value creation and risk mitigation strategies in their internal and external communication. Managers should ensure that sustainability reporting and ESG communication are not treated solely as compliance activities but as strategic tools for strengthening stakeholder trust and reducing uncertainty.

Second, the relatively weaker association between sustainability knowledge and financial stability suggests that the financial benefits of sustainability are not yet strongly internalized among future professionals. This highlights the need for organizations to better communicate the long-term economic value of sustainability investments, particularly in terms of cost efficiency, risk reduction, and long-term value creation.

Third, the absence of a significant relationship between sustainability knowledge and perceptions of regulatory compliance indicates that compliance is still perceived as an externally imposed requirement rather than an integrated strategic capability. Managers should therefore work towards embedding sustainability compliance within broader strategic and operational decision-making processes, rather than treating it as a separate reporting function.

Fourth, the lack of a significant relationship with organizational resilience suggests that sustainability and resilience are not yet cognitively connected in the mindset of future business professionals. This creates an opportunity for organizations to integrate sustainability more explicitly into resilience planning, crisis management frameworks, and long-term strategic foresight activities.

Finally, the minimal influence of demographic variables implies that sustainability-related perceptions are relatively consistent across different student profiles. For education providers and HR practitioners, this suggests that sustainability competencies should be developed through structured learning interventions rather than targeted demographic segmentation.

Overall, the results indicate that organizations should strengthen the strategic integration of sustainability into reputation management, risk governance, and resilience-building practices, while business education programs should more explicitly connect ESG knowledge with internal organizational systems and long-term value creation mechanisms.

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