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DĂNUȚ TRIFU

## **Toward Safer E-Commerce Transactions: The Influence of System Quality, Information Accuracy, and Government Oversight**

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### **Abstract**

The transition from traditional to online shopping has sped up the expansion of e-commerce, which requires strong consumer protection measures to guarantee safety and convenience. This survey aims to determine the role of system quality, information quality, service quality, and government regulation on e-commerce usage. Using a quantitative approach, an online survey questionnaire was conducted among 428 e-commerce consumers. Structural equation modeling (SEM) indicates that system quality, information quality, and government regulation have a positive effect on usage behavior while service quality has a negative effect on usage behavior. To improve public knowledge about transaction security in e-commerce, thorough socialization and education are needed, targeting all parties involved in online transactions, including marketplaces, payment providers, and delivery services. Additionally, improvements in service quality are crucial for minimizing consumer issues.

**Keywords:** Consumer protection, DeLone & McLean model, e-commerce usage, government regulation.

**JEL classification:** L86, D83, K29.

### **Introduction**

E-commerce's rapid growth in Indonesia, driven by technological advancements and increasing consumer engagement, necessitates a robust regulatory framework to address critical issues, such as consumer protection and data security. Currently, several regulations in Indonesia govern e-commerce, namely Regulation No. 71/2019 by the government regarding the Execution of Electronic Systems and Transactions and Regulation No. 80/2019 on Trading via Electronic Systems. However, these regulations have not guaranteed the safety and comfort of consumers, particularly when transacting through e-commerce. Leakage of consumer personal data is one of the many problems that often arise (Wijanarko and Fachrodji, 2020; Muneer, Razzaq, and Farooq, 2018); for example, the leakage of Tokopedia and Lazada platforms data in 2021. Millions of e-commerce accounts in May 2020 were allegedly leaked, with hackers selling Tokopedia's database of 91 million accounts for US\$ 5,000 on the dark web. Meanwhile, Lazada experienced a leak of 1.1 million data points. The types of problems that occur in the e-commerce sector include defaults on the delivery of goods (41%), unsuitable goods (15%), defective or damaged goods (15%), and problems in refunding goods (15%).

This issue is connected to data leakage, and the rise in online transactions frequently does not lead to an enhancement in service quality within e-commerce systems. The Indonesian Ministry of Trade highlights that the proportion of consumer complaint services linked to e-commerce transactions remains predominant, reaching 6,911 services, which accounts for 93 percent of all incoming consumer services in 2022. By 2022, the e-commerce sector had the highest at 9,393 consumer complaints (Ministry of Trade Republic of Indonesia, 2023).



Moreover, e-commerce increases the number of consumer transactions, ultimately increasing economic growth and contributing 60% of Indonesia's GDP. To implement e-commerce information technology systems to provide consumer satisfaction so that trust in transactions grows, a model is required to identify the ideal elements in terms of the security and convenience of e-commerce. Therefore, studying e-commerce systems is crucial to safeguard consumers in Indonesia. Various researchers have performed studies on the effectiveness of e-commerce systems utilizing the DeLone and McLean models (Angelina, Hermawan, and Suroso, 2019; Cui et al., 2019; Ojo, 2017; Rouibah, Lowry, and Almutairi, 2015).

Researchers have developed numerous models to account for the success of Information Systems (IS). Technology Acceptance Model employs the Theory of Reasoned Action to clarify why certain information systems are accepted by users more easily than others (Davis, 1989). Nevertheless, acceptance does not equal success, although it is a necessary condition for acceptance of information systems. To address this concern, DeLone and McLean (1992) examined studies released between 1981 and 1987 and developed a classification of IS success based on this analysis.

This research is a development model from other researchers such as Shannon and Weaver (1964), where the technical level explains how precise and efficient a system is in creating information, the semantic level relates to the successful delivery of information, while the effectiveness level deals with the effect of information on the recipient. According to Mason (1978), there is a theory called the information “Influence” theory which focuses on the term “Influence” of information which Mason then modified the term effectiveness into influence. For Mason, the Influence Level can be defined as the level of events occurring at the receiving endpoint of the information system. This degree of influence includes its subordinate events: receiving information, assessing information, and utilizing information, which affect a recipient, the system that indicates the achievement success category level (Mason, 1978; Shannon and Weaver, 1964). Subsequently, DeLone and McLean (1992) employed this model for the same objective - to model their success. The DeLone and McLean model, first introduced in 1992 and updated in 2003, includes six primary factors: system quality, information quality, service quality, usage, user satisfaction, and benefits (DeLone and McLean, 2003). In this research, the model was modified to include an additional variable: government regulation.

System quality refers to how well a system operates, relying on a combination of hardware and software in an information system. This is associated with ease of use, accessibility, and user acceptance (Khan and Qutab, 2016). Consumers tend to reuse systems that meet their satisfaction levels (Febrian, Simanjuntak, and Hasanah, 2021). Repeated use signifies that a system is perceived as beneficial (Xuanzhi and Ahmad, 2019). This study adopted five indicators from earlier research to assess system quality in e-commerce: ease of use, ease of learning (Cui, 2019), security (Rouibah, Lowry, and Almutairi, 2015), access convenience, and command language (Iivari, 2005). In India, web service quality has been evaluated based on 14 four-factor WEBQUAL items (Ahmad and Khan, 2017).

Information quality is based on consumers' perceptions of the content displayed on m-commerce applications. The two key dimensions of information quality are content adequacy (including reliability, adequacy, and completeness) and usability (informativeness and value) (Duy and Dai, 2018). For consumers to consistently use e-commerce platforms, information must be complete, relevant, and easy to understand. Information quality is typically measured using relevance, the output format, clarity, and comprehensibility (Rouibah, Lowry, and Almutairi, 2015). Information must come from reliable, verified sources, and should meet standards for accuracy, reliability, and timeliness (Jusop, Ismail, and Ismail, 2020).



Service quality indicates how well consumers' views of a service match or exceed their expectations (Sampson, Etuk, and Usani, 2022). Service quality is essential for e-commerce platforms' success (DeLone & McLean, 2004). This indicates total assistance provided by the information system. Five dimensions are frequently utilized to evaluate service quality in e-commerce: design (Ali and Bhasin, 2019), reliability of performance (Tandon, Kiran, and Sah, 2017), service timeliness (Agrawal, Tripathi, and Agrawal 2018), trustworthiness (Sundaram, Ramkumar, and Shankar, 2017), and customization (Malik et al., 2016). In e-commerce, quality of service is frequently evaluated by monitoring the orders and promptness of online assistance (Duy and Dai, 2018).

Government regulations have played a key role in supporting the growth and sustainability of e-commerce ecosystems in Indonesia. These regulations are essential to protect consumers during the transaction process. Both central and local governments must encourage e-commerce adoption through various policy interventions (Hasan et al., 2021). Developing countries can greatly benefit from e-commerce by addressing regulatory barriers (Singhal, Mittal, and Agarwal, 2019). However, countries such as Algeria face challenges owing to the lack of comprehensive regulatory frameworks that protect stakeholders' rights in e-commerce (Chaabna and Wang, 2015). E-government service quality is often measured by efficiency, ease of completion, system availability, and convenience, all of which significantly affect user satisfaction (Tetteh, 2022).

In Indonesia, trust in sellers remains a central principle in e-commerce transactions, whereas security infrastructure is less of a concern for consumers (Damuri, 2020). However, studies show that improving security and trust is critical for e-commerce growth (Saeed, 2023). Consumer trust is influenced by various usability and security dimensions (Mohd and Zaaba, 2019). This study also highlights numerous issues in the Indonesian e-commerce sector, such as delivery defaults, refunds, defective goods, phishing, and misrepresentation (e.g., fictitious stores and incorrect product descriptions).

This research investigates consumer behavior in e-commerce utilizing the DeLone and McLean model. Research has demonstrated that both the quality of a system and the quality of information significantly affect consumer behavior (Al-Fraihat et al. 2020). For instance, the perceived simplicity of the e-commerce platform positively influences consumers' willingness to embrace mobile commerce (Sair and Danish, 2018). In addition, the quality of systems and information is connected to improved satisfaction and net benefits (Ali et al, 2018). In this regard, the inclusion of the government regulation aspect in the model offers a better understanding towards the determinants of e-commerce growth.

This study propose the following research hypotheses:

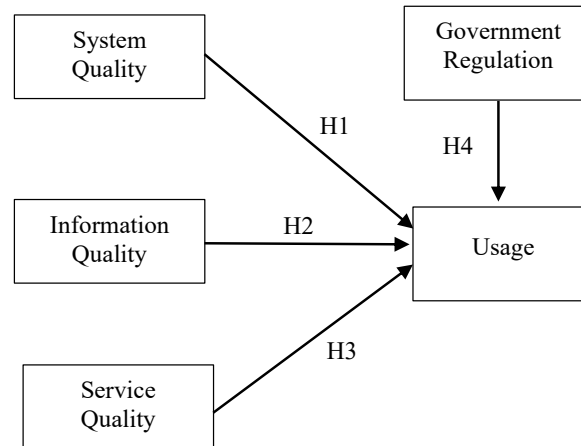
H1: System quality significantly affects usage.

H2: Information quality significantly affects usage.

H3: Service quality significantly affects usage.

H4: Government regulation significantly affects usage.

The detailed research framework is shown in Figure 1.



**Figure 1. Research framework**

## 1. Methodology

This research utilized a quantitative method featuring a descriptive design, employing an online questionnaire. Quantitative research evaluates objective theories by exploring the connections among the variables. The study group included consumers who utilized e-commerce as their method of shopping. The sample was chosen using voluntary sampling methods according to the criteria for Indonesian citizens who made online purchases. The total number of participants in the sample was 300. This illustration was adjusted according to Hair et al. 's (2017) perspective that the sample size must be  $\geq 100$ . A total of 428 participants were involved in the survey. The tool utilized in this research was an online survey created with Google Forms, shared as links on social media platforms.

Six variables were examined: system quality (X1), information quality (X2), service quality (X3), usage (Y) (Dalle et al., 2020; Wang, Cao, and Yang, 2010; DeLone and McLean, 2003); and governmental regulation (X4) (Damuri, 2020). The tool comprised 28 items evaluated on a five-point Likert scale: (1) strongly disagree, (2) disagree, (3) somewhat agree, (4) agree, and (5) strongly agree. The testing of the instrument, involving 30 participants not part of the main study, indicated that all variables were dependable (Table 1).

**Table 1. Reliability test of research instruments**

Variables	Number of Indicators	Cronbach's alpha
System Quality	6	0.901
Information Quality	3	0.753
Service Quality	14	0.668
Government Regulation	3	0.604
Usage	2	0.829

The operational definitions of the variables studied, including the indicators used (Table 2).

**Table 2. Operational definitions of variables and indicators**

Variables	Definition	Sources	Indicators	Codes
System Quality (KS)	Technical quality of the e-commerce platform and measuring its success	Iivari, 2005; ISO 9126	1. System flexibility 2. System Integration 3. Convenience of access 4. Language 5. Reliability	KS1 KS2 KS4 KS5 KS6
Information Quality (KI)	The quality of the content on the e-commerce, as well as the desired output	Iivari, 2005	1. Completeness 2. Suitability 3. Output format	KI1 KI2 KI3

Variables	Definition	Sources	Indicators	Codes
Service Quality (KL)	The quality of the overall support provided by the e-commerce	DeLone and McLean, 2003	<ol style="list-style-type: none"> <li>1. Visually appealing display</li> <li>2. Easy transaction services for consumers</li> <li>3. Keeping promises to provide products or other services that are appropriate</li> <li>4. Keeping an accurate history of consumer transaction records</li> <li>5. Provide prompt service</li> <li>6. Keep consumers updated on product status</li> <li>7. Provide various payment alternatives along with authentic proof of payment</li> <li>8. Provide a complaint mechanism for consumers by providing a variety of channels, such as chat, audio, video, or a combination of the three</li> <li>9. Provide product recommendations with consumer preferences</li> <li>10. Language that consumers understand</li> <li>11. Order tracking is available until delivery</li> <li>12. Features shipping options along with shipping costs are fully legible and easy for consumers to choose from</li> <li>13. Item delivery flow, delivery duration, and receipt number are conveyed in inaccessible/understandable language details</li> <li>14. Ease of consumer communication with businesses through communication options such as chat, audio, and video</li> </ol>	KL1 KL2 KL3 KL4 KL5
Government Regulation (RP)	Regulations issued by the government that protect consumers when transacting in e-commerce	Cho, 2004; Miyazaki and Fernandez, 2001; Pires, Stanton, and Eckford, 2004; Ueltschy, Krampf, and Yannopoulos 2004; J. W. Wu, 2007	<ol style="list-style-type: none"> <li>1. Regulations guarantee security in transactions</li> <li>2. Regulations create a safe/convenient e-commerce system</li> </ol>	RP1 RP2
System Usage (P)	E-commerce usage	DeLone and McLean, 2003; Young and Benamati, 2000	<ol style="list-style-type: none"> <li>1. Frequency of use</li> <li>2. Duration of use</li> </ol>	P1 P2

Structural Equation Modeling (SEM) was employed to achieve the research objective of examining the factors that affect usage. PLS-SEM tests the predictive relationships between constructs by examining their relationships and influence.

## 2. Results and discussions

### 2.1. Overall model fit

An overall model fit must be performed to assess whether the proposed model is appropriate for displaying research findings. In contrast to other multivariate analyses, Structural Equation Modeling (SEM) lacks a singular statistical test that effectively demonstrates the predictive capability of a model; thus, it is essential to integrate model fit measures to ascertain the adequacy of a model (Yamin and Kurniawan, 2009). In this study, the measurements used to indicate goodness of fit were the RMR, RMSEA, GFI, AGFI, CFI, IFI, NFI, and RFI (Table 3). The Goodness of Fit (GOF) results consisted of seven measurements. The results showed that almost all measurements met the target fit or cutoff value level; therefore, it can be said that the model is a good fit and suitable for use.

**Table 3. Goodness-of-fit (GOF) research model**

Goodness of Fit	Cut off value	Analysis Result	
		Value	Desc
RMSR	$\leq 0.05$	0.019	Good Fit
RMSEA	$\leq 0.08$	0.069	Good Fit
GFI	$\geq 0.90$	0.88	Marginal Fit
CFI	$\geq 0.90$	0.99	Good Fit
IFI	$\geq 0.90$	0.99	Good Fit
NFI	$\geq 0.90$	0.98	Good Fit

Next, the CFA output results in loading factors and error variance can be used to calculate the Construct Reliability (CR) and Variance Extracted (VE). The computations were conducted to assess the dependability of the model. The reliability of the construct was determined by calculating the overall loading factor and dividing it by the total squared loading factor and error variance. The extracted variance was computed by dividing the overall loading factor by the total squared loading factor and error variance. Beckett et al. (2018) indicated that the anticipated construct reliability value is  $CR \geq 0.7$ . Nonetheless, a CR value ranging from 0.60 to 0.70 is still deemed acceptable, as long as the validity of the indicator presents encouraging outcomes. The latent variable is deemed reliable if the Variance Extracted (VE) value is greater than or equal to 0.5. Overall, the Construct Reliability (CR) value for each variable was greater than 0.7, indicating reliability. The Variance Extracted (VE) values for every variable were greater than 0.5. As a result, the model used in this research was found to be sufficient (Table 4).

**Table 4. Construct reliability (CR) and extracted variance (VE)**

Variables	Variance Extracted (VE) Cut-off $\geq 0.5$	Construct Reliability (CR) Cut-off $\geq 0.7$
System Quality	0.58	0.86
Information Quality	0.70	0.87
Service Quality	0.63	0.95
Government Regulation	0.72	0.84
System Usage	0.55	0.71

## 2.2. Hypothesis testing

According to the empirical model suggested in this study, Hypothesis testing was performed by assessing the path coefficient and t-value of the structural equation model. If the path coefficient was greater than 0.05 and the t-value exceeded 1.96, the effect of the variables was deemed significant. Nevertheless, if the path coefficient value dropped below 0.05, accompanied by a t-value under 1.96, it was considered insignificant.

The results of the SEM hypothesis show that system quality, information quality, and government regulations significantly and positively affect system usage (Table 5). The R-squared value indicates the importance of the influential variables. System quality, service quality, information quality, and government regulations contribute to as much as 43% of the differences in system usage, whereas the remaining 57% is affected by factors that remain unexamined. The structural equation was  $P = 0.50 \times KS + 0.36 \times KI - 0.47 \times KL + 0.32 \times RP$ .

*Table 5. Hypothesis test results based on structural equation model*

Hypothesis	Path	Coeff Beta	t-value	R-squared
H1 – supported	Quality System→ System Usage	0.50	2.20*	0.43
H2 – supported	Quality Information→ System Usage	0.36	2.01*	
H3 – supported	Quality Service→ System Usage	- 0.47	-2.37*	
H4 – supported	Government Regulation→ System Usage	0.32	4.23*	

Significant at a t-value>1.96.

### 2.2.1. Result: The effect of system quality on usage

Hypothesis 1 posits that system quality has a positive relationship with system usage. A Coeff Beta value of 0.50 signifies a moderate correlation, suggesting that improved system quality leads to increased system usage. A t-value greater than 2.20 suggests that the findings are statistically significant. Prior research has shown that the quality of the system is the key factor influencing satisfaction with applications (Trivedi and Trivedi, 2018). Hassan and Shahzad (2022) indicated that social commerce demonstrates better performance among online sellers via social media platforms.

### 2.2.2. Result: The effect of information quality on usage

Hypothesis 2 indicates that the quality of information has a positive effect on system usage, although this impact is not as pronounced as that of system quality. The Beta Coefficient value of 0.36 signifies a positive correlation, though its strength is less than that of Hypothesis 1. A t-value of 2.01 indicates that this result is statistically significant as well. This outcome corresponds with the results of several prior studies. Prastiwi and Iswari (2019) propose that the quality of information positively and significantly influences impulse buying in m-commerce apps (such as GoFood). Additionally, research by Hidayat and Anasis (2020) demonstrated that e-service quality directly influences customer satisfaction, an essential factor in fostering loyalty in e-commerce. These findings align with the study by Tajvidi et al. (2021), which indicates that support in user interaction is crucial for social commerce success and highlights the significance of information quality in enhancing user engagement.

**2.2.3. Result: The effect of service quality on usage**

Hypothesis 3 proposes that a connection exists between service quality and system usage. A negative Coeff Beta value (-0.47) suggests that reduced service quality corresponds to increased system utilization (inverse relationship). A t-value that is negative and exceeds -2.00 implies that this correlation is also statistically significant. The results of this research differ from those of earlier studies. Ramdani claims that excellent service can create a lasting connection between customers and e-commerce providers, which is crucial for fostering customer loyalty (Ramdani, 2023). Sholikhah and Hadita (2022) similarly stated that superior services positively influence customer satisfaction, a crucial factor in fostering loyalty.

**2.2.4. Result: The effect of government regulations on usage**

Hypothesis 4 examined the impact of government regulations on system usage. The Coeff Beta value of 0.32 indicates a positive relationship, which means that the better the government regulation, the more the system usage increases. A very large t-value (4.23) indicates that this relationship has a very high statistical significance. Other research shows that government support affects the level of e-commerce in the manufacturing SME sector in Ghana (Ocloo et al., 2018). Government regulations have a significant positive impact on system utilization. If government regulations regarding e-commerce are improved, consumer behavior toward utilizing e-commerce will also increase. Government regulations that ensure security in transactions and create a secure e-commerce system will impact the way consumers utilize e-commerce platforms.

**3. Discussions**

This research employs the DeLone and McLean Information Systems success framework to examine and identify the factors that impact the utilization of e-commerce systems. The findings show that system quality, information quality, and government regulations significantly and positively impact the usage of e-commerce systems. Moreover, this research revealed that service quality significantly negatively impacts e-commerce usage, which contradicts the common belief that improved service quality boosts system usage. This outcome signifies a phenomenon that requires further analysis.

Based on these results, one possible explanation is that consumers have very high expectations for service quality. When the service improves and reaches the desired standard or exceeds expectations, it may result in a decrease in the frequency of system usage. According to Lemon and Verhoef (2016), customers' positive experiences can increase their expectations of future interactions. While we would normally expect that an increase in service quality would increase system usage, in this situation, an increase in service quality could lead to a reduction in system usage. This can happen when service improvements decrease the need for consumers to continue using the platform. If an e-commerce system is designed to be more efficient and make it easier for customers to fulfill their needs more quickly, they may no longer need to visit or interact with the platform frequently. Under these conditions, improvements in service quality may make customers happier with their transactions, but not encourage them to return or continue using the system. Oliver (1999) also asserts that satisfaction is the result of a positive experience but does not necessarily lead to loyalty or continued use.

This research pertains to DeLone and McLean's Information Systems Success Model, which indicates that the quality of systems and services impacts user satisfaction and the utilization of the system. Nevertheless, our findings oppose this model as they indicate that enhancing service quality may lead to a reduction in system utilization. This indicates that overly idealized services may reduce consumers' desire to interact further with the system, contrary to the original expectations of this model.



The results of this study have several implications for each party involved (consumers, companies, and government). Consumers are advised to be careful when choosing an e-commerce platform and are expected to focus on the quality of the services provided by e-commerce. Consumers can search for platforms that have an easy complaint system, transparent transaction procedures, and reviews from users so that they can provide information regarding the quality of services provided. In addition, both positive and negative reviews provided by consumers regarding their experiences need to be conducted to improve the overall quality of e-commerce services.

Furthermore, e-commerce companies should pay more attention to improving service quality to enhance customer experience, including improving the complaint and feedback systems to address customer issues quickly. In addition, companies need to adopt better systems to give consumers greater confidence in transactions. Improving service quality directly affects customer satisfaction and loyalty, leading to increased platform usage and growth.

Governments can develop stricter policies and regulations to strengthen consumer protection in the e-commerce sector. This includes setting service quality standards, implementing more effective complaint regulations, and requiring e-commerce companies to provide clear information on return procedures, dispute resolution, and the protection of consumers' personal data. In addition, the government can increase the transparency of the sector by conducting audits and certifying e-commerce platforms that meet certain criteria.

### **Conclusion, limitations and future directions**

The research determined that system quality, information quality, and governmental regulations have a positive impact on e-commerce usage. Enhanced system performance, dependability, and available information boost the user experience and increase consumer confidence in e-commerce platforms. Government rules are essential in guaranteeing safe and pleasant e-commerce transactions. Nevertheless, the unforeseen adverse impact of service quality on usage underscores the intricacy of consumer expectations. Customers might hold elevated expectations regarding service quality; when these expectations are not fulfilled, they adversely affect their involvement with the platform. Therefore, improving service quality is crucial, yet it might not be enough to boost e-commerce utilization. This research offers significant understanding of the elements influencing e-commerce behavior and highlights the importance of a comprehensive strategy that tackles both technological and regulatory aspects.

This research has a number of limitations. The sample size utilized may not represent the whole population of e-commerce users; hence, these findings require additional testing with a bigger and more diverse sample. Moreover, this research employed a restricted quantitative method to clarify the explanations for the findings.

Consequently, qualitative research that investigates consumers' narratives can be quite valuable in comprehending thoroughly how service quality influences system usage from the viewpoint of consumers. Upcoming research should also take into account external elements such as governmental regulations, market conditions, and socio-economic shifts that could influence the link between service quality and the use of e-commerce.

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## Employer branding on the Building Materials Market in Romania

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### Abstract

In an economic context characterized by tough competition for recruiting and keeping talent, employer branding is crucial, and the building materials sector in Romania is no different. This paper explores the importance of employer branding for companies in this sector, analyzing how large companies in the sector integrate these strategies into their organizational activities. The research methodology employed is to analyze the websites of the main players in the Romanian building materials market, in order to identify whether and how these companies include employer branding initiatives in their public strategy. The aim of this paper is to investigate the core elements of employer branding strategies promoted on their websites, such as organizational culture, employee benefits and professional development opportunities. The results will contribute both to the literature and to the business environment.

**Keywords:** Employer branding, human resources marketing, recruiting.

**JEL classification:** M31, O15.

### Introduction

On the building materials market, manufacturers of insulation materials such as basaltic mineral wool and glass wool are in fierce competition. In Romania, there are three big players in this market: Knauf Insulation, Saint-Gobain Isover and Rockwool Romania. Small market in need of professionals with dedicated skills create fierce competition for employees. Added to these special conditions is the situation that the labor market has been in for several years, especially since the beginning of the pandemic (Krušković, Ilić and Anđelić, 2023) in which there is a war for talent among companies, regardless of industry. Thus, one of the most handy tools for employers is to build an employer image that ensures attracting the best talent and keeping them in the company for the longest period of time.

In the today's highly competitive business environment, the notion of employer branding is an essential tool for companies that can significantly aid in attracting and retaining talented employees, and its most common definition is 'the process of creating and communicating a unique image of the organization as an employer that can differentiate it from competitors and retain the most talented and motivated employees' (Azhar et al., 2021). As Backhaus (2016) pointed out, employer brands can shape the image that will make the organization an employer of choice for both existing employees and potential candidates and it is a key factor that can help in keeping the employees engaged with their work (Yousf and Khurshid, 2021).

When it comes to the dimension of employer branding, a healthy work environment is mandatory for employees' energy nurturing, adaptability and resilience. A healthy work environment not only helps employees cope with stress, but also enhances creativity, collaboration and teamwork, all of which lead to increased productivity and better results. Corporate social responsibility initiatives also contribute significantly to workplace attractiveness, attracting more suitable employees, but also facilitating loyalty and motivation of existing employees (Gandasari et al., 2024). Healthy work-life balance is also important for creating an employer image. Through it, employees are able to allocate sufficient time and



energy between personal and office activities (Dabirian, Berthon and Kietzmann, 2019). Finally, development programs and trainings play a crucial role in career advancement. Through them, organizations provide growth opportunities for employees that are fundamental to a productive work environment (Krušković, Ilić and Anđelić, 2023).

### 1. Research question

Taking into account the fact that the market for insulation materials in Romania is niche and that the global labor market is currently undergoing a transformation and companies are in a continuous and tough "war for talent", building an employer brand can be one of the right solutions to attract and retain staff. Thus, the present study aims to find out how the most important players in the Romanian insulating materials market are making efforts in building their employer brand, aimed at creating benefits in the competition for talent. The question to which this study answers is *What efforts are made by the major insulation manufacturers on the Romanian market in shaping their employer brand, taking into account these non-financial dimensions?*

### 2. Methodology

The research method used for the realization of this paper consisted in an investigation on the employer brand in order to extract the most important aspects related to it, as well as an analysis of secondary data. The secondary data analysis was based on the presentation web pages of the most important producers of mineral wool and basaltic wool in Romania, being analyzed the most relevant sections for our study. This analysis will help to identify the most used practices when it comes to the concept of employer branding.

### 3. Data examination and findings

With a turnover of approximately 14 million euros, Knauf Insulation has emerged on the Romanian market in 2008, following a strategy that took into account the growth strength the construction market and the interest shown by individuals in insulating materials, according to Dominique Bossan, managing director of Knauf Insulation Eastern Europe, told Capital newspaper. The company's mission is based on offering sustainable insulation products and solutions that positively influence consumers' lifestyles in the long term. Its vision, the company aims to become a reliable partner offering performance in thermal and acoustic insulation (Knauf Insulation, 2019). Products developed by Knauf Insulation, such as basaltic mineral wool and mineral wool are in a continuous "battle" to convince qualified construction personnel, and ultimately the home consumer, that they offer numerous benefits over classic polystyrene. The both have unique advantages such as: non-combustibility, sound insulation up to 65dB or light weight. Of course, there are differences between the two products, but choosing one of them depending on the needs of each insulation. Knauf offers advice and consultancy to be sure that insulation is done with the right product. Knauf Insulation's careers page is structured to attract candidates through several key sections that include the company's introduction, its values and mission, its organizational culture, details about its corporate social responsibility initiatives and employee development programs. The company uses a message that emphasizes modern values, sustainability, continuous development and its need for employees who share the same principles.

One of Knauf Insulation's competitors, Saint-Gobain Isover, with over 350 years of tradition, combines expertise and innovation to address global challenges such as climate change and sustainable development. Saint-Gobain ISOVER manufactures and distributes mineral wool-based insulation solutions for construction, transportation and industrial applications, solutions for NZEB "near-zero energy" buildings, offering thermal comfort,

energy savings and fire safety, while contributing to increased acoustic comfort and environmental protection. Saint-Gobain career page focuses on core sections such as values and mission, employee professional development and work-life balance. The company emphasizes an inclusive work environment as well as growth opportunities for employees through various training programs, while also focusing on promoting a collaborative culture, diversity and opportunities for students. In addition, the contribution made in sustainability through green actions is highlighted (Saint-Gobai Isover, 2023).

Another major player in the insulation market is Rockwool. The company aims to increase energy efficiency, building comfort and sustainability and is recognized for its environmentally friendly products that reduce carbon emissions and help improve fire resistance and acoustic insulation. Rockwool's careers page promotes the image of a company focused on sustainability, employee professional development, innovation and environmental impact. The main sections of the page emphasize career opportunities, employee testimonials, company values, social responsibility and sustainability. In addition, the company offers various opportunities for employees and promises a positive atmosphere (Rockwool, 2022).

### ***Employer branding***

The concept of employer branding was firstly introduced at London Business School and by Amble and Barrow, 28 years ago (Kumar et al., 2021) and it has a crucial role in businesses' strategies, having the power to attract and to retain talent (Reis, Sousa and Dionisio, 2021). Another important role that employer branding is associated with is employer attractiveness which, in the end, is nothing but the sum of extra-benefits that employees are receiving from the employer company (Vercic, 2021). Previous studies shed light on the dimensions of employer branding. Tanwar and Prasad (2016) discussed in their study about work-life balance, social responsibility and development as being some of the employer branding dimensions. More than that, Purosottama and Ardianto (2019) shown in their research that also work climate is part of employer branding dimensions.

***Tabel 1. Employer Branding dimensions***

<b>Dimension of employer Branding</b>	<b>Previous studies</b>
<b>Work climate</b>	Purosottama and Ardianto, 2019; Boahmah and Laschinger; 2016
<b>CSR commitment</b>	Tanwar and Prasad, 2016; Biswas and Suar, 2016
<b>Development programs</b>	Tanwar and Prasad, 2016; Berthon, Ewing and Han, 2005
<b>Work-life balance</b>	Tanwar and Prasad, 2016;

Source: Author own work based on literature review

Therefore, we further analyzed the websites of the three major players on the insulating materials market, taking into account the 4 dimensions of employer branding proposed, focusing mainly on the career page. We extracted all the information reflecting the attitude and actions of the companies regarding the dimensions: work climate, CSR commitment, development programs and work-life balance.

***Table 2. The websites analysis of insulation materials competitors in Romania***

<b>Competitors</b>	<b>Knauf Insulation</b>	<b>Saint-Gobain Isover</b>	<b>Rockwool Romania</b>
<b>Dimensions</b>			
<b>Work Climate</b>	„Safe and friendly workplace atmosphere”; „Decency, humanity, and respect”	„Develop your career through mutual trust”; „More than employees, a real community”	„Respectful and welcoming culture”

	„Establish and retain mutual trust and inclusivity”		
<b>CSR commitment</b>	„Make tomorrow a home for all of us”; „Safe and durable future”	„Innovate for a more sustainable world”; „Inclusion and diversity”; „A company committed to sustainability”	„Helping to improve the environment and quality of life”; „We pride ourselves on a people-based and inclusive culture” „Equal opportunities and non-discrimination”
<b>Development Programs</b>	„Learning is part of your career”; „Safe and stable career”	„Career development and international mobility”	„Excellent opportunities for people who are prepared to develop and adapt as they work”; „Several different career options”
<b>Work-life balance</b>	„Job security” „Well-being Initiatives and Mental Health First Aiders” „Enhanced Maternity, Paternity and Adoption packages”	„Flexibility and home offices”; „Work-life harmony”	„Paid Time Off and Paid Holidays” „Life and Disability Programs” „Fitness Reimbursement”

Source: Author own work based on analyzed websites

### ***Healthy work climate***

One of the first non-financial dimension of employer branding is work climate which contributes in shaping the environment for employees’ professional activity performing and it is also seen as a key factor in employees’ decision to not leave the company (Islam et al., 2020), and maintaining the workforce stable (Taheri, Miah and Kamaruzzaman, 2020). Work climate also refers to the working relationships that are born between colleagues and between managers and subordinates (Iis, 2022) and the ‘sum of the interrelationships that exists within the employees and the environment in which they work’. A company’s work climate is essential for employees’ engagement and performance – a healthy workplace environment has the potential to create good business, supports employee’s engagement, innovation and creativity (Kodarlikdar and Umale, 2020).

In terms of work climate, every player on the Romanian insulation materials market pointed out their positive environment. For instance, Knauf Insulation Romania promotes a family-oriented culture that prioritizes fairness, a collaborative environment and unity of employees. Knauf’s employees characterized the climate as being positive and satisfying. Similarly, Saint-Gobain Isover supports a collaborative work climate where talents are inspired to present their ideas and thoughts for their contribution at company’s values. Last, but not least, Rockwool Romania stress out the teamwork and trust spirit, with a focus on a respectful work climate, diversity and also inclusion.

### ***CSR commitment***

Corporate social responsibility (CSR) represents the responsibility that an organization have towards its various stakeholders (customers, employees, natural environment and community). Avoidance of social involvement leads also to the progressive destruction of social power (Postel and Sobel, 2019). One of the most important roles that CSR has for employees is the change of their attitudes and behaviors. CSR enhance confidence,

organizational identification & commitment and citizenship behavior (Bourraoui, Bensemmane and Ohana, 2020). Also, Ozcan and Elci highlighted the impact on brand awareness and brand image that CSR can improve (Ozcan and Elci, 2020). Companies' involvement in CSR initiatives can attract potential candidates who share the same value system and it can enhance the companies' image among them (Kumar et al., 2021).

When it comes to CSR commitment, all three companies seems to share the same values. Knauf Insulation present on the website an image associated with sustainability which has a focus on reduced impact that its products have on the environment. Among the activities that the company conducted, the website shows that Knauf offer paid leave for volunteers' employees and also hire people in the respect on diversity and inclusion. In the same vein, Saint-Gobain Isover creates products that are energy-efficient and also promotes diversity. Additionally, the company speaks about building a sustainable future for the local community. Rockwool Romania shares the same sustainability values as the first two companies, but it also declares that supports education, besides community projects it is involved in or local development.

### ***Development programs***

As Noe (2020) pointed out, employee development initiatives actions related to learning that organization need to look for in order to reach its short- and long-term business goals. Formal education, job experiences, skills and abilities can be included in development activities of a company which can offer employees the possibility to have a career growth. Programs for employees can include classroom instruction, courses, workshops, mentorship programs (Dachner, 2019) and investing in such career programs is crucial for employee retention. At the same time, involving in this kind of initiative is also a responsibility of companies to ensure that their talents are continuously developing (Ghani et al., 2022).

Regarding development programs, all of the analyzed companies declare that are continuously offering various programs for their employees. Knauf Insulation mention on the career page that employee growth represents a priority for the company, having both external and internal learning opportunities. Among these opportunities they mention about several training and workshops sessions. Saint-Gobain Isovers also talks about employee's development investments, offering customized mentoring & career paths. Additionally, they declare that also have some international mobilities opportunities, which of course help employees to grow on their career path. Rockwool Romania is focused on both leadership and more technical skills development programs, employees having the possibility to take part in global exchange programs.

### ***Work-life balance***

Work life balance means the equilibrium that an individual managed to have between his personal life and family and work (Oludayo et al., 2018). As Hendriana et al., (2023) explained, busy workloads and longer working hours will definitely affect the employees' personal life, making them experience negative psychological feeling, dropping their performance and productivity. Consequently, a balance between the professional life and personal life helps employees feel less stress at job, which lead in the end at job satisfaction and life satisfaction, in general (Aruldoss, Kowalski and Parayitam, 2021). Also, work-life balance may have a positive impact for potential job candidates, communicating that the employer cares about they and their families and this can lead to improved attraction for employers (Ahamad, Saini and Jawahar, 2022; Aruldoss, Kowalski and Parayitam, 2021).

Concerning the work-life balance, all organizations presents themselves as taking care of this equilibrium between personal and professional life of their employees. On the website,

Knauf Insulation declares that is open to accept flexibility, with an accent on flexible arrangements of employees. Also, employees have the possibility to have days off on their birthdays. Similarly, the second one company, Saint-Gobain Isover, offers flexible working hours. Last, but not least, Rockwool Romania position itself as a support of employees' physical and mental health, offering customized benefits that are fitting for every employee's lifestyle.

### **Conclusions, limitations and further research**

The concept of employer branding is becoming more and more important among companies when it comes to strategies to attract and retain employees. Building the employer brand meets the special conditions of the labor market, which in recent years has been in a continuous transformation. The labor market has recently transformed from an employers' market into an employees' market, where employees have the power to impose their rules and preferences. The Coronavirus pandemic has also contributed to changes in employee behavior and preferences. To all this, for the insulating materials market in Romania, we can add the tight number of competitors and the need for specialized personnel. In these conditions, a well-defined employer image responds to the challenges of the big players on this market when it comes to attracting and retaining employees.

Among the non-financial dimensions of the employer branding concept are a focus on sustainability, development programs created for employees, as well as a special concern for work-life balance and a healthy work environment. An analysis of the websites of the three major players on the Romanian insulating materials market reveals the strategies used by them to shape their employer image. All companies analyzed declare on their websites that they are involved in projects aimed at social responsibility. Also, each of the three companies claims to offer a healthy work environment where work-life balance is paramount. In addition, all three competitors take actions to help the continuous professional development of their employees.

To sum it up, Knauf Insulation, Saint-Gobain Isover and Rockwool Romania declare that they have a powerful commitment to social responsibility and employee care which are very important in building their employer image.

This research has limits. The study has potential biases caused firstly by the limited number of companies investigated that operate only on a local market. Secondly, the results may be affected by the websites design and content, even though there are discernible differences between analyzed companies' policies regarding employer branding, these are not visible on their websites partly due to poorly optimized website design. For the future development of this study, it would be very important to take into account also the voice of the employers of the analyzed organizations, as they may provide useful information about the realities within the companies. For this we propose a set of quantitative researches being done among employees to find out how the declared actions are reflected into existing experiences of day-to-day business.

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## **Comparative Study on Leadership Styles and Customer Behavior: Environmental and Non-Environmental Students, Barcelona, Spain**

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### **Abstract**

The study delves into the relationship between sustainability, consumer behavior, and leadership styles among students at C3S Business School in Barcelona. It focuses on the impact of ecological consciousness, which refers to environmental awareness and concern, on purchasing decisions and leadership practices. In the current context, with sustainability increasingly crucial in decision-making, individuals and organizations are reassessing their actions considering ecological concerns. The literature suggests a growing demand for sustainable products driven by heightened environmental awareness among consumers, especially millennials. Despite this trend, there is a noticeable gap between attitudes and behaviors, with many environmentally conscious individuals needing help translating their values into consumer choices. The research uses a qualitative approach, combining semi-structured interviews and online questionnaires. Semi-structured interviews allow in-depth exploration of students' environmental attitudes and behaviors, while online questionnaires provide a broader perspective. This approach was chosen to ensure a comprehensive understanding of how students identify with environmentalism and its impact on consumer behavior. The study categorizes participants into environmental and non-environmentalist groups, analyzing their motivations, purchasing behaviors, and the influence of leadership styles on their decisions. Key findings reveal that transformational leadership styles significantly enhance pro-environmental behaviors among students, aligning personal values with sustainable practices. These findings have practical implications for businesses and educational institutions, highlighting the role of leadership in promoting sustainable behaviors.

**Keywords:** Customer behavior, environment, leadership styles.

**JEL classification:** D91, M14, Q01, Q50, Q56, Q57.

### **Introduction**

Recently, sustainability has become integral to consumption patterns as leaders and consumers factor environmental concerns into their decision-making processes (Vann et al.,

2024). Individuals and businesses consider the ecological impact of their actions to ensure they align with sustainability goals (Ones & Dilchert, 2012). Consumer behavior is how motivations and attitudes drive purchasing decisions (Sarigollu et al., 2020). In sustainable consumption, consumers increasingly evaluate the environmental impact of their choices, favoring eco-friendly products when the perceived individual and societal benefits are clear (Sarigollu et al., 2020). White et al. (2019) explained sustainable behavior as actions that decrease adverse environmental impact and decreased utilization of natural resources across the product's life cycle. According to Gershoff and Frels (2015), consumer demand for sustainable options has risen recently. Likewise, Nielsen (2015) stated that 66% of consumers (73% millennials) worldwide report being willing to pay extra for sustainable offerings.

Young et al. (2009) mentioned that consumers are said to have an 'attitude-behavior gap' or 'value action gap,' which means that 30% of people who report that they are very concerned about the environment struggle to translate this into their purchases. However, Ting et al. (2024) keep emphasizing that growing environmental consciousness shapes consumer behaviors, leading to change in organizational leadership practices, particularly in promoting environmentally responsible behaviors.

Environmental awareness significantly impacts companies adopting corporate social responsibility (CSR) policies that encourage environmentally sustainable practices (Ting et al., 2024). Ogiemwonyi et al. (2020) highlighted that green behavior among consumers is closely tied to environmental awareness, influencing purchasing decisions and behaviors. Leadership is crucial in shaping organizational success, with different leadership styles producing varying results. Organizational leaders influence various organizational outcomes, such as employees' attitudes and commitment and organizational performance, as well as diverse outcomes, such as safety and environmental performance (Barling et al., 2011).

According to Burns (1978), leadership styles can be broadly categorized into transformational and transactional. Transformational leadership is a kind of leadership in which leaders inspire and motivate followers to exceed their self-interests for the good of the organization and society (Bass & Riggio, 2006). Judge and Piccolo (2004) described transformational leadership as a leadership style where the leader works with teams to guide a change through inspiration and executing the change with committed group members. Environmentally specific transformational leadership is defined as a leadership style in which the content of leadership behaviors is focused on pro-environmental initiatives. On the other hand, transactional leadership is described by Bass and Riggio (2006) as a style that focuses on the exchange between leaders and followers, often involving rewards and punishment to achieve compliance. They further explained it as task-oriented, where leaders focus on clear goals and rewards for performance. Transformational leadership has recently become the most widely studied of all leadership theories and has been shown to influence diverse behaviors, including ensuring positive environmental impact (Judge & Piccolo, 2004).

Environmentalism is the ideology that promotes preserving and protecting the natural environment (De Canio & Martinelli, 2021). It emphasizes addressing climate change, resource depletion, and biodiversity loss through sustainable practices and policies. Environmentalist leaders are oriented toward creating policies, frameworks, and strategies prioritizing sustainability, advocating for renewable energy, waste reduction, and eco-friendly technologies (Martinelli, 2020). Environmentalists proactively align organizational strategy with environmental goals (Čapienė et al., 2022). Also, the researchers identified that environmentalist consumers, also known as sustainable consumers, are motivated by personal norms, environmental values, and their sense of responsibility toward mitigating ecological harm. Sustainable consumer behaviors could include voluntarily reducing or simplifying one's consumption in the first place (Leonard-Barton, 1981; McDonald et al., 2006); choosing

products with sustainable sources, production, features conserving energy, water, and products during use and utilizing more sustainable modes of product disposal (White & Sampson, 2013). In contrast, non-environmentalism refers to attitudes that either downplay or ignore environmental concerns and focus on economic growth, resource exploitation, and convenience-driven consumption.

Environmentalism profoundly impacts leadership and consumer behaviors in Candan and Yuksel (2021). Environmentally conscious students make purchases that align with their environmental values, favoring sustainable, ethically sourced products with minimal environmental impact. A recent study conducted by Abel and Anyankoha (2024) on students found that eco-labeling significantly influences the purchasing decisions of young consumers like students, especially those identified as more environmentally conscious and willing to pay for eco-friendly products. The study suggests that environmentalist students will likely prioritize economic considerations in purchasing decisions. Nekmahmud and Fekete-Farkas (2020) highlighted that students sampled from the research showed that environmentally conscious students are more inclined to evaluate the ecological impact of their purchases, driven by increased environmental awareness, while the non-environmental conscious ones behave otherwise.

Educational institutions play a crucial role in shaping future leaders, making their leadership styles critical for sustainability and organizational success (Atalay et al., 2020 2019). Leadership within academic environments needs to adapt to the evolving challenges that arise from diverse and changing student populations, requiring an emphasis on ethical and empowering eco-friendly leadership styles (Aboramadan et al., 2020). This study aims to understand the changes in customer behavior among students with developed ecological consciousness at C3S Business School. The study also highlights the different leadership styles that future entrepreneurs could implement if their ecological consciousness could influence their decisions.

In today's business world, sustainability is a hot topic, and leaders and consumers are constantly encouraged to engage in eco-friendly behaviors. This study sought to enrich the literature on the ongoing eco-friendly practices campaign and highlight different leadership styles that future entrepreneurs could implement if their ecological consciousness could influence their decisions. This study compares environmentalist and non-environmentalist students' leadership styles and customer behavior at C3S Business School Barcelona. It will involve a sample of students from both groups to find differences and similarities in their leadership approaches and how this affects customer behavior. The study will focus only on the school's internal environment and exclude external factors like culture or specific events. The goal is to understand how environmental awareness influences the school's leadership styles and customer behavior.

## **1. Literature review**

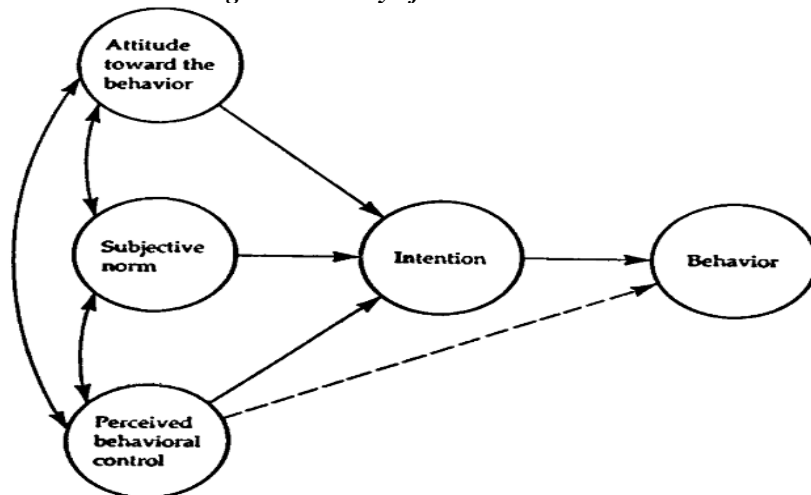
### ***1.1. Impact of social and ecological consciousness on customer behavior***

According to Tikhomirova et al. (2019), environmental consciousness is an integrative psychological state, a combination of human mental processes that engender various social behaviors about nature and the social environment. Moreover, purchase behavior that traditionally evaluates costs and benefits can transform into ecologically conscious consumer behavior (ECCB) if it exhibits a future-oriented approach involving the impact of that purchase on the environment (Das & Ramalingam, 2019).

### 1.2. Factors influencing the development of ecological consciousness and eco-friendly customer behavior

Most scholars use the theory of planned behavior to understand and highlight the factors that predict eco-friendly customer behavior. The theory of planned behavior, created by Ajzen (1991), is a model used to indicate a person's intention to demonstrate a behavior at a specific time and place. This theory is based on motivation (purpose) and ability (behavior control). The subjective norms represent the social pressure that affects the behavior's performance. The model is shown in the figure below.

Figure 1: Theory of Planned Behavior



Source: Ajzen, (1991).

Using the Theory of Planned Behavior (TPB), Ting et al. (2019) argue that green marketing positively influences and predicts eco-conscious consumer behavior. Moreover, the individual's eco-consciousness and brand awareness can also play a role in predicting the ECB. The researchers say consumers are more tempted to engage in eco-conscious behavior when green marketing combines with solid brand awareness. Das and Ramalingam (2019) highlight that consumers with average to deep ecological concerns are likelier to demonstrate eco-friendly customer behavior than consumers with low environmental concerns.

### 1.3. The role of sustainable leadership in modern organizations

In the study by Liao (2022), sustainable leadership is discussed in depth and specifically defined as incorporating ESG factors. They talk about the changes in leadership from the short-term thinking process that is predominantly profit-oriented to the sustainable thinking process that is organizational, ecological, and social. Some include decision-making for ethical reasons, the building of diverse and sustainable leadership, and the building of organizational capacity to respond to global pressures such as climate change. The authors highlight the importance of the empirical examination of leadership for sustainable performance and suggest future studies of cross-cultural and sectorial sustainable leadership. It also stresses the engagement of stakeholders and the leaders' responsibilities in advocating for the sustainability of organizations. Further, Liao (2022) also explains that sustainable leadership means that individual, organizational, and societal values should be aligned and suggests that leaders should use practices that go beyond the short-term economic gain for the long-term good.

#### ***1.4. Green servant leadership and pro-environmental behavior: the role of motivation and self-efficacy***

Faraz et al. (2021) examine green servant leadership and employees' pro-environmental behaviors with self-efficacy and intrinsic motivation as the mediators. The authors suggest that green servant leadership, where a leader supports environmental conservation and engages in servant leadership, enhances the capacity of the employee to perform environmental tasks (self-efficacy) and their intrinsic motivation. This leads to an increased level of pro-environmental behaviors in organizations. The study also establishes that inherent motivation is central to green leadership's ability to drive sustainable behavior change by embracing employees' roles to take charge of environmentalism even if it is not part of their official duties. The studies imply that CSR and environmental management practices are enhanced by supporting the leadership styles that foster the employees' voluntary engagement in environmentally responsible behaviors. The researchers note the need for more research to establish the versatility of this leadership model in various sectors and cultures to support the hypothesis of green servant leadership on organizational sustainability initiatives.

#### ***1.5. Determinants of green product development performance***

Chen and Chang (2013) investigate the determinants of green product development performance, focusing on three critical drivers: green dynamic capabilities, green transformational leadership, and green creativity. Green dynamic capabilities are defined as the firm's competence to configure and reconfigure resources to address environmental dynamics and are essential in creating innovation for sustainable products. Green transformational leadership refers to the situation whereby leaders encourage the employees to adopt environmentally friendly practices. One step beyond green creativity, which implies the possibility of creating new environmentally friendly products, also helps create new sustainable products. The authors state that these three factors affect the capability of a firm to achieve success in green product development and show how these factors are interrelated to sustain green development.

#### ***1.6. The interactive effects of CSR and ethical leadership on employee behavior***

De Roeck and Farooq (2018) examine the moderating relationships between CSR, ethical leadership, and employees' socially responsible behavior levels. Their research is in response to the emerging concern of how ethical values and leadership behaviors influence employee behaviors concerning CSR, the company's responsibility towards society and the environment. It is also evidenced by the encouragement of workers to behave ethically in line with the organizational culture. However, De Roeck and Farooq (2018) suggest that CSR substantially affects employees' behavior when ethical leadership is added. Ethical leadership is demonstrated by leaders who act pretty, with integrity, and make ethically sound decisions; this results in a workplace where employees are inclined towards acting ethically. The study also highlights that ethical leaders engage in the modeling process, thus supporting the identified organization's CSR initiatives and encouraging the staff members to embrace socially responsible behaviors actively. In their work, the authors establish that CSR and ethical leadership have a symbiotic relationship through which the two factors enhance the ethical behavior of employees in the organization, thus strengthening the organization's social responsibility.

#### ***1.7. Management styles and decision-making in pro-ecological strategies***

Sulich et al. (2021) explore the connection between management styles and the decision-making process regarding pro-ecological solutions within organizations. Their research



highlights the need to incorporate sustainability in today's corporations, especially since managerial strategies play a significant role in implementing and efficiently using environmentally sound strategies. The authors discuss the type of management, which can be autocratic, bureaucratic, and participative, and their impact on pro-ecological decision-making. They opine that decentralized or employee involvement management styles are more effective in engaging and creating commitment towards sustainability initiatives, hence, implementation of green initiatives. Furthermore, Sulich et al. (2021) stress that implementing sustainable ecological solutions is impossible if decision-makers focus on short-term financial returns at the expense of long-term environmental consequences. The study, therefore, asserts that adopting adaptive management styles alongside proactive decision-making frameworks is crucial in a firm's quest for sustainable operation.

### ***1.8. Leadership, operational practices, and institutional pressures in green supply chain management***

The study conducted by Liao (2022) examines the interactions between leadership practices, operations strategies, institutional forces, and environmental results from a green supply chain perspective. It provides a theoretical background to explain different factors that affect the adoption of SC sustainable practices in terms of leadership behavior and environmental pressures. The authors further state a strong correlation between leadership and the greening of organizational practices through transformational leadership. It also stresses that other sources of pressure, including regulatory requirements and shareholders' demand, add to the adoption of sustainable supply chain management practices among firms. According to Liao (2022), operational practices such as waste management, resource management, and green supply chain management are all linked to enhanced environmental performance. From the study, the author concludes that adopting leadership, institutional pressures, and sustainable operational practices are essential in improving environmental performances in green supply chain management. This guarantees that organizations meet external demands and champion change for sustainable internal practices.

### ***1.9. Green organizational identity – sources and consequences***

Chen and Chang (2013) discuss what they refer to as green organizational identity, their primary concern being the antecedents of this identity and the implications of green identities for the firms in question. Green organizational identity is understood as the perception of some organizations as environmentally responsible organizations that influence internal practices and external image. The researcher outlines some of the primary sources of this identity as emanating from outside the organization in the form of regulatory requirements, competition in the market, and stakeholder demand, as well as from inside in terms of leadership and the green innovation capacity of the firm. The paper provides evidence that green organizational identity has positive organizational consequences for improving organizational environmental performance, motivation of employees, and corporate reputation. He has also noted that when firms align their identity with ecological values, they gain competitiveness and provide better solutions for sustainability. First, the study notes that promoting a green organizational identity is a resource that helps firms sustain their performance in the marketplace, becoming more sensitive to environmental matters.

## **2. Methodology**

Research methodology is an organized, scientific approach to addressing research issues. In addition to knowing methodologies and techniques, the researcher must construct his methodology and put it into practice (Klas, 2016). Depending on the problem, a different

approach might be used. As a result, research methodology has a broader reach than research techniques. Research methodology addresses research techniques and accounts for the reasoning behind our choices (Bhattacharyya, 2006).

The Theory of Planned Behavior (TPB) was employed in this research as a supporting framework to deepen our understanding of consumer behavioral intentions. In other words, it is a foundational framework to understand the factors that predict eco-friendly consumer behavior. Ting et al. (2022) applied the theory of planned behavior to highlight the importance of green marketing and brand awareness in constructing eco-conscious consumer behavior. This study investigates how students, both environmentalists and non-environmentalists, see consumer behavior. It centers on three primary questions: what people believe to be involved in green consumerism, how green consumerism lowers environmental problems, and how identity as an environmentalist influences these beliefs.

The data from the interviews were analyzed systematically, employing a qualitative approach. After the interviews, the audio recordings were transcribed to ensure accuracy and retain the exact wording of each participant's responses. After transcribing, the document was read several times to familiarize with the data, allowing initial insights and patterns to emerge. A coding process was employed, wherein phrases, words, or segments related to the study's objectives were highlighted as meaningful and labeled.

The generated codes were then categorized, and similar codes were clustered under broader themes, which captured the participants' perceptions and experiences related to the recycling activity. The themes provided a scaffolded understanding of diverse perspectives about environmental consciousness, personal motivations, and attitudes toward green living. This thematic analysis exhaustively interprets the data from the interviews, placing individual responses not in isolation but within the broader narrative of the study.

### ***2.1. Methodology based on qualitative approach***

This research uses qualitative data collection to ask through a survey conducted remotely due to some inconveniences related to the possibility of conducting face-to-face interviews. To resonate with the situation, considering the school has summer holidays during the site visit, and most students are international. Although they discovered a favorable correlation between self-transcendent moral principles and environmental engagement, questions were raised regarding how much of an impact they had on motivation (Pratt & Matsuba, 2018).

This research used the qualitative method to understand better the participants' views, experiences, and thoughts. Qualitative research is an excellent way to focus on understanding consumer behavior in its natural form. This method is appropriate specifically for a deeper understanding of perceptions and viewpoints on the topic.

According to Creswell (2013), qualitative research is a method that helps interact and understand the thought processes of a group or individuals linked to social or environmental activity. The method also focuses on interpreting personal experience after reading the data in which specific activities or behaviors are involved. Quality research is a study about a positioning activity that finds out the observers. It includes systematic techniques that make seeing between narrative and descriptive details easier. Denzin and Lincoln (2011) suggest that this method consists of a realistic and understanding strategy for the world, indicating that the researchers should study in their natural setup, which helps understand or analyze phenomena regarding the significance individuals give them.

- *Semi-Structured Interviews*: Semi-structured interviews explored students' environmental attitudes and motivations. This enabled an analysis of personal convictions, attitudes, perceptions of the environment, and leadership inclinations. Such information helps the students place their choices and attitudes in a proper perspective, which may not be evident

when filling out standardized questionnaires.

• *Online survey*: Respondent data was gathered through an online questionnaire specifically for measurable attributes of individual consumers regarding preferences towards environmentally friendly aspects of products, perceived behaviors towards recycling, and leadership adopted in practice. This allowed for a broader sample to be collected so other analyses could be made regarding trends and patterns within the consumers and their leadership preferences.

## 2.2. Participants

This study included two groups of participants. The first group (n=6) explained their ideas via interviews, as detailed in section 2.5. The second group (n=15) responded to an online survey. Fifteen students, ages 19 to 40, participated in the research. Despite the sample's diversity in terms of occupation and education levels, just three participants reported being members of environmental organizations. The degree to which the participants identified as environmentalists and the extent to which they practiced green consumerism differed. The participants were asked if they identified as environmentalists or practiced green consumerism, but their answers did not produce a simple yes or no answer. As a result, participant responses were categorized based on how they expressed their identities (identified, reluctant to identify, did not identify) and whether they engaged in green consumerism (yes, occasionally, attempt to, no).

## 2.3. Data collection

After approval for the study was granted by C3S Business School. The Research Department hosted a recycling activity project asking volunteers to participate in a survey about consumer perceptions of green consumerism. During the hiring process, a purposeful approach was used to gather various viewpoints (Patton, 2002; Robinson, 2013). This entailed purposefully seeking an extensive range of ages and occupations and ensuring both genders were represented when recruiting participants (see Table 1). Effort was also made to ensure that environmentalists and non-environmentalists were recruited, as well as those who did and did not engage in green consumerism.

**Sampling Method**: In this research, the purposive sampling technique was applied to try to have heterogeneity across respondents' awareness level of the environment, such as those labeled as environmentalists and non-environmentalist students. The sample comprised students of different ages, genders, and academic backgrounds to ensure diverse opinions in C3S Business School.

**Semi-structured interviews**: An interview was conducted with 6 students who volunteered in a recycling activity that the Research Department conducted. These interviews were structured so that they would provide detailed and personal responses regarding participants' reasons for their involvement, environmental attitudes, and perceptions of leadership. The answers were categorized and coded, which helped reveal patterns in respondents' behaviors, such as social responsibility and ecological awareness, which added depth to the analysis.

**Online survey**: A set of questions was anonymously conducted among a larger sample of 15 students using an online questionnaire, targeting their consumer behavior, leadership preferences, and environmental attitudes. A Likert scale and multiple-choice questions accompanied this to make behaviors quantifiable: for example, on the facet of packaging that was considered environmentally friendly and to what extent they recycle, preferred leadership style in crises. This data collection gave us objective facts regarding the behaviors of a

consumer and a leader for the comparison of behaviors of athletes by the environmentalists and the non-environmentalists.

This methodological design enriches the understanding of the interview participants' beliefs and reasons for acting in a certain way. It also makes the survey results more convincing because they are applicable to a larger population.

**Table 1. Results**

Participants	Research Question	Percentage
Number of interests Total=15	Do you consider yourself an environmentalist or not?	Yes: 53.3% No: 46.7%
Number of interests Total=8	How can you manage a group of people?	Democratic Leadership: 62.5 Autocratic Leadership:0 Bureaucratic leadership: 25% Laissez-faire leadership=12.5%
Number of interests Total=7	How would you react if you had to deal with a crisis at work?  Will you make decisions yourself as a leader or consult other parties?	-Consult other parties -I will consult other parties and will suggest my opinion, too -leader -consult other parties -I would do a mix of both. Conduct opinion-sharing concerning the crisis and make decisions as a leader afterward. -I will make decisions myself if there is much urgency. If there is enough time, I will consult (informally) with as many peers as possible before deciding.
Number of interests Total=7	How organized are you? Rate your organization skills on a scale from 1 to 5, 1: not organized 5: Very well organized	12.5% Average 50% organized 37.5% very well organized
Number of interests Total=7	Do you care about the eco-friendly packaging of products	3 participants mentioned Yes, and the rest No
Number of interests Total=7	Do you recycle your waste? You use a specific bin for a particular type of waste.	4 participants mentioned Yes, and the rest No
Number of interests Total=7	How can you manage a group of people?	Democratic Leadership: 57.1% Autocratic Leadership:0 Bureaucratic leadership: 28.6% Laissez-faire leadership=14.3%
Number of interests Total=7	How would you react if you had to deal with a crisis at work?  Will you make decisions yourself as a leader or consult other parties?	-I balance quick decision-making with consulting key team members in a crisis. I gather input when time allows but can act independently if the situation requires immediate action. -Will Consider Doing Both -Crisis at work will be done by analyzing the situation, looking for the root causes, and getting proper solutions (written and

		not shown to others). A meeting will be done for others' points of view, then combine and choose together the best for us -It depends on the situation, but I would consult other parties in most situations -Involvement of other parties It depends on the type of crisis. If it is not critical, I will discuss it with the colleges and finalize the decision. However, if there is a fire in the building, I would make a quick decision if I am responsible in case there is no time.
Number of interests Total=7	How much importance do you give to food labeling rate the importance of food labeling on a scale of 1 to 5 1: not important 5: very important	42.9% organized 57.1% very well organized
Number of interests Total=7	Do you care about the eco-friendly packaging of products	-I do not know its importance, and it was not in my country (Egypt), but I see these products are more expensive here. I do not understand why To a certain extent -Yes -Sometimes, I prefer eco-friendly packaging.
Number of interests Total=7	Do you recycle your waste? You use a specific bin for a specific waste type.	-Yes -Yes, I recycle and use specific bins for different waste types. -Yes Definitely -No

#### 2.4. Semi-Structured Interviews

The method chosen is the Interview, as it is a primary tool for data collection in qualitative research studies. It is a direct connection with the participant to understand more profound views and extract raw data from individuals as the participants can share their opinions openly. Using semi-structured interviews helped provide flexible answers that covered the critical details of the study.

Kvale (1996) says that a qualitative research interview aims to perceive the world from the study participants' perspectives and understand their experiences through their thoughts. The interview method concentrates on investigating the distinct views and perspectives of participants, which helps in understanding their thoughts in the study. The Interviews were conducted face-to-face during the recycling activity for approximately 30 minutes. All participants were aware that their interactions would be recorded for transcriptional use. However, they were promised that their identities would be confidential, which made them speak freely and open to their ideas and thoughts regarding their participation.

#### 2.5. Narrative

The participants were interviewed individually to understand their ideas and thoughts about the activity. The questions below were asked of the participants (6 participants) who joined this activity and were assumed to be environmentalists in this study:

The interview questions asked to the participants are:

1. What motivates you to join us in this recycling activity?
2. How do you think this activity will help society?



**Participant 1**

Responding to question one: *“Because Barcelona is a beautiful city, and I wanted to help to make it better even if it is just a small impact, and I want to make sure that it is a perfect scene for other people, so I want to help recycle”.*

Responding to question two: *“Let us be honest; the impact is not that much, but even a small percentage will motivate other people, and maybe other people might look to us, and they might probably stop throwing trash, but even if it is a small percentage, it is our duty as a human on this planet that we share to help make it better”.*

**Participant 2**

Responding to question one: *“I am doing it mostly as the other person said. It is our responsibility and duty to keep the city clean even if it is just a small part, but you are playing it is more important”.*

Responding to question two : *“The goal is to minimize pollution”.*

**Participant 3**

Responding to question one: *“I think you can only live in a clean environment if you make it clean by yourself because I do not think anybody else is responsible for a greener environment but yourself. So if you do it and somebody else also has the same thought, then it will be clean and greener at the same time, so it is just a responsibility that should be self-driven because if I do it. Somebody else is self-driven, so we find ourselves in a great environment like that”.*

Responding to question two: *“To create awareness to people that it's an individual responsibility, to make the environment clean just by picking trash next to you and putting it in the dustbin”.*

**Participant 4**

Responding to question one: *“I think it is our responsibility to make this place clean, the environment, so if we stand in a clean environment where you put the litter clean”.*

Responding to question two: *“It will create a greener environment for that given area”.*

**Participant 5**

Responding to question one: *“I love nature and animals and want to help a little. This is my skill, so let us say this is why I am here to help my community”.*

Responding to question two: *“It is essential since there is much pollution, so we need to do whatever we can to help with our little skill. For the better of future generations and for helping everyone”.*

**Participant 6**

Responding to question one: *“I am happy to be a part of the recycling activity because I believe in giving back to nature, and nature will give back to me. This means that if I keep nature, nature will also favor me by providing shade, good air, and breathing, not air pollution. Everything around me will flow better if I clean the environment”.*

Responding to question two: *“I believe they say walk the talk, so before advising or saying it to somebody, as we should care about the environment, I should also show that I am doing and part of it. I am an example, so I am a walk in the talk, meaning that whatever I say to people out there about nature, they practically see me doing it; if they see me, it will probably motivate them, so it is more like twenty-two more lives the situation of keeping the nature clean and not only waiting for people who are in charge of cleaning. Even I should take responsibility*



*as you walk; you find trash. It is okay, and nothing will happen to you when you decide to pick up the trash, so it is just like a motivation factor that I am trying to create in the environment of my age to see that it is normal to pick up the trash, to keep where you are staying around you clean”.*

### 3. Relevance of the study

The findings of this study will be beneficial to the field of academics because it helps to understand how leadership styles differ between environmentalist and non-environmentalist students at C3S Business School Barcelona and how these differences affect customer behavior. This can help teachers, school leaders, and organizations better support and develop leaders who can handle different viewpoints and values. Also, the study adds to our knowledge of leadership about environmental awareness, which is becoming more critical in today's business world. The results can help create leadership programs and strategies supporting sustainability, benefiting student growth and organizational success.

### 4. Discussion

The results presented in the study focus on the effects of consciousness of the external environment on consumer behavior in students, as well as leadership styles, as gathered from both the online questionnaire and interview. The literature review indicates that ecological consciousness can influence consumers' buying behavior; in other words, consumers will value factors other than cost and benefits in the purchase decision (Das and Ramalingam, 2019). Additionally, Ting et al. (2019) believe consumers can develop ecological consciousness when companies with solid brand awareness invest in green marketing.

Ecological consciousness can also affect leadership styles. According to Liao (2022), sustainable leadership is characterized by a long-term vision and the importance of organizational, ecological, and social factors in decision-making. Moreover, Faraz et al. (2021) argue that when leaders perform green servant leadership, they enhance the motivation and capability of employees to be self-sufficient.

Findings from the interviews strengthened the view that students who claimed to be environmentalists are mainly driven by humanitarian and extended concern for the environment. Several participants claimed to hold relevant personal values, including caring for the environment and supporting community welfare, that they believed are critical to leadership positions. For instance, one of the interviewees was driven by a philosophy that, as Earth's inhabitants, everyone must do something better for the planet.

Conversely, an ordinary student may have a certain appreciation for sustainability. Still, they are more often than not only going to act responsibly when it comes to the environment when the cost and convenience factors are prioritized over anything else. These differences underscore how comparable values arrange leadership thinking differently among environmentalist and non-environmentalist organizations.

This study utilizes a qualitative method for data collection, an interview, to understand the key motivation for their participation in the recycling activity and how this action can help society. The second method consists of a questionnaire shared with students regardless of their participation in the event to detect and identify the gap in customer behavior and leadership styles that can be adopted by future entrepreneurs between students with ecological consciousness and those without. This method will explain the relationship between environmental consciousness, consumer behavior, and leadership styles.

The survey revealed that among the respondent students, those who are environmentally friendly considered product packaging and food labeling more important than those non-environmentalists. For example, the environmentalist students further suggested that the

importance they place on eco-friendly packaging is very important when making purchasing decisions, at 65% while non-environmentalist students at 40%. This aligns with prior study, which has shown a positive correlation between ecological sensitivity and the intention to buy and behave environmentally responsibly (Ting et al., 2019).

Similarly, the qualitative data derived from interviews depicted a similar trend of democratic leadership preference among the environmentalist students, who emphasized more on cooperation and involvement in decision making. Self-generated and semi-structured interviews confirmed that these students have a shared understanding of leadership that recognizes the value of an inclusive process, particularly when managing emergencies. This we suggest infers with the collectivist values apparent to many environmental participants.

The number of students affiliated with environmentalists and non-environmentalists also supported this, as 62 % of the environmentalist students preferred the democratic leadership style compared to 55 % of the non-environmentalist students surveyed. The complementarity of both data supports how ecological self-identity relates to leadership thinking, where eco-sensitive students preferred inclusive and socially responsible forms of leadership.

Lastly, interviews suggested a continuity of attitude-behavior-sigma, in which the respondents lamented that they could not consistently become environmentally conscious in their daily lives due to rising costs or lack of availability. They were, however, quite progressive on ecological issues. Yet, they confessed that they struggled to translate those ecological values into their daily consumerism, a common situation according to the tenets of sustainable consumption literature.

This finding clarifies that although 30% of environmental students rarely do this, they sometimes buy something for either cheaper or convenience instead of being environmentally friendly. This suggests that while attitude played a part in predicting environmentally responsible behavior, constraints interfered with the ability to practice such responsible behavior in everyday life.

The findings of the qualitative study indicate that the respondents are students who participated in the recycling activity; they emphasized social and ecological values such as giving back to nature and keeping the city clean as the primary keys of motivation to participate in the event; they go on to say that despite the small-scaled impact of the recycling event. That might encourage others to follow the lead and significantly impact the environment. These results suggest that the eco-conscious students believe in a socialistic approach, meaning that they strongly believe in the community and social values as a source of motivation. They also believe in teamwork and group effort; this can be explained by the fact that most students who participated in the event came from collectivistic cultures such as the Middle East, Asia, and Africa. According to Triandis (2001), collectivist cultures emphasize the group and society, prioritizing the group's goals over personal goals; moreover, in the case of disputes, this culture tends to choose conflict resolution that protects the relationships, such as mediation. On the other hand, individualist cultures present autonomous and independent individuals and tend to prioritize personal goals over society's objectives.

The findings of the study indicate that most environmentalist students prefer democratic leadership. Only 25% choose bureaucratic leadership and other leadership styles. Moreover, in a crisis, the majority will involve other people in decision-making. These results are consistent with the findings of the qualitative method since those students are motivated by social and environmental goals rather than personal goals.

On the other hand, 57% of non-activist students will also apply the democratic style of leadership and will consider consulting other parties in the decision-making. Thus, we can conclude that ecological consciousness does not affect the leadership style that future entrepreneurs can apply.

The findings also demonstrate that ecological consciousness does not affect consumer behavior. The responses of all students are nearly matching. Regardless of whether they are environmentalists, most students give significant importance to food labeling and eco-friendly packaging. Furthermore, nearly all students recycle their waste.

One limitation that should be acknowledged is that we did not consider the respondents' background cultures and traditions; this might affect the study results since most of the students came from collectivist cultures.

## 5. Limitations

The study focuses on C3S Business School Barcelona students, so the results may only apply to some schools or groups. Using interviews could lead to biased data due to participants' desire to give socially acceptable answers or self-report inaccuracies. The research is conducted over a short period, which may not reflect long-term changes in leadership styles and customer behavior. It also focuses only on the school's internal environment and does not consider external factors like culture or economic conditions that might affect these behaviors. Differences in how participants understand environmental awareness could impact the consistency of the findings.

## Conclusion

In conclusion, the study underscores the growing significance of sustainability in both consumer behavior and leadership approaches. As environmental awareness increases, consumers, particularly younger generations such as students, are more inclined toward eco-friendly purchasing decisions, though some still exhibit an "attitude-behavior gap." Leadership is vital in fostering sustainability, with transformational and green leadership styles driving pro-environmental actions. As incubators of future leaders, educational institutions are pivotal in shaping eco-conscious leadership. This research highlights the need for adaptive leadership styles that integrate sustainability to align organizational and environmental goals, promote a culture of responsibility and long-term impact, and inspire and motivate the audience.

The study wants to raise awareness of the increase in ecological consciousness as a determinant factor influencing consumers and leadership among the students of C3S Business School. Thus, we decided to use a qualitative approach. The exploratory nature of the study paid rich dividends. From the semi structured interviews, it was possible to understand the green students' values, attitudes and beliefs regarding their activism and a sense of social responsibility for the environment and sustainable living. These findings from the qualitative data showed that a group of environmentalist students had democratic perception towards leadership as a collective process for the social and environmental benefits. During these interviews, the researchers of this study found that the students also complained of this attitude behavior gap, which is the difference between attitude and behavior, in as much as they possessed positive attitudes towards environmental conservation, they were not willing or were able, to act in a way that would uphold the conservation of the environment in their consumer Ethics.

Qualitative survey data on the other hand let us infer formal patterns of consumer behavior and leadership preference amongst a more diverse population. This data supports the previous studies, because environmentalist students had a higher tendency to shop green and preferred democratic leadership. The surveys also supplied quantifiable proof of the ecological consideration that affects consumer behavior and leadership styles that offered concrete support to the concepts of ecological consciousness and ecological responsibility in complementing each other as related behaviors. This approach enhances knowledge about the effects of ecological consciousness in changed consumer and leadership activities, focusing on the

necessity of evolutionally driven sustainable leadership in educational and organizational settings. It proposes that creating ecological awareness within learning institutions could produce more leaders with a vision towards the common good, hence promoting sustainable development.

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## **Artists' Perception of Management in Opera Theaters and Opera Theater Performance During the COVID-19 Pandemic**

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### **Abstract**

This study examines the perspectives of lyrical artists in Romania on how opera theater performance is influenced by key aspects of institutional management (such as planning, organization, motivation, and control) during the COVID period. The objectives of our study are the following: (1) to identify how institutional management was perceived by lyrical artists during the COVID period; (2) to identify the relationship between opera theatre performance and planning, organization, motivation, and control within opera theatres. The study employs a cross-sectional, non-experimental design and uses a survey-based questionnaire approach. The extended questionnaire comprises 36 items, with 19 specifically addressing the primary research question. A total of 135 lyrical artists participated in the study, of whom 89 (65.9%) were female and 46 (34.1%) were male. The questionnaire was distributed online via Google Forms, and statistical analysis was conducted using SPSS version 22. The nonparametric Spearman's rho test reveals very strong positive correlations between artists' perceptions of the relationship between opera theatre performance and key management elements: planning, organization, training-motivation, and control within opera theatres. The findings indicate that as planning, organization, training-motivation, and control are strengthened in opera theatres, the performance of the opera theatre correspondingly increases. The results are discussed with reference to similar results reported in national and international. From an academic perspective, this article enriches the current understanding of the adaptation of the management model of opera houses in a hostile environment and provides managers with concrete guidelines on the systematic adaptation of their business models in hostile situations.

**Keywords:** Crisis management, opera theatre, public institution, entertainment.

**JEL classification:** L32; L82; M10.

### **Introduction**

The perspectives of lyrical artists in Romania on how opera theatre performance is influenced by key aspects of institutional management—such as planning, organization, motivation, and control—during the COVID-19 period are the focus of this study, which explores these dynamics in detail. Our research is grounded in a review of specialized literature, personal experience in the field of opera, and a survey conducted with artists in Romania. The findings are pertinent to researchers examining the artist's circumstances during the pandemic, as well as to practitioners and managers in the performing arts sector who aim to gain a deeper understanding of artists' perspectives on management aspects within their field.

Opera is one of the most complex art forms, harmoniously combining theatre, music, and literature, and is referred to by Richard Wagner as *Gesamtkunstwerk*, or, in English, 'total art'. It appeals to an estimated 2–3% of the global population (Agid and Tarondeau, 2010). Regardless of how much ticket prices rise, opera houses worldwide cannot achieve financial balance solely through revenues generated by productions or the quality of the artistic product, as they are unable to benefit from productivity advances comparable to those in the broader economy, thus resulting in the phenomenon known as cost disease (Baumol and Bowen, 1966).

The central argument of this theory posits that the state must subsidize "fine art" (including opera) to prevent its pricing from becoming prohibitively high and effectively excluding it from the market. State intervention is deemed essential for the preservation of art and culture, ensuring their accessibility to a broader public audience. Consequently, opera houses are compelled to rely on public funding from budgetary authorities (governments, in the case of national operas, or municipalities, in the case of state operas), as well as on tax-deductible sponsorships or donations. The opera genre is part of a larger economic equation, and without a healthy economic framework, opera has fewer opportunities to flourish.

The concept of opera is founded on two distinct yet interdependent coordinates: the artistic product, based on a musical score and a scenic concept, realized by multiple artistic categories supported by non-artistic staff; and the cultural institution dedicated to producing and presenting lyrical performances (operas). Two distinct aspects characterize this artistic organization: the artistic and the managerial. These aspects converge during the phase of artistic programming, the preparation of an artistic performance, or the planning of the organization's activities (Colbert et al., 2007).

Opera house management aims to ensure a balance between creativity and financial performance, a concept that encompasses both commercial and artistic dimensions. Frederick Gye, the director who transformed the Royal Italian Opera at Covent Garden into one of the foremost opera houses in 19th-century London, described opera management as a daunting endeavor (Dideriksen, Ringel, 1995). Within a cultural institution, management contributes to the organization's success in generating artistic, aesthetic, and moral values, as well as in promoting and disseminating them. It plays a crucial role in the effective realization of cultural and artistic creation and coordinates the ways in which this creation is received by the public.

COVID-19 plunged the global economy into its most severe crisis since the Great Depression and has had a significant impact on global health and economic development (Meyer, Niemand, Davila & Kraus, 2022). The outbreak of the COVID-19 crisis triggered uncertainties of an unimaginable scale. Historian Reinhart Koselleck notes that, at least, we can be certain that the uncertainty caused by the crisis will eventually come to an end: "It is in the nature of a crisis that a decision is due but not yet taken. The general uncertainty in a critical situation is thus pervaded by the certainty that – uncertain when, but certain, uncertain how, but certain – an end to the critical state is imminent." (Koselleck, 1973). However, "The greatest challenge for businesses at this time is not uncertainty, but ambiguity—a condition in which the future is unclear, the past is unhelpful, and we don't even know what we don't know" (Kogan & Pahuja, 2020).

In addition to the presence of a threat, crises typically involve systemic disruptions, uncertainty, and stress (Woods et al., 2020). Although it began as a health crisis, the effects of COVID-19 quickly extended to other areas—economic, social, cultural, etc.—becoming a concrete example of the fact that the society we live in is made up of complex systems that mutually influence each other (Sayama, 2015). The profound impact of the COVID-19 pandemic on all areas of culture has highlighted both the fragility and the resilience of the cultural and creative industries (UNESCO, 2022). The COVID-19 crisis had a profound impact on the world of opera and, like any crisis, was an unexpected and unstable event—a turning

point for better or worse (Bonner, 2003)—which brought to light various dysfunctions (Roux-Dufort, 2003).

Social distancing, repeated lockdowns, and disease control restrictions introduced a series of paradoxes within the artistic and cultural sector. While venue closures and job losses significantly disrupted cultural industries, the pandemic also provided new opportunities for arts engagement at home, including digital arts activities and live-streamed performances. These paradoxes and challenges extend to the audience as well: although many were unable to attend performances for nearly two years, at-home artistic activities became increasingly popular, and the demographic profile of people interested in the arts evolved. The pandemic highlighted the importance of the arts in everyday life: without the arts, the pandemic would have been merely isolation, and life would have been just existence (Chivu, 2020).

Opera artists and opera managers prioritized their objectives and successfully maintained the mission of opera amid the COVID-19 storm. Moreover, and ironically, the pandemic contributed the most to free access to opera and its democratization, through the online system. After navigating the crisis of Covid-19, crisis management should become one of the top priorities for policymakers, public officials, and executive personnel. The experience during the pandemic demonstrated the theory asserting that highly trained officials and other government authorities handle crises on our behalf (Hamilton, 2020) is incorrect.

Now, as before the pandemic, the organizational performance of opera houses reflects an artistic-economic dichotomy, encompassing both on-stage and off-stage performers (Auvinen, 2000). Thus, measuring performance in opera houses is challenging, as artistic success often intersects with economic success. Assessing organizational efficiency and effectiveness in opera houses is a pressing issue. Artistic excellence remains the primary objective of opera houses (Hoegl, 2002, p. 442), especially when public funding is sought (Lukas, 1994, p. 173), and it is also considered the most important success factor for an opera house.

## 1. Literature review

A crisis is defined as a time when normal operations are disrupted and there is increasing pressure for improved organizational practices based on crisis planning. Responses to crises can vary depending on the decisions made by management to implement change during the ongoing crisis. During the pandemic, the assumptions underlying the execution of plans underwent unexpected shifts. Planning is an important part of this process and, alongside organization and control, forms the core functions of management. On an economic scale, planning means initiative, and resilience becomes more important than efficiency. In opera theatres, planning also underwent a drastic change.

Before the pandemic, planning typically ranged from several months to two or three years in advance (at major theatres worldwide), with a certain degree of predictability and routine. However, with the pandemic, planning shifted to a day-by-day approach, based on the health measures imposed by the governments of each country. One of the main tasks of opera management during the pandemic was to ensure the continuity of operations, with day-to-day planning subordinated to this goal. Additionally, a new concept emerged, “hybrid programming,” which became widespread during the pandemic to refer to programming that included online streaming.

As far as the organization of opera theatres in Romania is concerned, they are managed by directors, alongside artistic directors, chief accountants, and both artistic and administrative councils. The working departments are generally divided into three: artistic, technical, and administrative. During the COVID-19 crisis, crisis cells were organized only in isolated cases. The opera artist is an individual who creates things based on talent, thought, wisdom, knowledge, an idea in mind, and the ability to use artistic rules. In art, the artist is the sole

legislator (Tatarkiewicz, 2015). Ensuring the preservation of the artist's identity, and implicitly their role during the pandemic, was structured along two main directions: artists with permanent contracts primarily waited for a return to the old normality, while independent artists sought new solutions for income sources and to defend their artistic identity. They became managers of their own careers, entrepreneurs with the talent in finding new work opportunities (Teran-Yepep and Guerrero-Mora, 2020; Goldman and Tselepis, 2021). Many fixed-term contracts were not renewed, and some artists were permanently laid off. Some of them received unemployment benefits or government support, but other artists or workers in the arts field could not access any form of aid. This was the case for artists working independently. They lost many contracts, without being offered alternatives (like rescheduled performances), without compensation for their losses, and, in some countries, even without access to government assistance. Although artists' behavior is not solely driven by economic thinking, and while they may replace economic income with "psychological" non-monetary income, ensuring their survival became paramount during the pandemic. Due to social distancing measures and the ban on public performances, most of the income that artists relied on disappeared (Tsioulakis and FitzGibbon, 2020). Artists belong to a special category, known as the "artist market," and classical economic thinking may not be applicable to this category (Weber, Zhen, and JJ Arias, 2022).

A new aspect that emerged during the pandemic was the "value perception" of artists. The sympathy shown towards them during this period contributed to an image marked by infantilization, vulnerability, and diminished value, which negatively impacted their status. Artistic activity is also part of a broader context within the economic profession, where "work effort" is seen as a cost for the employee and a benefit for the employer, with the assumption that "workers" aim to maximize their income, while employers aim to maximize profit. This economic thinking may not be accurate when it comes to artists, who are not trying to maximize their income, but rather seek to maximize their working time in their field and to achieve public success. For the same level of education, artists earn less than individuals in other professional categories. "Artists work fewer hours, experience higher unemployment, and earn less than members of the reference group" (Alper and Wassall, 2006, p. 814).

The control function represents the set of processes through which the organization's performance is measured and compared to the initial objectives, and it monitors how the pre-established goals within the organization have been achieved. The purpose of control is to verify, both quantitatively and qualitatively, the manner in which tasks are completed. In opera theaters, managers had to consider the importance of balancing organizational process control (planning, coordination, control, etc.) with creative autonomy, as it is an essential component of creative employees' satisfaction. In a healthy organization, the management roles outlined above must coexist simply because they are different, yet simultaneously complementary.

## 2. Methodology

The study employs a cross-sectional, non-experimental design and uses a survey-based questionnaire approach. The main research question was: How did lyrical artists perceive the relationship between opera theatre performance and the planning, organization, motivation, and control within opera theatres during the COVID-19 crisis? The objectives of our study are: (1) to identify how institutional management was perceived by lyrical artists during the COVID period; (2) to identify the perceived relationship between opera theatre performance and planning, organization, motivation, and control within opera theatres.

The study is based on prior experience in the field of opera and on quantitative data collected from responses to a questionnaire, with artists being perceived as an important resource for adaptation and resilience. Given the lack of literature addressing the topic of the

study, the sequential phases of our research, utilizing quantitative techniques (survey) for data collection, allowed for a detailed identification of the factors and the quantification of their relevance.

The questionnaire was constructed based on existing models in the specialized literature and is a cross-sectional observational questionnaire consisting of 36 questions, with 19 specifically addressing the primary research question to measure artists' perceptions of: 1) Opera theatre performance (2 questions, e.g., 'Was theatre management effective'); 2) Planning in opera theatres (2 questions, e.g., 'Was the proposed plan communicated to all theatre employees'); 3) Organization in opera theatres (5 questions, e.g., 'Has an analysis team been assembled, and has an action plan for the crisis been developed'); 4) in opera theatres (3 questions, e.g., 'Have measures taken ensured appropriate motivation for the artistic staff'); 5) Control in opera theatres (2 questions, e.g., 'Was the level of artistic activity in the theatre optimal given the circumstances').

Responses to the 19 questions were provided on a five-point Likert scale (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree). Before broad distribution, the questionnaire underwent a pilot study involving 10 lyrical artists from Timișoara, who provided feedback on the items (clarity, comprehensibility, relevance). Suggestions offered were reviewed and incorporated into the questionnaire.

## 2.1.Participants

The sample was a convenience sample (Table1), and its size was not calculated in advance (a situation permitted in exploratory studies, as specified in the literature). A total of 135 lyrical artists participated in the study, of whom 89 (65.9%) were female and 46 (34.1%) were male. In terms of age, most respondents fall within the 36-55 years category (70 respondents, or 51.9%), followed by those over 55 years old, with 35 respondents (25.9%). The least represented category is that of individuals aged 20-35 years (22.2% of respondents).

In terms of tenure at their current workplace, the majority of respondents have over 10 years of experience (71 respondents, or 52.6%), followed by those with 1-3 years of experience (23 respondents, or 17.0%), and those with 5-10 years of experience (19 respondents, or 14.1%). Regarding the respondents' place of residence, the majority are from Timișoara: 60 (44.4%); Bucharest: 27 (21.6%); Cluj-Napoca: 11 (8.1%); Arad: 9 (6.7%); Brașov: 4 (3.0%); Lugoj: 3 (2.2%); Oradea: 3 (2.2%); Sibiu: 2 (1.5%); one each from Constanța and Cuvin (1.7%); 14 respondents (10.4%) did not specify their place of residence.

In terms of artistic category, the majority are classified as: soloists – 43 (31.9%); instrumentalists – 36 (26.7%); choristers – 23 (17.0%); actors – 10 (7.4%); conductors – 6 (4.4%). In terms of professional category, 84 respondents (62.2%) were full-time employed artists, and 51 respondents (37.8%) were freelance artists.

*Table 1. Demographic Profile of Respondents*

Demographic Item		Number of Respondents	Percentage of sample (%)
Gender	Male	46	34.1%
	Female	89	65.9%
Age	20 - 35 years	30	22.2%
	36 - 55 years	70	51.9%
	Over 55 years	35	25.9%
Tenure at their current workplace	1 - 3 years	23	17.0%
	over 3 - 5 years	8	5.9%
	over 5 - 10 years	19	14.1%
	over 10 years	79	58.5%
	Does not apply	6	4.4%



<b>Place of residence</b>	RO Arad	9	7.2%
	RO Brasov	4	3.2%
	RO București	27	21.6%
	RO Cluj Napoca	11	8.8%
	RO Timișoara	60	48.0%
	RO	14	11.2%
<b>Artistic category</b>	Actor	11	8.1%
	Ballet dancer	3	2.2%
	Choir singer	24	17.8%
	Conductor	6	4.4%
	Instrumental musician	36	26.7%
	Director	5	3.7%
	Solo Artist	43	31.9%
	Other	7	5.2%
<b>Professional category</b>	Artist with a fixed contract	84	62.2%
	Freelance artist	51	37.8%

Source: Own elaboration based on analyzed data.

## 2.2. Data Collection

The questionnaire was distributed electronically to the target group, and the responses were collected from April 6 to June 30, 2024. The data were automatically recorded in Google Forms and then imported into Excel and subsequently into SPSS 22, the data analysis software, where the data were processed and analyzed.

## 2.3. Data Analysis

Statistical analysis was conducted using SPSS version 22. The statistical processing included both descriptive and inferential statistics. The preliminary data analysis involved checking for missing data and testing the normality of the score distribution. Descriptive statistical analysis included the arithmetic mean and standard deviation.

To determine the appropriate statistical procedures for testing the hypotheses, the normality of the score distribution was verified using the Kolmogorov-Smirnov and Shapiro-Wilk tests. These tests revealed a non-Gaussian distribution, which led to the application of the non-parametric Spearman's rho correlation test for rank differences.

## 3. Results

Descriptive statistics are presented in Table 2.

*Table 2. Central tendency of the scores for the dimensions of crisis management in opera theatres.*

Indicators	N	Minimum	Maximum	Mean	Std. Deviation
Opera Theatre Performance	135	1	5.00	2.29	1.55182
Planning in Opera Theatres	135	1	5.00	2.28	1.55929
Organization in Opera Theatres	135	1	5.00	2.32	1.49369
Engagement-Motivation in Opera Theatres	135	1	7.50	3.65	2.33346
Control in Opera Theatres	135	1	5.00	2.29	1.54701
Valid N (listwise)	135				

Source: Own elaboration based on analyzed data



Considering the rating scale used (1. Strongly Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly Agree), the average scores in Table 2 indicate a below-average perception of the artists regarding the dimensions of crisis management in opera theatres (rather negative – between disagree and neutral). The only dimension that stands out slightly more (perceived somewhat more positively – between neutral and agree) is in opera theatres ( $M=3.65$ ,  $SD=2.33$ ).

Table 3 summarizes the results of the non-parametric correlation analysis for the perceived relationship between opera theatre performance and planning, organization, motivation, and control within opera theatres.

**Table 3. Non-parametric correlation analysis for the perceived relationship between opera theatre performance and planning, organization, motivation, and control within opera theatres**

Variable	Variable	Coefficient	Significance
Opera theatre performance	Planning in opera theatres	$r=.836^{**}$ , $p < 0.001$	Statistically significant
Opera theatre performance	Organization in opera theatres	$r=0.87^{**}$ , $p < 0.001$	Statistically significant
Opera theatre performance	in opera theatres	$r=0.89^{**}$ , $p < 0.001$	Statistically significant
Opera theatre performance	Control in opera theatres	$r=0.94^{**}$ , $p < 0.001$	Statistically significant

Source: Own elaboration based on analyzed data.

The non-parametric Spearman's rho test (Table 3) highlights statistically significant, direct, strong positive linear correlations between opera theatre performance and: planning in opera theatres ( $r = 0.862$ ,  $p < 0.001$ ); organization in opera theatres ( $r = 0.87$ ,  $p < 0.001$ ); in opera theatres ( $r = 0.89$ ,  $p < 0.001$ ); control in opera theatres ( $r = 0.94$ ,  $p < 0.001$ ). Therefore, the more the artists perceive crisis management in opera theatres, planning in opera theatres, organization in opera theatres, in opera theatres, and control in opera theatres as more pronounced, the higher they perceive opera theatre performance.

The results of this study should be viewed with caution due to some limitations. The first methodological limitation of the study stems from the non-random sampling method. Another limitation is the lower level of concern, or even indifference, among artists regarding management aspects (planning, organization, control). This type of analysis could be improved by seeking the perspective of opera managers in order to examine the individual logic regarding artists' interest and involvement in management processes.

Despite these limitations, the results of the study contribute to the development of knowledge in the field and suggest future development directions: conducting further research with a larger number of participants and using more tools to measure artists' perceptions of management in opera theatres. Other interesting research avenues could include a study on artists' perceptions of management aspects, as well as the effects of these perceptions on the future courses of action within the organization.

## Conclusions

The objectives of this study were: (1) to identify how institutional management was perceived by lyrical artists during the COVID period; (2) to identify the perceived relationship between opera theatre performance and planning, organization, motivation, and control within opera theatres. The reported results lead to the conclusion that these objectives were achieved.

Opera is a traditional cultural sector where artistic creation and aesthetic parameters are central. During the COVID-19 crisis, it was vital for lyrical artists to continue their activity under safe health conditions, maintain their relevance, and stay connected with their audiences. Opera managers around the world were unprepared for a crisis of such magnitude, but the more flexible and agile they were—by abandoning traditionalism in the opera system—the more

successful they were in preserving the theatres they managed. The pandemic crisis, and particularly the lockdowns, forced artists and managers in the international art world to become aware of the fragility of “normality” in the artistic field. It was crucial for managers to communicate with artists and allow them to take initiative.

The study reveals that the more artists recognized the emphasis on crisis management, planning, organization, engagement-motivation, and control in opera theatres, the higher they perceived the performance of the theatre where they were employed. From an academic perspective, this article enriches the current understanding of the adaptation of the management model of opera houses in a hostile environment and provides managers with concrete guidelines on the systematic adaptation of their business models in hostile situations.

This study is particularly useful for students and researchers in music and cultural management. It is also intended to help practitioners from concert houses and opera management, such as general managers, artistic directors, marketing and communication directors. The data presented in this study contribute to addressing the gaps in the specialized literature on topics such as planning, organizing, engagement-motivation, and scheduling in opera theatres. A related objective of the study is to raise awareness not only within artistic departments but also among opera theatre management about the importance of encouraging artists to actively engage with these issues. Ultimately, the study has demonstrated that the critical conditions brought about by the pandemic can serve as an unexpected yet valuable test bench.

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## Ethics in Consumer Neuroscience: A Non-Exhaustive Presentation

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### Abstract

Social sciences have always been subject to ethical considerations, from research to explicit use and implicit meaning of their findings; Consumer Neuroscience has vigorously developed over the last twenty years and associated ethical concerns have promptly come into the picture. As the effectiveness of the existing neuroscience tools and techniques is just being discovered by researchers in most social sciences, I hypothesize that associated ethical issues will become more prominent in the future. The current article does not attempt to provide an exhaustive view of these issues and possible solutions; it just tackles some of the most important ones differentiating between those specific to Consumer Neuroscience and those rather common for most other social sciences. From this standpoint, large differences were found when analyzing research objectives, instruments, data disclosure, and findings dissemination and use as well as participants' protection and data privacy rights. The framework of the Neuromarketing Science and Business Association (NMSBA) proposed Code of Ethics was used as a starting point for this material, which provides a brief assessment of the current state of each principle put forward by the Code based on an extensive literature review. Although this Code's provisions are quite similar to the ones put forward by the European Charter for Researchers of 2000, European Commission's Ethics in Social Sciences and Humanities of 2001, and several national-level regulations, it was the first choice for this study as it comes specifically from researchers and practitioners in Consumer Neuroscience. Finally, the current paper shall argue for a balanced and realistic approach when attempting to regulate the domain, ensuring the rules effectively protect the participants and users while not unnecessarily increasing research difficulty. As Neuroscience approaches are increasingly accepted by Marketing and other social sciences, a sound and functional ethical foundation would help safe, fair, and fast advances rather than allow for abuses or constitute unnecessary impediments.

**Keywords:** Neuromarketing, Ethics, Consumer Neuroscience.

**JEL classification:** M31, M38, M39.

### Introduction

Professor Ale Schmidts is credited with being the first to use the term Neuromarketing in 2002 (Ramsøy, 2015); in 2008, there were more than 800,000 Google entries for this term (Hubert & Kenning, 2008), and in 2022 the number went to 4.7 million (Jansson-Boyd & Bright, 2024). In 2024, the 7.3 million entries for Neuromarketing are joined by 39.7 million for Consumer Neuroscience, the academic version. Moreover, a high number of prestigious academic journals consistently publish articles falling in the Consumer Neuroscience area; their primary classifications range from General Science to Marketing, Neuroscience, and Psychology, while some journals with the primary classification of Consumer Neuroscience and Neuroeconomics became widely accepted as part of the top tier about content value and scientific rigor (Ramsøy, 2015). As for the academic articles in the field, a rough estimate is more than 10,000 in 2024 as compared to 800 per year between 2012 and 2014 (Ramsøy, 2015). Together with the increasing adoption of Neuromarketing in the business world based on its certain advantages (Byrne et al., 2022), we could safely conclude that Neuromarketing and Consumer Neuroscience will strongly develop in the years to come. Given the cost-benefit ratio concerns implicit or explicit in EU and other Codes, in many cases it could even be argued that it is a lack of ethics to disregard available methods of superior efficiency.

The above-mentioned development was far from smooth, though, and the main obstructing factors came exactly from the Ethics area (the other main obstacles - lack of knowledge, decreased neuroscientists' propensity to share and traditional marketers' reluctance to acquire and to be associated with this knowledge, are strongly related to the ethical part, as I shall show later). James Vicary's false claims on the effectiveness of subliminal advertising in what is now widely known as the Popcorn Experiment of 1957 was just one of the early moves contributing a great deal to the distrust Neuromarketing has experienced for decades. Ironically, subsequent research (Pessiglione et al., 2008, Monahan, Murphy and Zajonc, 2000) proved undoubtedly the strength of subliminal associations and subliminal stimuli exposure effects, but a lot of work had to be done to counterbalance the negativity brought by Vicary's conduct. Also, between Vicary's claims and the time he admitted he had invented the data and had never made the experiment, little to no discussion was made if using subliminal stimuli is ethical in the first place. Overpromises of the Buy-button fed the greed and further disappointment of users, the suspicion and fear of buyers, and the reluctance of most traditional Marketing academics to investigate the new area.

Several professional associations have emerged with the purpose of promoting higher standards in the area while others included Consumer Neuroscience in their domains of interest: Association for Neuroeconomics, Association for Consumer Research, The Marketing Society, and Association for NeuroPsychoEconomics. William Safire is credited with having coined Neuroethics with today's meaning (Safire, 2002). One of the most representative and with a major preoccupation in Ethics is the Neuromarketing Science and Business Association (NMSBA, n.a.); it proposes – asks all its members to adhere to – a decent Code of Ethics (NMSBA, 2012), it does include some of the world's leading performers in the domain among members from a large number of countries; nevertheless, it has failed so far to include many other top organizations and professionals in the Consumer Neuroscience field (members of other organizations), unites just a tiny part of all the participants and the proposed Code stays at principles level. As we shall see, in many areas, the impact on the overall professional practice is minimal. Moreover, researchers and organizations operate within distinct national frameworks and profession-specific regulations and customs (medical neuro-researchers in the US have different constraints than psychologists in the UK or consumer behavior researchers in Australia). It is but normal for their Code of Ethics to become quite difficult to harmonize. Moreover, while some researchers in various legislations have virtually no formal ethical constraints, some other areas (especially, medical) are overly regulated; if the Neuroscience consumer researchers eventually abide by the latter, in my view, they will miss the sound reasons prompting the health professionals to do so, while too loose/heterogenous regulation of today allowed the appearance of the unacceptable situations we shall present later.

## **2. Normative vs. current situation in Consumer Neuroscience Ethics**

### **2.1. NMSBA Code of Ethics**

The material will focus on the areas where current practice differs alarmingly from the Code's provisions, while briefly mentioning the others. NMSBA's Code (NMSBA, 2012) is supposed to address three issues, namely a) to restore public confidence in Neuromarketing researchers and practices, b) to ensure the neuromarketers protect participants' privacy, and c) to protect the users of Neuromarketing services. As one can already see, participants' protection is basically confined to privacy rights (although the legal provisions of GDPR cover this part pretty well), while physical and emotional protection is totally disregarded, as we shall see going through the other articles, and gain a second level of concern, although explicit, in the European Commission material and in virtually all the articles and national regulations. In my view, this situation stems specifically from the fact that traditional research methods in



Marketing, as in most other social sciences, are considered to present a very low harmful potential for the participants, as stated explicitly in the European Commission's Ethics in Social Sciences and Humanities of 2001 (European Commission, 2001). Nevertheless, as new methods and instruments are borrowed and adapted by Consumer Neuroscience from Neuroscience, Medicine, and other disciplines, additional care should be paid to practices presenting increased harmful potential for innocent participants.

Participants' protection is specifically addressed within Article 2 of the NMSBA's Code of 2012: INTEGRITY: a) Researchers shall take all reasonable measures so that participants are not harmed, b) Researchers shall not deceive or use exploit participants' lack of knowledge, c) Researchers shall make no associated sales offer and d) Researchers must be honest on their knowledge. It is also addressed by several points within various articles and within a specific article (Article 7: PARTICIPANT RIGHTS which regroups the previously stated provisions). It is also worth mentioning that the Neuromarketing Methods presented by NMSBA are of minimal risk (i.e., according to ESRC Framework for Research Ethics, 2015, being no higher than the ones encountered in normal, daily situations) – EEG, Eye-tracking, fMRI, Implicit measures (Implicit association tests), Biometrics (based of physiological responses to stimuli), and Galvanic Skin Response.

Nevertheless, many top researchers in the field include in the Neuromarketing tools set techniques of a much higher harm potential; moreover, as we shall see, these tools are in most cases less efficient than others widely available and of minimal risk. I will focus on 1) Positron emission tomography (PET) and 2) Brain activity modulating methods – Transcranial direct current stimulation (tDCS) and Transcranial magnetic stimulation (TMS).

1) PET is more often than not mentioned as a legitimate Consumer Neuroscience method (Plassmann et al., 2007, Ramsøy, 2015, Treadway et al., 2012). Although several organizations and researchers pointed out the invasive nature of PET which disqualifies it as a method of minimal risk, its technical limits and high financial costs (Jansson-Boyd & Bright, 2024), articles conveying its legitimacy in Consumer Neuroscience keep being written (Alsharif et al., 2023). I shall briefly describe the method in the next paragraphs; as its advantages for the medical area seem obvious (it allows to spot the metabolic rates of various regions and structures), I mean in no way to criticize the use of the method in the medical field. Nevertheless, I share the view that it has little to bring to Consumer Neuroscience to compensate for the risk it presents – participants have to be injected with or inhale a radioactive tracer. There is a long list of tracers used in medicine according to the area to be investigated and the necessary half-life. One of the mostly used in Neuroscience is fluorodeoxyglucose,  $^{18}\text{F}$ , with a half-life of 110 minutes – by contrast, oxygen-15,  $^{15}\text{O}$ , has a half-life on 122", which poses a lot of constraints on experiment design, given the about 40" necessary to obtain an image of the cerebral blood flow (Jansson-Boyd & Bright, 2024, Armony & Han 2013). Even with  $^{18}\text{F}$ , though, the experiments in Neuroscience are severely limited by the long time needed to obtain an image, namely, the same stimuli or type of stimuli must be presented for longer period as opposed to presenting different stimuli in short time intervals. What all these tracers have in common is their radioactive nature; their presence in the blood flow allows radiation detectors to monitor the blood inflows directed to the area of interest, to infer the metabolic rates of those areas and to correlate them, in the case of Neuroscience, with the experienced cognitive and emotional states (as mentioned, PET is mostly – and better – used in the medical field, in domains such as Oncology, Neurology, and Cardiology).

Table 1 presents the main tools available for Consumer Neuroscience researchers for emotional and cognitive states measurement; it takes into account the spatial resolution, temporal resolution, if the tool measure emotion valence and intensity, with what documented



effectiveness, financial costs, and fitness to be used in a non-medical environment on healthy subjects.

**Table 1. Main Techniques used in Neuromarketing**

Technique	Valence	Intensity	Space Resolution (2)	Time Resolution (3)	Effectiveness	Costs	Fitness (4)
<b>fMRI</b>	Yes	Yes	<1mm <sup>3</sup>	>3s	High	High	Yes
<b>MEG</b>	Yes	Yes	<1cm <sup>3</sup>	<1s	High	High	Yes
<b>EEG</b>	Yes	Yes	<1cm <sup>3</sup>	<1s	High	Low	Yes
<b>PET</b>	Yes	Yes	>1mm <sup>3</sup>	>>3s	High	High	No
<b>Facial analysis</b>	Yes	Yes	N/A	<1s	Low	Low	Yes
<b>Non-neuro (1)</b>	No	Yes	N/A	>3s	Low	Low	Yes
<b>IAT/EAT</b>	Yes	Yes	N/A	<1s	Low	Low	Yes

Source: Data compiled from Ramsøy, 2015, Zhang et al., 2019, Jansson-Boyd, 2024

fMRI – Functional magnetic resonance imaging; MEG – Magnetoencephalography; EEG – Electroencephalography; PET – Positron emission tomography; IAT/EAT – Implicit/Explicit association tests

(1) Include Galvanic skin response (GSR), Pupillometry, Heart rate, and Respiration rate

(2) Size of the smallest detectable voxel of the brain

(3) Time interval between stimuli presentation and instrument's recorded data

(4) It only refers to the risk posed to participants.

As one can easily see in **Table 1**, beyond the invasive nature and earlier mentioned disadvantages of PET, in the Consumer Neuroscience context, the method is inferior to fMRI from both spatial and time resolution. Nevertheless, as these disadvantages may be overpassed (Carson et al., 2024) and the methods may be combined, the main issue is that fMRI resolution is already good enough for Neuromarketing Research, as the known brain areas of interest are much larger than what can be highlighted by a standard scanner. fMRI does give access to deep brain structures (Rugg et al., 2012, Zeidman & Maguire, 2016), and, as long as both fMRI and PET rely on increased blood flow to the activated areas, PET would not be able to improve fMRI time resolution, turning radioactive tracers' ingestion needed by PET totally unjustified. Again, revealing the metabolic rates of small structures within the brain and other parts of the body is probably of high interest in medical diagnosis and treatment, but clearly not so in Neuromarketing endeavors.

2) Brain activity modulating methods – Transcranial direct current stimulation (tDCS) and Transcranial magnetic stimulation (TMS) – constitute another example of practices with a high harming potential to healthy participants. While in the medical field, the methods do achieve great results, mainly by stimulating (as we shall see, they are also used to inhibit neural populations) affected brain areas, overstimulating normally functioning parts of the brain a) poses high risks to participants, b) presents serious ethical implications and c) brings research closer to the deceiving promises of brain performance enhancement commercially offered by unscrupulous sellers. Consumer Neuroscience studies using these methods are indeed rare (I would mention Camus et al., 2009, and Goldman et al., 2011). Still, as some authors encourage researchers to use these methods (Agarwal & Dutta, 2015, Plassmann et al., 2015), I would mention once again that the collected data could be obtained by methods posing minimal risk to participants.

It is true that having the opportunity to observe changes in moods and behaviors induced by various lesions of the brain contributed to Neuroscience development in its infancy. But these lesions appeared as accidents or side-effects of procedures meant at solving other critical conditions. Maybe the first documented case (Bigelow, 1850, then monitored and analyzed to this day (Lena, 2010, Cherry, 2022), the one of Phineas Gage, who was accidentally stroke by

an iron bar going through his frontal lobe, was first presented as a miraculously survival situation with the help of a medical procedure; then, thanks to Cage's 12 years post-accident life, he allowed associating this brain area severe lesions with the recorded mood, personality and superior cognitive functions modifications over time.

We saw earlier that choosing the methods of minimal risk is not of a high concern in social sciences, Marketing included, probably because the traditional ones used to pose not much risk to participants. Today we should have been warned, though, by the case of John Watson himself, founder of the Behaviorist School in Psychology and Consumer Behavior in Marketing. Ironically, Watson was asked to give up his position with John Hopkins University in 1920 in the Puritan America of the early 20<sup>th</sup> century for having an affair with a young PhD student, Rosalie Rayner, with whom he worked on today's famous experiment known as Little Albert. Watson and Rayner married shortly after leaving John Hopkins, but the important development was Watson's joining Thompson advertising agency, which led to the first steps in what came to be known as Consumer Behavior. Probably not all people would unequivocally condemn today the two for their romantic engagement; it is the experiment, though, that is considered unequivocally unethical. Basically, the two conditioned a little boy – Albert – to develop a phobia for plush toys and furry little pets by associating them with a fear and stress-generating loud noise. And, while several aspects of the experiment would render it impossible under the American legislation of today (such as inducing fear without participant written consent) and other methodological flows make other authors doubt that little Albert actually developed a phobia (Harris, 1979), Watson is still unanimously blamed for making nothing to un-condition Albert while he declared that the induced fear may persist on the long term.

One can imagine that once DCS and TMS were effective in stimulating a participant's various brain areas (i.e., the neurons fire more frequently, the current needed to provoke a firing gets lower, then new synapses may be formed) or in inhibiting them, it is impossible to perfectly undo such developments, and we have no idea if the effects would last for shorter or for longer than in Albert's case; and, unlike the situation where the two methods are used on a damaged brain in the medical field in the attempt to restore its normal functioning, in Consumer Research we start with a perfectly healthy brain and put it at risk for insights we can get safer (see Table 1), even if maybe not that flamboyantly.

The other main source of data in this area came from observing the patients going through a lobotomy surgical operation – a procedure used between 1930 and 1950 mainly to treat epilepsy, schizophrenia, and obsessive behavior, consisting in severing one brain lobe pathways to another – or to others. Many variations were used, mainly separating the frontal lobe from the thalamus, but also the left from the right hemisphere by sectioning the in callosum. Although a comprehensive presentation of lobotomy history is way beyond the scope of the current paper, a brief look into its evolution may provide great insights for the ethical issues we debate on current methods. Lobotomy was widely accepted, led to a Nobel prize for Antonio Egas Moniz in 1949 and to a huge number of deaths and permanent severe impairments, to be abandoned and legally prohibited today in most of the countries. Nevertheless, it was initially considered a legitimate procedure aimed at curing or ameliorating severe health issues, with unintentional side effects allowing for scientific developments. Still, titles and approaches of research articles based on lobotomy at that time have a striking resemblance with today's endeavors based on potentially harmful methods (e.g. Brickner, 1936).

Returning to NMSBA Code of Ethics (NMSBA, 2012), Article 1: Core Principles regards researchers' duties to a) use the highest research standards, b) not negatively impact the Neuromarketing profession and c) not misrepresent or exaggerate the insights. A systematic

review (Fanelli, 2009) of 18 rigorously selected surveys on research misconduct out of 3276 originally obtained indicates the worrying numbers in Table 2.

**Table 2. Survey based misconduct in research projects, social sciences and medicine**

Researchers know/admit the use of questionable practices	Fabricated data	Other questionable practices
<b>In own research</b>	1.97%	33.70%
<b>In the research of others</b>	14.12%	72.00%

Source: Data from Fanelli, 2009

Note that the percentages in the table does not include the forms of questionable practices (such as plagiarism) that do not distort the scientific truth.

There is no reason to think that the situation in Consumer Neuroscience and Marketing is worse than the one depicted by **Table 2**. It is true that data from Neuroscience instruments are more difficult to obtain and interpret than from the traditional methods of Marketing and other social sciences (they are not more difficult to get than those in the medical world, though). On the other side, they are much more difficult to fabricate, so, as compared to the traditional Marketing, Neuromarketing data are more frequent either correct or completely made up. Unfortunately, as mentioned earlier, misrepresenting and exaggerating what the researcher and his or her knowledge and instruments can do has been much more present in Neuromarketing than in the traditional research.

Article 2 of the Code (NMSBA, 2012) was presented extensively, including a) Protecting participants from harm and stress, b) Not deceiving or using participants' lack of knowledge and d) Participants being honest about their skills. As for the article 2.c), not making sales offers to participants as a result of their implication in the research, the issue is probably not more serious than in the traditional Marketing research projects, as the number of participants is usually much lower in the Neuro context.

Article 3: CREDIBILITY includes a) The requirement that critics or concerns about public Neuromarketing projects to be presented to NSMBA first and b) The requirement for brain imaging researchers to have and disclose a protocol for dealing with incidental findings. In my view, the first point will have little to no impact on domain ethics, given the low percentage of implied entities members of the association and NSMBA no means to deal with such situations, while the second is standard in various national and EU Codes, especially in the medical area.

Article 4: TRANSPARENCY is of a rather eclectic nature, containing four points: a) Strictly voluntary participation, b) Maintenance of a public website while the core members of the research team publish their credentials, c) Clients' right to audit the data collection process and d) Researcher's obligation to include in the research report as many details deemed necessary by the client. In my view, the first point is better suited in other Neuroscience applications, such as Organization Climate Assessment and Organization Development, where employees might feel pressed to participate. The second point may contribute to increasing credibility while the last two exceeds the industry practice and the provisions of other codes.

Article 5: CONSENT also includes four points. While the first and the last should be mandatory in any research – the researcher shall present the participants the tools to be used in plain language, so the consent be not formal, and the participant has the right to withdraw from the project at any time, respectively, the other two are more problematic: according to them, participants shall explicitly express their full understanding of the protocols to be used and the objectives of the study and they should be fully informed about the study before any Neuromarketing technique may be used. In both commercial projects of Neuromarketing and academic ones of Consumer Neuroscience, there are numerous cases in which the subjects are

not to know certain aspects of the project beforehand (name of the client, real objectives of the study or the assumptions of the researcher). These may or must be revealed to the participant after unbiased data collection, and many EU and national regulations have explicit provisions on how to deal with such a situation.

Article 6: PRIVACY, just summarizes in its seven points the GDPR provisions.

Article 7: PARTICIPANT RIGHTS has five points, all of them being reformulations of provisions also included in previous articles.

Article 8: CHILDREN AND YOUNG PEOPLE states that participants under the age of 18 would be used in Neuromarketing studies only with prior consent of their parents or tutors; in this respect, NMSBA Code comes closer to the regulations in the medical field than the ones prevalent in other social sciences and, given the tools used in Neuromarketing, I think it is a very good point.

Article 9: SUBCONTRACTING provides for in advance disclosure if any part of the study is to be subcontracted.

Article 10: PUBLICATION contains two distinct provisions within a single point: first, researchers should differentiate in the public report between the key findings and interpretation; second, a researcher should not associate his or her name with a project he did not directly participate to and whose findings is not able to defend. Although Code of Ethics in other domains do have the provisions for separate opinions, it is true that such a situation is very rare in Neuromarketing.

Article 11: COMMITMENT urges NMSBA members under the sanction of membership termination to abide and to ensure their clients and other parties comply with the Code's provisions. While for many of the requirements of the code this approach is commendable, duty of imposing partner entities all NMSBA requirements would definitely put its members at huge disadvantages for both commercial Neuromarketing projects and academic studies carried out in partnership settings.

Article 12: IMPLEMENTATION reinforce the requirement that all the involved parties in a Neuromarketing project abide to the Code and the researcher provide a link to [www.nmsba.com/ethics](http://www.nmsba.com/ethics).

## 2.2. Research Ethics Framework at EU and national levels

Besides the Code of NMSBA, as a professional association, Neuromarketing research, at least in its academic version, comes under the provisions of EU and national bodies regulations as part of general research, research in social studies and humanities or interdisciplinary research.

European Commission's Ethics in Social Sciences and Humanities of 2001, for. While most of the European countries have ethics committees working by the supervisory boards of universities and research institutes, their role does not include the approval of research projects, but rather guidance, and complaints solving, when necessary. For instance, all instance, urges any applicant for EU funded research to provide an ethical approval of the project by an ethics committee, or, when such a committee does not exist, an ethical opinion of a research partner's ethics committee or at least a self-evaluation of the ethical aspects of the project together with a documented explanation of the impossibility to get an ethical authorizationthe universities and most of the research entities in The Netherlands adopted Netherlands Code of Conduct for Research Integrity (2018), consisting in five good research practice principles and 61 detailed standards. While each institution's ethics committee has the authority and obligation to ensure an ethical climate, to provide ethical guidance, to investigated possible cases of misconduct and to issue proposals for corrective decisions, these can be challenged with the Netherlands Board of Research Integrity. Still, all ethics committees' findings are informative, a possible

corrective decision being made by the organization's supervisory board. A similar approach is found in Norway, where the parliament founded in 1990 the National Research Ethics Committee, made up by the National Committee for Research Ethics in the Social Studies and Humanities (NESH), National Committee for Research Ethics in Natural Sciences and Technology (NENT), and National Committee for Research Ethics in Medicine and Health (NEM). NESH issued its fifth version of Guidelines for Research Ethics in the Social Sciences and the Humanities in 2021 (NESH, 2021), consisting of 50 detailed guidelines grouped in five parts. While the provisions of this document is far from optional, there are three aspects worth noticing: a) NESH is explicitly described as an advisory body, not a controller or a court, b) Free and independent research is not only the first of the 50 guidelines, but it is also resumed in guideline 36 – Independence in Research, according to which the obligation to ensure researchers' protection from pressure and control rests to all research participants, and c) there are also two guidelines devoted to research safety: 13 – Safety and security and 28 – Risk of harm and disadvantage.

Making such guidelines publicly available for all research participants, ensuring that competent advice is available upon request, placing research responsibility with the researcher, and investigating potential deviations from research ethics when necessary by specialized and esteemed bodies may provide the optimal background for sound research activity. Prompting researchers to obtain approval from Ethics Committees would distort the research community and will seriously slow down the research activity. This statement is particularly true for research in Consumer Neuroscience and Neuromarketing, given a) domain novelty, hence, lack of skilled and experienced individuals, b) fast development of new instruments, techniques, and research methodology, and c) the huge potential benefits from supplementing traditional research methods with the new ones of documented effectiveness.

### **3. Research limits and further recommendations**

The present paper is by no means a complete presentation of the ethical concerns in the field of Neuromarketing, whether normative, as they appear in various codes and regulations, or as found in academic or business practice. A more extensive comparison of the current practice in Neuromarketing research across several legislations may spot areas to be improved – and more strongly support the proposed actions.

Supplementary, such an endeavor would greatly benefit from a panel of experts. Throughout this paper, for instance, it was argued that PET and brain activity modulating methods should be severely restrained or even excluded from the toolbox Neuromarketing researchers may use; incoherent legal provisions across some countries and provisions, personal interpretation of several normative acts, recent history of Neuromarketing development, and assessments of the methods' effectiveness and potential threats were presented as arguments for a rather trenchant proposal. Nevertheless, the qualified and certified opinions of a team of specialists in the respective fields – such as radiologists, neurologists, physicists, and neuroimaging experts would be much more useful for the domain regulators.

### **Conclusions**

Ethical concerns in the field of Consumer Neuroscience are common to those encountered by most other social sciences, as we find them in the ethical codes of various organizations and national or EU-level regulations. The deviations from the provisions of the Consumer Neuroscience codes of ethics are, in many respects (including the commitment to professional standards, duty of transparency towards clients, participants' informed consent, voluntary participation and data privacy rights, and research data publication), similar to those recorded in other fields. There are two critical areas, though, where the situation in Consumer



Neuroscience and Neuromarketing deviates far more from the normative provisions than those recorded in traditional Marketing or in the medical field: overpromising, as it manifests in both exaggerating the Neuromarketing findings to clients, and researchers' knowledge and expertise, and putting the participants in dangerous situations through the unnecessary choice of research methods and tools that present a level of risk above the minimal one.

Two approaches have emerged to deal with ethical issues: the first, based on Ethics Councils to approve each research project, already in place in several countries, and the second, where the researcher should be prepared to explain the deviations from the appropriate good practice guides. I supported the second, given the research freedom provisions of the European Charter for Researchers, and the novelty of the Consumer Neuroscience domain, leading to a fast increase in the number and types of research projects and scarcity of genuine expertise. On the other side, I argued that two sets of methods (PET and brain activity modulating methods) should be severely restricted if not excluded from the set available to researchers in Consumer Neuroscience, as there are instruments providing the same data with minimal risk to participants.

Finally, as Consumer Neuroscience and Neuromarketing are developing fast, we consider that at least a minimum knowledge of the field for all involved participants (including Marketing researchers, academics, practitioners, and data users) is not a cliché. While looking for the best cost-benefit ratio is part of the ethical guidelines in several national regulations and EU-funded research, a basic understanding of the functioning and expected performance of the various methods and tools involved in research projects would inhibit and spot unethical behavior.

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