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## Personality Traits and Outcomes in a Simulated Marketing Environment

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### Abstract

As a key component of business education, marketing simulations aim to link theoretical knowledge with practical application, enabling students and marketing professionals to familiarize themselves with the marketing operations of a company. The study focusses on the impact of personality traits on achieving performance in a marketing simulation game. The research employs a quantitative approach, using online questionnaires distributed to the entire population of an undergraduate business administration program at a state university in Bucharest. The authors used SPSS statistical software, version 23, to process the data. The results suggest that as students become more actively involved in their teams and demonstrate greater interest in team activities, the likelihood of successfully achieving the set objectives slightly increases. In addition, a lack of trust and a sense of displeasure among team members can significantly hinder overall performance. These findings provide theoretical and practical implications for stakeholders involved in the educational process.

**Keywords:** Simulated environment, education, emotional state, personality, team decision.

**JEL classification:** M31.

### Introduction

In the context of modern education and the increasing demand for experiential learning, gamification in academic courses is a topic of interest in business schools. This educational approach aims to improve student participation, determination, and educational results by integrating elements of the game into the curriculum. In this context, simulation games provide a dynamic environment in which students can apply theoretical knowledge to real-world business situations.

A study conducted by Faria et al. (2004) highlighted that more than 64% of faculty members from the United States of America were using games with a focus on marketing. Furthermore, between 2008 and 2017, Google organized the Google Online Marketing Challenge (GOMC), an online competition targeted at university students (GOMAC, 2018). The size of the business simulation games was USD 2.5 billion in 2024 and is projected to reach USD 6.7 billion by 2033 (Verified Market Reports, 2025).

Given the growing scale and complexity of marketing simulations, the development of teamwork skills becomes foundational for reaching success today, as working in teams provides both learning and social benefits (Thanasi-Boçe, 2020). In addition, the use of simulations has proven to be valuable for further developing teamwork-related skills. Other researchers (Pérez et al., 2013) point out that the use of business simulations stimulates teamwork knowledge, skills, and abilities of participants compared to participants who base their learning only on study techniques. Activities performed in teams do enable participants to develop and practice some specific skills that are valuable for the real-work environment and cherished by employers, amongst which some notable ones are communication, critical thinking, or problem solving (Vos and Brennan, 2010). Working within a simulation game often implies varied group behaviors and actions such as bonding sessions or caring for others' wellbeing, activities that strengthen teamwork (Gray, 2011). Another facet of this game shows its reality-based aspects, as teamwork elements are part of the simulation operation (Kear and Bown, 2015). Online business simulations are also important for integrating authentic team-based learning into business curriculum and it presents advantages such as the encouragement of cooperation, idea exchange, and the sharing of experiences (Lohmann et al., 2019).

The paper contains five main sections. Following a brief introduction, the next section offers a review of the relevant literature, outlining the theoretical foundations of the marketing simulations concept and examining how personality traits influence performance in a marketing simulation game. The third section details the research methodology, while the fourth presents the main findings along with a discussion. Finally, the fifth section draws conclusions, offers suggestions for future research, and provides some closing remarks.

## 1. Literature review

The scientific literature on marketing simulations highlights that they play a pivotal role in the education of students and professionals in the field. These simulations provide hands-on experience, allowing participants to bridge the gap between theoretical knowledge and practical application (Thakur, 2023; Catană et al., 2022). By replicating real-world marketing challenges, simulations cultivate decision-making skills in a controlled environment and promote a deeper understanding of market dynamics, encompassing consumer behavior, competition, and external factors (Harve, 2023). In addition, marketing simulations emphasize customer-centric approaches, ethical decision making, and budgeting skills (Capsim, 2024). Additionally, marketing simulations encourage global perspective, cross-functional collaboration, and continuous improvement, making them a comprehensive and invaluable tool for enhancing the multifaceted skills required in the modern marketing landscape (Table 1).

**Table 1. Advantages and Disadvantages of Marketing Simulations**

<b>Advantages</b>	<b>Disadvantages</b>
Stimulating technology familiarization (Nulsen et al., 1994).	Artificial environment (Gawel et al., 2022)
Application of Theory in a New Digital Form (Gundala and Singh, 2016).	Time constraints (Catană, 2023)
Adaptability (MPS Interactive, 2024)	Dependence on qualified professionals/ instructors

	(Gillentine and Schultz, 2001)
Performance measurement (Salas et al., 2008).	Lack of real-world consequences (Farrell, 2020).
Team Collaboration (Thompson, 2018)	Challenges in converting simulated scenarios into reality (Jennings, 2000)
Improvements in the decision-making process (Vos, 2014)	Potential high costs of using marketing simulations (Vos and Brennan, 2010)
Enables the evaluation of alternative marketing strategies (Gupta et al., 2010)	Time and effort consuming (Gillentine and Schulz, 2001)
Foresight abilities (Gillentine and Schulz, 2001)	Dependence on simulation quality (Hurrell, 2024).
Actively engages participants in the learning curve and experience (Vos and Brennan, 2010).	Potential lack of realism (Trapp, 1989)
Strengthening acquired information and building new knowledge and skills (Campbell and Campbell, 2008).	
Enables the evaluation of alternative marketing strategies (Gupta et al., 2010).	

Source: author's work

Related to teamwork, the size of the team is another relevant factor that could impact the way a marketing simulation is run, its success, and the outcome related to satisfaction of the participants. Studies (Cossé et al., 1999) have shown that for a situation in which teams can be comprised of two to four students with unequal number of participants per team, larger teams tend to have a slight advantage over smaller number teams. A relevant conclusion to be drawn is that teams should be equal in size and teams of two could be disregarded.

Considering that the authors tested how personality traits influence performance in Markstrat, a strategic marketing simulation game, the independent variable that measures performance is the Share Price Index (SPI). It takes into account several indicators including net contribution generated, product market share, the ability to grow the organization's revenues, and the quality of projects successfully completed (Larréché and Gatignon, 2020, p.1). Starting from the above-mentioned facts, the authors proposed the following hypotheses.

**Hypothesis 1 (H1).** *The level of participation of students in team decisions affects their results in the business simulation environment.*

**Hypothesis 2 (H2).** *Students' emotional state during the game has impact on the effectiveness in the business simulation environment.*

**Hypothesis 3 (H3).** *The personality of the students shapes how well they perform in the simulation environment.*

## 2. Research Methodology

A quantitative research approach was chosen. In this regard, we developed a questionnaire to test the hypothesis mentioned above. The questionnaire consisted of 17 items measured on the Likert scale and sociodemographic variables.

Furthermore, the authors selected the target audience as students from a state university in Bucharest. The size of the targeted population, which included only students, allowed the use of comprehensive exploratory and descriptive research methods. In this respect, considering its relatively small size, the authors looked at the sample as the whole population. The respondents were males and females, as no one declared being non-binary. The data was collected in January 2024. The authors used SPSS statistical software, version 23, to process the data. For the mentioned hypotheses, the authors analyzed the values of the Pearson coefficients. Using Evans's (1996) approach, the values of the Pearson coefficients were evaluated in order to interpret the correlations: very weak correlations are defined as having values less than 0.2, weak correlations as having values between 0.2 and 0.4, moderate

correlations as having values between 0.4 and 0.6, strong correlations as having values between 0.6 and 0.8, and very strong correlations as having values greater than 0.8.

### 3. Results and discussion

First, the authors wanted to test whether the level of participation of the students in team decisions influences their SPI score (Table 2).

**Table 2. Correlations between the SPI score and the degree of participation of the students in the decisions of their teams**

SPI	Pearson Correlation Sig. (2-tailed)	1	0.224** 0.003
	N	170	170
The level of participation in team decisions	Pearson's correlation	0.224**	1
	Sig. (2-tailed)	0.003	
	N	170	170

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Therefore, there is a weak positive correlation between the two variables ( $r=0.224$ ,  $p<0.01$ ), suggesting that as students become more actively involved in their teams and demonstrate greater interest in team activities, the probability of successfully achieving the set objectives increases slightly. Although the correlation is not strong, it still points to a meaningful connection between engagement and performance. This implies that fostering student involvement in collaborative settings may contribute, even modestly, to improved outcomes. One possible explanation for this correlation is that students who take ownership of team decisions are more likely to feel responsible for the final results, putting in more effort and aligning better with team goals. In addition, their interest in the process can stimulate more effective communication and coordination, both of which are essential in simulation environments that replicate real-world marketing contexts.

Additionally, we conducted an analysis of the correlation between SPI and the emotional state of the student during the game (Table 3).

**Table 3. Correlation between the SPI score and the feelings of the students during the game**

	SPI Pearson	Correlation Sig. (2-tailed)
SPI	1	
Trust	0.159*	0.039
Ambition	0.196*	0.010
Courage	0.016	0.0835
Will to succeed	0.179*	0.019
Indifference	-0.141	0.067
Passion	-0.99	0.82
Lack of trust	-0.213**	0.005
Fear	-0.178*	0.020
Uncertainty	-0.173*	0.024
Doubt	-0.159*	0.038
Pleasure	0.140	0.069
Displeasure	-0.207**	0.007

\*. The correlation is significant at the 0.05 level (2-tailed).

\*\*. The correlation is significant at the 0.01 level (2-tailed).

A lack of trust ( $r=-0.213$ ,  $p<0.01$ ) and a sense of displeasure ( $r=-0.207$ ,  $p<0.01$ ) among team members can significantly hinder overall performance, particularly in collaborative

environments such as marketing simulations. When individuals do not trust one another, they are less likely to communicate openly, share ideas, or delegate tasks effectively, all essential components of successful teamwork. Feelings of dissatisfaction, arising from either personal conflicts or poor team interactions, may significantly undermine both motivation and engagement. Under such conditions, teams often struggle to coordinate efforts, make strategic decisions, or adapt to challenges, ultimately leading to suboptimal outcomes. Therefore, trust and team cohesion are not only beneficial, but necessary to achieve high performance in team-based business simulations.

Regarding their personalities and the SPI score (Table 4), an analysis of the Pearson correlation coefficient revealed a statistically significant, although weak, positive relationship between the SPI score and the self-assessed ability of the students to delegate effectively ( $r=0.174$ ,  $p<0.05$ ).). This finding suggests that individuals who perceive themselves as good at delegation tasks tend to achieve better performance, which may reflect stronger team role preferences or greater alignment with collaborative behaviors valued in simulation-based learning. Although the correlation is modest, it indicates that the perception of being able to delegate, a key competence for management duties, could contribute to a more effective engagement in team tasks. Delegation often involves trust, communication, and the ability to recognize others' strengths, all of which are critical in complex team-based environments such as working in a team within marketing simulations. However, the weak strength of the correlation also highlights that self-perceived delegation skills alone do not account for much of the variation in SPI scores. Other personality traits, such as bravery or creativity, can also play a significant role.

*Table 4. Correlations between the SPI score and the personality of the students*

	<b>SPI Pearson</b>	<b>Correlation Sig. (2-tailed)</b>
<b>SPI</b>	<b>1</b>	
<b>Grown-up</b>	-0.023	0.764
<b>Confident</b>	0.081	0.292
<b>Good Leader</b>	0.040	0.602
<b>I know how to delegate well.</b>	0.174*	0.023
<b>I know how to work under pressure.</b>	0.049	0.528
<b>Brave</b>	-0.170*	0.027
<b>Creative</b>	-0.0192*	0.012
<b>Imaginative</b>	-0.058	0.454
<b>Analytica</b>	0.031	0.685
<b>Extrovert</b>	-0.046	0.547
<b>Introvert</b>	-0.143	0.064
<b>Enthusiastic</b>	-0.051	0.506
<b>I have negotiation skills</b>	-0.143	0.064
<b>Undecided</b>	-0.051	0.506
<b>Pragmatic</b>	-0.016	0.832
<b>Flexible</b>	0.035	0.652
<b>Inflexible</b>	0.103	0.180
<b>Organizing</b>	0.019	0.805

Note : \*. Correlation is significant at the 0.05 level (2-tailed).

## Conclusions

From a practical point of view, the study offers valuable information for students who may consider success factors to improve performance in marketing simulation games. By identifying important personality traits and teamwork dynamics, the research equips students

with actionable knowledge that can enhance their effectiveness in simulation environments. This practical guidance is especially beneficial for preparing students for real-world marketing contexts, where similar skills and insights are crucial for success in competitive team-based scenarios. The article highlights the idea that there is a meaningful connection between team engagement and performance.

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## **Innovative Use of Floating Solar Panels in Remediation: A Product with a Multiplicative Effect for Ukraine's Environmental Restoration**

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### **Abstract**

The Russian invasion in Ukraine, launched on February 24, 2022, has caused widespread environmental devastation, including widespread land contamination and an acute energy crisis. This article highlights the problems of widespread soil contamination as a result of military aggression (about 30% of Ukrainian land is affected by unexploded ordnance) and energy supply problems. These problems can be addressed by integrating innovative technologies into a broader post-war remediation strategy. Floating solar panels can play a crucial role in effective post-disaster environmental recovery. Already being tested in countries such as Japan, China and India, these systems are highly efficient and offer environmental benefits. Using water surfaces, they conserve land, reduce water evaporation, stabilize temperature and improve water quality by preventing algal blooms. The natural cooling effect of water improves energy efficiency compared to ground-mounted systems, resulting in higher productivity and a quicker return on investment, making floating solar panels competitive and attractive to investors. The author examines the potential of floating solar panels (FSPs) as an innovative, multi-functional solution for post-war reconstruction in Ukraine. The aim of the study is to evaluate the feasibility and advantages of FPV technology in addressing the challenges of ecological remediation, energy security and socio-economic development. Using a systems approach, the study integrates environmental marketing, project management principles and SWOT analysis to evaluate FPV implementation. Key findings show that FPV technology offers a sustainable energy alternative that contributes to water conservation, biodiversity conservation and economic revitalization. The results of the study emphasize the role of FPV in supporting Ukraine's strategic goals of ecological restoration and energy independence, strengthening its position within the European sustainable development framework.

**Keywords:** Floating solar panels, Post-war remediation, Innovative product, Green technology marketing, Sustainable development.

**JEL classification:** Q42, Q53, Q56, O33, H54, M31.

### **Introduction**

Given Russia's invasion of Ukraine on February 24, 2022, and the ongoing war, the country faces unprecedented environmental and infrastructural devastation. In this regard, the issue of post-war territorial recovery is of exceptional urgency and significance. A substantial portion of the affected areas requires immediate remediation due to military actions, environmental contamination, and infrastructure destruction. Experts already identify Ukraine as the most heavily mined country in the world, surpassing nations like Syria and Afghanistan. As a result of high-intensity hostilities and extensive use of remote mining technologies, approximately 30% of Ukraine's territory—around 200,000 square kilometres—is potentially mined. This area is comparable to the size of Romania and twice that of Bulgaria or Greece. Beyond the direct threat to human life and health, landmine contamination also severely restricts access to land resources, alongside critical medical, social, and environmental consequences (Russia-Ukraine War: Environmental Impact, 2024).

The full-scale invasion by the Russian Federation has inflicted direct damage and indirect financial losses to Ukraine's energy sector, totalling \$56.2 billion. During the invasion, more than 18 GW of electricity-generating capacity, including the Zaporizhzhia Nuclear Power

Plant—the largest in Europe—fell under occupation. The Kakhovka and Dnipro Hydropower Plants, as well as the Zmiivska and Trypilska Thermal Power Plants, have been completely destroyed. Over 80% of private thermal power plants, including those in Ladyzhyn, Burshtyn, Dobrotvir, Kurakhove, Kryvyi Rih, and Prydniprovsk, suffered critical damage. Nearly half of Ukraine's high-voltage transmission substations have been damaged. Furthermore, Russian forces have effectively destroyed all oil refineries in Ukraine and a significant portion of the infrastructure for storing oil and petroleum products. These extensive military actions have resulted in a profoundly challenging energy supply crisis for the country (Tarasovskyi, 2024).

In these circumstances, the research and efforts of theorists and practitioners in developing and implementing multifunctional innovations for the restoration of the national economy and achieving sustainable development in war-affected territories are particularly relevant and significant. As we can see, Ukraine is already facing a number of critical challenges requiring new solutions to address the shortage of energy resources, rebuild destroyed infrastructure, and restore normal life in the affected areas. This highlights the growing importance of innovative technologies that not only enhance energy efficiency but also address environmental and social challenges.

One such innovative solution for enhancing the efficiency of remediation efforts is floating solar panels (FPV). Their application has already proven to be a highly effective and environmentally safe approach in countries such as Japan, China, and India. Utilizing water surfaces for panel placement not only conserves land resources but also increases energy output through natural cooling, prevents water evaporation, and improves water quality by reducing algal blooms. These combined advantages result in greater energy efficiency compared to ground-mounted systems, shorten payback periods, and make this technology highly attractive to investors (Nelson, 2019).

The goal of this study is to comprehensively assess the potential capabilities of FPV technology as a tool for post-war environmental restoration in Ukraine. In particular, the author perceives it as a non-standard approach to post-war remediation and as an alternative method for addressing energy supply issues, given that significant areas of the country are mined, contaminated with military waste, and require restoration. The results obtained from the project proposed by the author may serve in the future as a benchmark for an unconventional method of solving energy supply issues in post-conflict territories and other countries.

To the author's opinion, the large-scale use of FPV within the country can act as a catalyst, initiating a cascade of positive outcomes, which collectively generate a multiplicative effect, providing advantages in various socio-economic spheres:

1. Sustainable energy production: Increasing the potential of Ukraine's renewable energy sources.
2. Environmental benefits: Supporting biodiversity and reducing water pollution levels.
3. Economic growth: Attracting investments and creating jobs.
4. Post-war stability: Facilitating the return of displaced populations and the restoration of infrastructure.

## 1. Materials and Methods

For an objective study of the potential and possibilities of using floating solar panels (FPV) in the remediation of war-affected territories in Ukraine, the following scientific approaches were employed by the authors:

*1. System Approach.* This approach enabled the examination of FPV implementation in comprehensive remediation from the perspective of interactions between various elements—economic, environmental, and social subsystems. It facilitated the analysis of how FPV can

contribute to ecosystem restoration, address energy needs, foster regional economic recovery, improve population well-being, and how these aspects interact to achieve target indicators.

2. *Comprehensive Approach.* The comprehensive approach allowed the analysis of both the product—floating solar panels—and the project of their implementation in remediation strategies, considering its multifaceted nature and as a sequence of steps: from analysing potential installation sites and designing systems to their integration with other technologies and evaluating the resulting benefits.

3. *Ecological Marketing Concept.* Among the research methods, the ecological marketing concept occupies a special place. The author applied ecological marketing broadly, encompassing, on the one hand, fostering public awareness of environmental needs, including energy supply, and on the other hand, as a specific case of non-commercial marketing aimed at establishing rational nature management, environmental protection, and ecological safety systems.

The author utilized a *SWOT analysis* as a tool for ecological marketing, as it evaluates the strengths and weaknesses of the product and identifies opportunities and threats. This analysis helps to develop a strategy that considers the unique advantages of FPV in the remediation of affected territories while addressing potential barriers to project implementation.

4. *Innovative Marketing Approach.* This approach focuses on analysing advanced technologies and their integration into the national economy. It enables the examination of how FPV can be promoted as an innovative product linked to environmental safety, sustainability, and efficiency.

5. *Value Chain Analysis Approach.* This approach views the project through the lens of value creation at each stage to determine the overall multiplicative effect of floating solar panels. In the case of FPV in the remediation of war-affected territories, value chain analysis identifies key points where the technology can provide ecological and social benefits while also assessing its potential to enhance Ukraine's energy security.

6. *Project Management Approach.* For structured promotion and effective marketing, a project management-based approach is essential. Employing this approach ensures the successful implementation of the project, enabling the achievement of maximum impact from FPV application within optimal timeframes.

By employing these approaches, it is possible to comprehensively assess the potential and advantages of floating solar panels, build a strategy for their promotion in Ukraine considering the specific needs and conditions of war-affected territories, and create sustainable value for the region's economy and environment.

## 2. Floating Solar Panel Technology

The technology of floating solar panels (Floating Photovoltaics, FPV) was first implemented in 2007 in a pilot project in Aichi Prefecture, Japan. This marked the beginning of the journey toward the commercial adoption of FPV, particularly in countries with limited land resources. The first large-scale FPV project in Japan was executed by Kyocera TCL Solar in 2014, when they installed a 1.7 MW solar power plant on Nishihira Pond in Hyogo Prefecture. Later, in 2018, the company developed an even larger installation with a capacity of 13.7 MW at the Yamakura Reservoir in Chiba Prefecture, which at the time became the largest FPV project in the world (Fig. 1).



*Figure 1. Floating solar at Yamakura Dam, Japan*

Source: Nelson, A. 2019.

The successful experience of Japan was subsequently adopted by other countries. One of the pioneering companies in floating solar technology is the French company Ciel et Terre, which has installed approximately 300 MW of floating solar capacity across Asia, Europe, and America. The company demonstrates a flexible approach to FPV application, with systems installed on ponds and reservoirs used for purposes such as water purification, irrigation, desalination, aquaculture, industrial water supply, or hydropower dam reservoirs.

India has also been actively adopting floating solar panels, implementing several significant projects, including:

- NTPC Floating Solar Power Plant in Ramagundam: Located in Telangana, this 100 MW plant, fully operational since July 1, 2022, spans 500 acres of reservoir area and consists of 40 blocks, each with a capacity of 2.5 MW.

- NTPC Floating Solar Power Plant in Kayamkulam: Situated in Kerala, this 92 MW plant became fully operational in June 2022 and is built on reservoirs owned by the Rajiv Gandhi Combined Cycle Power Plant (Wei et al., 2025).

The first commercial FPV project in the United States was implemented in 2008 in California at Far Niente Winery, where a 175 kW system was installed on an irrigation pond. The high cost of land in this region made FPV an economically viable solution, especially for facilities requiring the preservation of agricultural land.

It is worth noting that while the vast majority of FPV projects have been implemented on artificial water bodies, some have successfully been deployed in marine environments, including in the Maldives and Norway (Clemente et al., 2024; Lin et al., 2024).

In the context of the studied issue—seeking effective tools for the remediation of war-affected lands in Ukraine—the experience of FPV implementation in China is of particular interest. China is already a global leader in the production, installation, and total capacity of solar panels. Under its current “Top Runner” program, China plans to annually install increasing amounts of new solar capacity using panels that meet established efficiency standards (Fig. 2).



**Figure 2. Floating solar at Anhui CECEP, China**

Source: Nelson, A. 2019.

This policy also involves replacing outdated coal-fired power plants that cause significant ecosystem pollution. The Chinese government has transformed several former coal mines into sites for floating solar installations. For example, in Anhui Province, dozens of coal mines have been flooded and now produce solar energy, turning what were essentially toxic waste dumps into clean energy production centres (Xue, J., 2017).

All of the above suggests the potential for analogous use of floating solar panels in the remediation of territories in Ukraine affected by military activities.

### **3. Project “EcoFloat-UA: Clean Energy for Remediation and Recovery”**

The author proposes the "EcoFloat-UA" project, aimed at developing and implementing a multifunctional approach utilizing floating photovoltaic (FPV) technology to address the critical needs of war-affected territories in Ukraine. By integrating clean energy production with environmental and socio-economic recovery efforts, this project aligns with Ukraine's strategic goals in sustainable development, energy security, and environmental restoration. According to the author's vision, this project should become an integral part of Ukraine's overarching remediation strategy and its post-war revival.

#### **3.1. Justification and Relevance of the Project.**

*Ecological Necessity.* Ukraine is facing an unprecedented scale of environmental degradation caused by military activities, including the contamination of land and water resources. FPV technology, which utilizes water surfaces, offers the potential to reallocate land resources while addressing military contamination, such as unexploded ordnance. The clean energy generated can be used for water purification, thereby restoring biodiversity (Hamid M. Pouran et al., 2022). This technology serves as an innovative remediation tool, transforming war-damaged ecosystems into sustainable sites for clean energy production.

*Energy Security.* The destruction of energy infrastructure during the full-scale war has resulted in a significant energy deficit. Deploying FPV across the country can help resolve energy supply challenges, substantially reducing dependency on traditional sources, enhancing

energy independence, and supporting the recovery of critical infrastructure in war-affected areas.

*Economic Feasibility.* FPV projects in analysed countries have demonstrated faster payback periods and higher efficiency due to natural cooling, compact placement, ease of operation and maintenance, lower initial investments, and reduced risks (Attar, H. et al., 2025). By integrating FPV, Ukraine can attract green financing, create jobs, and stimulate local economic activity, contributing to long-term sustainability.

*Social Impact.* The project ensures access to clean energy for populations in territories where energy infrastructure has been destroyed and water supply is limited. Implementing the project will accelerate the process of returning to normal life after the war, improve well-being, and enhance living conditions, thus promoting social stability. By simultaneously addressing energy, environmental, and socio-economic challenges, "EcoFloat-UA" will facilitate the return of displaced populations and the resettlement of war-affected territories.

*Innovative and Sustainable Development of Ukraine.* The project is based on the implementation of advanced technologies, such as IoT and data analytics, to monitor and optimize the performance of FPV systems across the country. This integration represents the development and deployment of a progressive model of technological and environmental innovation, aligning with global standards for sustainable energy and resource management. By leveraging cutting-edge solutions, the project aims to establish Ukraine as a leader in clean energy technologies and sustainable development, contributing to the nation's long-term resilience and ecological modernization (Liu et al., 2024; Sunny et al., 2024; Verma, 2024).

### 3.2. Potential for Utilization.

*Water Resources.* Ukraine has a significant number of water bodies and reservoirs suitable for FPV installation. These water surfaces can be systematically utilized for decontamination and mine clearance from military activities, enabling the conservation of land resources. Additionally, the water bodies can be repurposed for dual functions: electricity generation and water purification. The purified water can then be used for agricultural and other domestic purposes, maximizing the efficiency and sustainability of resource management (Nazarenko et al., 2024).

#### *Regional Analysis:*

1. Kyiv Reservoir: One of the largest reservoirs in Ukraine, it is well-suited for FPV installation, enabling the generation of substantial amounts of electricity.
2. Kremenchuk and Dnipro Reservoirs: Ideal for FPV deployment due to their large surface area and existing infrastructure, providing significant potential for energy production.
3. Lake Yalpuh: Located in the southern part of the country, this lake offers potential for FPV installation, especially considering the region's ecological and energy needs.
4. Lake Svityaz: The largest and one of the deepest lakes in Ukraine, situated in the western region, holds high ecological significance and is used for recreation and tourism. FPV deployment here could enhance the lake's ecosystem resilience and supply additional energy for local needs (Sakharnatskyi, 2024.).

The listed water bodies present tangible opportunities for implementing floating solar panel projects. This can help Ukraine address challenges related to water scarcity and the urgent need to restore its energy infrastructure in the post-war period.

The next step in the research involves presenting the results of a SWOT analysis of FPV utilization in the remediation of Ukraine (Table 1).

**Table 1. SWOT Analysis of FPV Utilization for Remediation in Ukraine**

<b>Strengths</b>	<b>Weaknesses</b>
- Sufficient availability of water resources;	- High initial costs for project design, development, and implementation;
- Reorientation of land use in war-affected areas;	- Complexity of technical integration with traditional energy supply systems and project scaling;
- Potential for integration into a comprehensive energy supply system;	- Strong dependency on geographic and climatic conditions;
- Achievement of energy and environmental security.	- Lack of experience in FPV technology.
<b>Opportunities</b>	<b>Threats</b>
- Attraction of international partners and "green" financing;	- Risks associated with deactivating military contaminants and unexploded ordnance in recently liberated territories (including water resources and infrastructure objects);
- Expansion of environmental initiatives in the context of European integration;	- Potential challenges with resource, organizational, and technical support for the project;
- Achievement of socio-economic and environmental post-war recovery goals;	- Asynchrony and miscommunication in project management across all levels of the management system;
- Strengthening Ukraine's energy independence.	- Bureaucratic hurdles and delays in obtaining the necessary documents and permits.

Source: PV Magazine, 2022; National Renewable Energy Laboratory, 2021.

This SWOT analysis provides a comprehensive understanding of the potential and challenges associated with FPV implementation, laying the groundwork for developing effective strategies for its deployment in Ukraine's post-war remediation efforts.

### 3.3. Evaluation of Required Organizational and Resource Support for Project Implementation

The next step involves conducting an in-depth analytical assessment of the organizational and resource requirements for the project. This assessment will focus on three key dimensions: material and technical support, human resources, and financial resources. The preliminary findings are summarized in Table 2.

**Table 2. Organizational and Resource Requirements for the "EcoFloat-UA" Project**

<b>Category</b>	<b>Required Resources</b>	<b>Details</b>	<b>Per FPV Installation (Estimated Range)</b>
<i>Material and Technical Support</i>	- Floating photovoltaic (FPV) modules.	Procurement of high-quality FPV panels with enhanced cooling systems and durability for water-based installation.	~\$425/kW; for a 10 kW system, \$4,250.
	- Installation infrastructure.	Floating structures, anchoring systems, and electrical wiring compatible with local water conditions.	~\$60–\$100/kW; for a 10 kW system, \$600–\$1,000.
	- Maintenance and monitoring equipment	IoT devices, sensors, and drones for real-time system performance monitoring	\$2,000–\$4,000 per installation.
	- Integration systems.	Systems	\$1,500–\$3,000 per installation.
<i>Human Resources</i>	- Project managers.	Experienced managers specializing in renewable energy and large-scale project deployment.	1–2 project managers per installation, ~\$3,000/month per manager.
	- Technical specialists.	Engineers, electricians, and environmental experts for	2–3 specialists per installation,

Category	Required Resources	Details	Per FPV Installation (Estimated Range)
		installation, integration, and monitoring.	~\$2,500/month per specialist.
	- Local workforce.	Hiring and training local personnel to support project development and maintenance.	3–5 workers, ~\$1,000/month per worker.
	- Marketing and communications specialists.	Experts to promote the project, attract investment, and engage stakeholders.	1 specialist, ~\$2,000/month.
<i>Financial Resources</i>	- Initial capital investments.	Funding for procurement, logistics, and installation of FPV systems.	\$6,850–\$9,250 per 10 kW system.
	- Operational costs.	Budget for system maintenance, monitoring, and periodic upgrades.	\$500–\$800 annually per kW.
	- Financing mechanisms.	Exploration of green bonds, grants, and public-private partnerships to support project implementation.	External financing can cover up to 60–80% of project costs.

Source: Statista, 2023; PV Magazine, 2022; National Renewable Energy Laboratory, 2021; Solar Energy Association of Ukraine, 2024.

The relatively low installation and operational costs, combined with the opportunity to attract international green financing, make FPV a cost-effective and scalable solution. Additionally, the focus on material and technical support, human resource development, and financial structuring ensures a comprehensive approach to project implementation. This strategy will maximize the ecological, economic, and social impact of the "EcoFloat-UA" project, aligning with Ukraine's long-term goals of sustainability, energy independence, and environmental restoration.

### 3.4. Evaluation of Potential Effectiveness: Analysis of the Future Benefits of Project Implementation

The evaluation of the potential effectiveness of the "EcoFloat-UA" project focuses on assessing the anticipated benefits across ecological, economic, and socio-technical domains. The integration of Floating Photovoltaics (FPV) into Ukraine's post-war remediation strategy demonstrates considerable potential for multifaceted advantages.

A key aspect of this research is the study of the multifunctionality of FPV systems. The author's analysis of implemented and successfully operating FPV projects in various countries has led to the conclusion that these systems perform multiple functions beyond energy production. FPV provides clean energy while simultaneously supporting biodiversity by minimizing negative anthropogenic impacts on land and improving aquatic ecosystems. Additionally, FPV enhances the resilience of energy systems, particularly in regions with limited land resources.

The author has analysed the multiplicative effect of FPV implementation, identifying the following potential positive impacts:

#### *Environmental Sustainability:*

1. Significant reduction in water evaporation, particularly critical in water-scarce regions such as southern Ukraine.
2. Improvement in water quality by preventing algal blooms.
3. Reorientation of land resource use by utilizing water surfaces for panel installation.

*Energy Security:*

1. Generation of renewable energy, reducing dependency on traditional sources.
2. Increased energy efficiency through the natural cooling of panels by water.
3. The ability to use generated energy as an additional resource for ensuring energy security.

*Economic Benefits:*

1. Attraction of investments through green financing programs, including bonds and international grants.
2. Reduced project payback periods due to high energy efficiency and additional multifunctional benefits.
3. Creation of new jobs during the installation, operation, and maintenance of FPV systems.
4. Activation of entrepreneurial activity among local businesses in regions affected by military conflict.
5. Revival of local economies through infrastructure restoration and energy supply improvements.
6. Use of purified water powered by FPV for agricultural and municipal purposes, particularly valuable in resource-scarce regions.

*Social Effects:*

1. Provision of access to clean energy for populations in war-affected regions.
2. Strengthening social resilience through the restoration of energy infrastructure.
3. Facilitation of a return to normal life and improvement in the population's quality of life.

*Innovative Potential:*

1. Integration of modern technologies such as IoT and big data for monitoring and managing FPV systems, transforming Ukraine's energy supply system to meet global standards.
2. Development of a comprehensive energy supply system combining traditional and renewable energy sources, enhancing national energy security and positioning Ukraine as an environmentally responsible nation.

*Aquaculture and Efficient Water Resource Use:*

1. Opportunities for fish farming and aquaculture development in water bodies equipped with FPV, contributing to food security.
2. Potential use of purified water for purposes such as irrigation of agricultural lands, enhancing its value and efficiency in resource-constrained regions.

Thus, the implementation of FPV creates a cascade of positive effects, accelerating remediation processes while promoting ecological, economic, and social sustainability in Ukraine (Yusop et al., 2021; Santos-Borja, 2021; Velaz-Acera et al., 2024; Gonzalez-Gonzalez et al., 2024; Dorosh et al., 2023).

**Conclusion**

The implementation of the EcoFloat-UA project after the end of military activities in Ukraine will bring a cascade of positive effects in the ecological, economic, and social spheres. However, first and foremost, the project proposed for implementation is perceived by the author as a non-standard tool for post-war remediation and an alternative approach to

addressing energy supply issues, considering that significant areas of the country are mined, contaminated with military waste, and require restoration. Given the potential multifaceted benefits, this project may serve in the future as a benchmark for an unconventional solution to energy supply in post-conflict territories and other countries.

The economic potential of the EcoFloat-UA project and its scalability across Ukraine can attract substantial investments through green financing mechanisms, including international grants, environmental bonds, and public-private partnerships. Moreover, the combination of technical and organizational advantages, as well as the high energy efficiency of FPV, can ensure a faster return on investment compared to traditional ground-mounted solar systems. Along with this, the implementation of the project will create new jobs, stimulate the development of energy infrastructure, and make a significant contribution to the economic recovery of war-affected regions.

In the long term, the scalability and adaptability of the EcoFloat-UA project will ensure its long-term efficiency and the achievement of Ukraine's sustainable development goals. As FPV technologies evolve, their integration with digital innovations, such as IoT-based monitoring, AI-driven energy management, and blockchain for smart contracts, will enable a future transition to a smart energy management concept. In a broader sense, the success of this project may serve as a model for ecological and energy restoration in post-conflict territories. According to the author, the proposed project will contribute to energy independence and environmental restoration, which fully aligns with Ukraine's strategic goals of European integration and enhancing national resilience to future challenges.

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## **Assessing the Marketing Performance of Financial-Banking Organizations, a Prerequisite for Increasing Competitiveness**

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### **Abstract**

Banking competitiveness represents the ability of financial institutions to attract customers, capital and obtain superior profits in the market, positioning themselves advantageously against the competition. This multidimensional concept is the basis of banking strategies and determines the long-term success of financial institutions. Financial performance constitutes the foundation of banking competitiveness and is measured by specific indicators that reflect the efficiency of resource use. The systematic measurement of marketing performance allows companies to evaluate the efficiency of campaigns, identify the channels that generate the best investment (ROI) and to optimize the budget allocation. Without a precise measurement, marketing decisions risk being based on intuition and assumptions, not concrete data, which can lead to resource and missed opportunities. The study identifies methods, techniques and tools used in evaluating the performance of the marketing activity, but also to improve the productivity of marketing in order to increase the bank's competitiveness.

**Keywords:** Marketing audit, banking performance, competitiveness, efficiency, effectiveness, strategy.

**JEL classification:** M31.

### **Introduction**

To evaluate the performance of marketing activity in the banking sector, it is essential to define the concepts of efficiency and effectiveness and to identify the tools through which the performance of the banking organization can be measured. Marketing audit bring numerous benefits to banking institutions, helping to improve performance and increase competitiveness (Rădulescu, 2019). One of the main advantages is the identification of the strengths and weaknesses of the existing marketing strategy. By objectively analyzing data and results, the audit allows the identification of aspects that are working well and those that need improvement. This detailed assessment helps banks optimize their approach and focus on the activities that generate the best results.

The performance refers to the achievement of the established objectives, the efficiency focuses on the optimal use of the resources, and the efficacy measures the impact of the marketing actions on the results (Rădulescu, 2012). In the context of banking marketing, these terms are translated by the ability to attract and retain customers, to effectively manage budgets and create significant impact campaigns. The key indicators used to measure the performance of bank marketing are Net Promoter Score (NPS), which evaluates the loyalty of customers, the market share, which indicates the position of the bank on the market, the digital conversion rate, which reflects the success of the online initiatives, and the customer satisfaction score, which measures the grade of the clients.

There is a direct correlation between marketing investment and the expansion of banks market share (Rotaru, 2001). Banks that allocate significant resources for marketing and which implements effective strategies have a higher probability of attracting new customers and strengthening their position on the market. Innovation in products and communication plays a

crucial role in this process. Banks that offer attractive digital packages and use award -winning mobile platforms are better positioned to meet the needs of modern customers. The study aims to clarify the role of marketing audit in increasing banking performance and competitiveness, by identifying the methods, techniques and tools used in marketing literature and practice within the financial-banking sector.

## 1. Literature review

A marketing audit helps top management identify and mitigate risks in company activities (Cecco et al., 2010). It provides a comprehensive understanding of marketing challenges and opportunities. The audit examines the organization's marketing environment, objectives, strategies, and activities to identify issues and opportunities, establish future actions, and improve efficiency. Positive outcomes guide strategic decisions and inform future sales and marketing plans.

In financial-banking organizations, a marketing audit identifies *deficiencies* and *less efficient activities*, evaluating their productivity and strategy for improvement (Rădulescu, 2019). It assesses the bank's marketing capabilities, effectiveness, opportunities, and threats. As Porter (1998) suggests, competitive strategy should consider the business environment and competitor actions. Marketing audits help pinpoint areas for optimization, identifying gaps and enabling corrective actions.

A key part of a marketing audit in a financial institution is its location. Experts agree that a marketing audit starts before and continues after the marketing strategy to measure and evaluate performance. According to Kotler and Keller (2009), marketing audit activities need to be systematic, periodic, objective, and independent, whether applied to the banking system or any other sector. These audits impact both the internal and external environments and are performed for the organization and its individual units. They help identify marketing bottlenecks and develop plans to address them.

Another focus was the study of current strategies within the banking system that facilitate marketing audits. From a narrower perspective, marketing audits are seen as valuable tools for assessing the effectiveness of strategies, financial resources, and other marketing efforts. Their purpose is to streamline operations, identify growth opportunities, and enhance overall efficiency. By conducting a marketing audit, organizations can gain insights into their strengths, weaknesses, and areas needing improvement, which ultimately aids in setting objectives and measuring success. The marketing audit is vital for banks' strategic planning, assessing strategies, market analysis, products, customer relationships, communications, and service practices. It helps identify strengths, weaknesses, opportunities, and threats, aiding informed decisions and effective growth strategies.

## 2. Methodology

The audit evaluates marketing processes, strategies, tactics, resources, and performance to ensure alignment with objectives. Analyzing the marketing environment, customer behavior, marketing mix, and effectiveness provides insights for strategic decisions. In banking, a marketing audit supports growth by adapting to market changes, optimizing operations, and seizing opportunities. It monitors and evaluates marketing programs, guiding corrective actions for deviations from expectations.

Effective marketing in a bank depends on the collective efforts of its staff towards shared goals. Auditors use tools like sales reports and audits to monitor performance (Rust et al., 2004). Measuring efficiency is challenging, especially with qualitative objectives, as changes in consumer attitudes take time to impact quantitative goals (Cruceru & Rădulescu, 2014). Productivity analysis includes long-term effects, activity segregation, and financial and non-

financial methods to evaluate marketing investments (PIMS, marketing mix modeling, metric systems).

In essence, evaluating an organization's effectiveness and efficiency involves assessing its overall performance. Consequently, organizations must aim for effectiveness in their marketing efforts and subsequently pursue efficiency (Sheth & Sisodia, 2002). To enhance performance indicators, careful attention must be given to formulating marketing strategies within financial-banking institutions. A critical aspect of marketing strategy in the financial-banking sector is identifying the institution's capacity and potential offerings within an ever-changing and uncertain market environment. Identifying the set of activities in relation to strategic market segments and competition for each segment is another important consideration when developing a banking marketing strategy (Rădulescu, 2019).

Developing targeted market strategies requires a situational analysis that encompasses economic trends, legislative changes, technological advancements, social and demographic shifts, as well as comprehensive insights into the market, customers, and competition. Strategically analyzing the bank's portfolio involves considerations such as market retention, market capture, market withdrawal, and market segmentation. The strategic marketing planning audit encompasses an examination of both the implementation stages and specific elements, including the organization's mission, objectives, and the marketing strategy adopted. The implementation stages of the organization are characterized by market orientation aim at: current understanding of potential and current customers, identification of competitors with direct impact and their strengths, exploiting business opportunities and avoiding threats and providing value to consumers (Olteanu, 2007).

During the analysis of the organization's mission within a banking institution, auditors must carefully consider its purpose, emphasize its values, define its operational domains, specify the duration of its realization, and ensure effective communication through concise messaging. General and marketing objectives should be clearly defined and aligned across Developing targeted market strategies involves a situational analysis that includes economic trends, legislative changes, technological advancements, social and demographic shifts, as well as comprehensive insights into the market, customers, and competition. Strategically analyzing the bank's portfolio considers aspects such as market retention, market capture, market withdrawal, and market segmentation.

Efforts to achieve performance within the banking system entail establishing decision-making stability, legislative monitoring, coordinated efforts, and prudential oversight of the various participants in the financial markets. Understood as a comprehensive review process, marketing audit transcends the planning phase, serving as a valuable undertaking whenever there is a need to evaluate an organization's position, gauge the effectiveness of its marketing policies, and resolve business-related issues.

An important component of marketing audit involves analyzing the *marketing information system* and the criteria considered when auditing this system. The information system serves as a conduit for information flow within the organization, facilitated by specialists, equipment, and technology. The auditor must verify and analyze the obtained information, as it has implications for achieving the established objectives. Initially, the clarity and definition of the purpose and objectives are assessed to ensure alignment with the decision-making process. The suitability of data collection tools and the level of detail in the information are also evaluated.

By utilizing the information system, the auditor can identify trends and phenomena in the banking sector. They analyze, interpret, and leverage this information in the decision-making process. Such studies can be conducted either by an internal department or by external specialists who possess expertise in marketing and research. Financial institutions need to

recognize the role and significance of the information system in developing organizational processes. This understanding enables them to formulate marketing plans that are suitable for their established objectives. To obtain the necessary information for marketing decision-making, banks can employ quantitative studies involving quantifiable data, as well as qualitative methods that capture opinions, motivations, and beliefs.

The purpose of utilizing information sources is to gain insights into customer behavior, monitor competitors, improve the quality and profitability of services provided, and develop and launch new financial products and services tailored to market needs. While the existence of a customer management system within an organization can provide valuable information to the marketing auditor, implementing such a system can be expensive.

The *marketing organization audit* examines the internal structure of the marketing department, taking into account its organizational formula and internal organizational type. Another aspect analyzed by the auditor is the role and responsibilities of the marketing department, particularly the essential competencies that staff members should possess. Banks have flexible organizational and functional structures that allow them to continually adapt to evolving customer financial needs. The marketing department plays a crucial role within a bank's organizational structure, overseeing and ensuring the coherence of actions undertaken by both internal and external collaborators of the organization. A marketing audit comprises both internal *components*, which focus on variables directly controlled by the organization, and external components, which analyze a range of external factors.

A third objective of this study emphasizes the key elements that banks need to consider when analyzing a marketing audit, particularly the integration of the four components of the marketing mix. Essentially, the marketing audit serves as a comprehensive evaluation of the organization's marketing function. It aims to enhance the organization's understanding of its market, customers, and competitors, ultimately leading to the development of effective marketing strategies and improved business performance.

It is widely recognized that, following the analysis of a marketing audit, a bank aims to adjust its potential based on market opportunities, assess the attractiveness of a particular market, and determine strategies to address weaknesses and threats posed by existing competitors. The first key component of a bank's marketing audit is *market analysis*, enabling the auditor to identify, define, and analyze the bank's consumers and those of similar products within the market. By understanding this component, the bank can anticipate customer reactions and establish the structure and planning of its services.

Experts emphasize the importance of understanding individual needs, arguments, and factors influencing customer decisions in their relationship with the bank, particularly regarding transactions. *Customers* play a vital role in market analysis, encompassing individuals who purchase the bank's products and services, as well as those who are influenced by the bank in various ways. In recent years, the concept of customers in marketing has been redefined to include both internal and external customers. It can be argued that internal customers, referring to the bank's own employees, are the most crucial customers, followed by customers of the services offered. These internal customers drive the mechanism of service delivery for external customers.

External customers encompass all individuals who utilize the bank's products or services, whether they do so on a one-time or recurring basis. They are the customers targeted by the bank through various marketing strategies with the intention of satisfying their needs in the medium or long term. Existing literature and marketing practices already confirm that acquiring new customers is more costly than retaining existing ones (Pedersen & Nysveen, 2001). Additionally, the marketing audit examines the bank's customer service practices. Exceptional customer service is a crucial element of a successful marketing strategy, as it directly impacts

on customer satisfaction, loyalty, and word-of-mouth referrals. The audit assesses the bank's customer service standards, training programs for employees, complaint resolution procedures, and overall customer experience to identify areas for improvement and ensure consistent service excellence.

The auditor has an obligation to analyze how *competition* has been studied, being critical in terms of nature, foundation, and validity of the information. Competitors within the industry are key rivals for banks. Banks need to adapt to any changes to remain competitive and maintain their market share. Additionally, they should pay close attention to their products and services, as they can easily be copied by competitors. This analysis should begin by identifying competitors, followed by an assessment of their strengths, weaknesses, objectives, strategies, and tactics (Cruceru & Radulescu, 2012). As competition intensifies in the financial banking market, different segmentation and positioning strategies have been employed. Strategies have shifted from attracting potential customers to expanding the volume of products and services sold to existing customers. Additionally, banks have adopted diverse positioning strategies to establish their image and differentiate their offerings, ensuring that each customer segment comprehends the quality provided in comparison to competitors.

Potential competitors are represented by any organization that could enter the market, offering similar products or services in the financial banking sector. Marketing professionals need to be aware of potential newcomers in the financial services sector and always take them seriously. The auditor must also examine the relationship between the financial institution and its *suppliers*, analyzing factors such as the number of suppliers, specific costs associated with them, adherence to delivery conditions (time and quality), the future availability of raw materials, and trends related to their activities.

The *primary supplier* in the financial banking services sector is the one responsible for providing information technology (hardware, software, communication systems, information systems, consultancy, personnel managing the systems), and their influence on the bank's strategy and planning is decisive (any delay can cause significant problems). Based on information about the characteristics and trends of the environment, the auditor's role is to analyze the integration of the four *components* of the *marketing mix* within a coherent marketing plan that enables the achievement of the organization's strategic objectives.

*Product strategy auditing* primarily focuses on analyzing the products in the company's portfolio but is also highly valuable for identifying opportunities for new products. In banks, products and services have become interdependent, used to describe what is offered to customers. In other words, understanding financial banking products and services is a prerequisite for comprehending market specificities and formulating customer-oriented marketing strategies. According to Parmerlee (2000), a marketing audit can measure the value, risk, and effectiveness of marketing efforts. Distinguished from primary and secondary data research, marketing auditing enhances efforts to gather data related to organizational performance and future perspectives based on past and present assessments. For a bank, every customer is important, whether they visit the institution once or multiple times. The challenge for financial marketing specialists is to measure the attributes and benefits of the products offered, allowing marketing techniques to be applied. Levesque and McDougall (1996) state that close and long-term relationships between banks and customers are becoming increasingly rare. Therefore, various strategies have been adopted to retain customers, with satisfaction playing a fundamental role (Bloomer et al., 2002).

*Products or services* that can replace existing ones define the range of substitutes (e.g., credit cards have replaced checks). This aspect is another important component addressed in the audit for marketing strategies. As competition intensifies in financial banking markets, different segmentation and positioning strategies have been adopted. For example, strategies

have shifted from attracting potential customers to increasing the volume of products and services sold to existing customers. Varied positioning strategies have been implemented to establish the bank's image and differentiate its product and service offerings, ensuring that each customer segment understands the quality provided in comparison to competitors.

In the financial banking market, customers are analyzed at an individual level based on their unique needs, desires, and requirements, treating each market segment as distinct and separate. To satisfy these distinct markets, banks must forgo standardizing products and services, which inevitably leads to increased costs. This solution is recommended for a limited range of activities where consideration is given to the specific characteristics of everyone within the market in terms of producing and delivering the service.

Financial marketing specialists face the challenge of measuring the attributes and benefits of the products offered, enabling the application of effective marketing techniques. In the banking industry, the *distribution audit* focuses on analyzing distribution objectives and strategies, as well as assessing the efficiency of distribution channels and networks. Rather than physical distribution, the banking sector views the distribution channel as the "path" (Balaure, 2002) that products and services traverse to reach customers, utilizing both physical and electronic means. When it comes to the distribution strategy of financial institutions, the emphasis is placed on their key strategic objectives.

Several studies conducted in this field have revealed that financial institutions adopting a diversified distribution strategy (multi-channel approach) to cater to the needs of various customer segments encounter relatively higher costs (Thornton & White, 2001). Therefore, in the context of banks, the focus is not on physical distribution, but rather on distribution within the economic cycle of services. Financial institutions employ various methods such as direct correspondence (direct mailing/direct emailing) for product/service promotion and as distribution channels, telemarketing, ATMs, EFTPOS terminals, and electronic networks (such as SWIFT and the internet). Distinct flows associated with service distribution in the financial-banking sector encompass information flow, promotional activities, negotiations, transactions, and risk management. Currently, with the evolution of distribution channels, financial companies offer sophisticated investment instruments tailored to modern design requirements within the financial and capital markets.

The selection of distribution channels in the financial-banking sector necessitates continuous management and evaluation to maintain competitiveness in the market and convert potential customers into profitable consumers. For banks focusing on attracting and retaining customers who value convenience, technology, and adaptability, the emphasis should be on providing self-banking services or utilizing electronic distribution channels (Hway-Boon & Yu, 2003). The *promotion policy audit* aims to assess the effectiveness of the organization's communication activities by effectively presenting the features and benefits of financial and banking products and services through specific communication and sales promotion methods.

The purpose of this audit is to identify existing opportunities and threats in the realm of communication and address any issues within the organization for corrective action. From a marketing perspective, the company's identity is approached from a bottom-up perspective, focusing on the impact of product and service names (Morison, 1997). Integrated marketing communication encompasses all signals transmitted by the bank to various stakeholders (external customers, employees, suppliers, competitors, distributors, non-profit organizations, unions, governmental organizations, etc.) and involves a two-way communication process.

The bank's image-building and promotion through communication channels have proven to be crucial strategies for differentiation and market positioning. Branches play a significant role in shaping the bank's image through their physical ambiance. Promotion assumes considerable importance for banks as they heavily promote their services and corporate image

to ensure market presence and expansion. Regular communication can help address any shortcomings and increase customer satisfaction.

Evaluation and control of communication play a vital role, with marketing research measuring the efficiency and impact of communication efforts. Effective communication with customers entails providing access to services and ensuring customers know how and whom to contact when needed. Moreover, communication should be a reciprocal process between the customer and the bank.

It is worth noting that the marketing audit encompasses an assessment of the internal and external communication strategies employed by the bank. Effective communication is essential for building and maintaining relationships with customers, as well as conveying the bank's value proposition. Internally, the audit examines the bank's internal communication channels, such as employee newsletters, intranet platforms, and team meetings, to ensure that information flows smoothly across departments and teams. Clear and consistent internal communication enhances teamwork, fosters a shared vision, and aligns employees with the bank's marketing objectives. Externally, the audit evaluates the bank's external communication efforts, including advertising campaigns, public relations activities, social media presence, and customer relationship management. The aim is to determine if the bank's messaging aligns with its brand identity, if it effectively reaches the target audience, and if it resonates with customers' needs and preferences. Lastly, surpassing customer expectations paves the way for exceeding them.

The marketing *audit in terms of pricing* begins with an analysis of price objectives closely aligned with the overall goals of the organization, strategic business units, and other elements of the marketing mix. The pricing strategy is based on three essential elements (3Cs): costs, competition, and customer value (Lovelock, 2001). Especially in the context of conducting an audit, it is crucial to consider certain factors when it comes to pricing in the banking industry.

The pricing strategy in banking goes beyond individual services and extends to service packages. It is essential for the price to be mutually acceptable to both the bank, ensuring profitability, and the consumers, who should have the financial means to afford it and consider its impact on their present and future. When a service is priced regardless of the institution's performance, it introduces an element of risk. Pricing strategies of banks can be influenced by competitors' prices, prompting customers to compare offerings from different organizations before deciding.

Government regulations and guidelines set by regulatory bodies such as the National Bank can also significantly impact pricing decisions. Banks need to ensure their pricing policies comply with these regulations, which may include specific pricing thresholds set by the law. In addition to targeting their own customers, banks also focus on promoting their services and products to their employees.

The *personnel* within the organization play a vital role in delivering financial and banking services efficiently, with the goal of optimizing each step of the process to serve customers as quickly as possible. *Physical premises* and facilities are crucial in the banking industry as they contribute to the tangible aspects of service delivery. For example, a credit card represents a physical form that customers can interact with, adding a tangible element to the intangible nature of financial services.

*Profitability* is a key indicator of a bank's performance and determines its sustainability in the market. Pricing strategies and objectives must align with the overall strategic goals of the institution. The process of conducting a marketing audit involves collecting and analyzing data, evaluating marketing performance, reviewing marketing plans and budgets, conducting customer surveys, and assessing the effectiveness of marketing communication efforts. The findings of the audit serve as the basis for making informed decisions and implementing

necessary changes to improve marketing performance. Finally, we tried to review everything that is analyzed about the *performance of the marketing activity*.

Broadening the theoretical horizon on banking performance indicators, we can mention that for any organization, regardless of the field of activity, the primary objective of management refers to profit maximization. Thus, the survival of banks in the market is determined by many factors, among which we can mention following the changing environment and adapting to it. To effectively evaluate marketing performance, it is necessary to consider various factors, including the impact of management quality. The success of a bank relies heavily on the competence and effectiveness of its management in making sound decisions that drive the organization towards achieving its objectives. Performance can be defined as the measurable level of stability of banking activity, characterized by the reduced levels of all risk categories and a general trend of increasing profits from one period to another (Rotaru, 2001). As we mentioned, in terms of profit maximization, banks are no different from other non-banking companies.

Considering the quantitative elements (the size of the capital, or assets), the evaluation of banking performance acquires a character to be specified in the establishment of scales of values, depending on the size of a bank. The strongest argument for a bank's performance is always related to the quality of management, which is evaluated by the results obtained from managerial decisions. Thus, management can be defined as "the process of coordinating the material, human, financial and informational resources of an organization in order to achieve its essential objectives (Pride, 1991).

Management functions in the banking sector encompass forecasting and planning, training and development, coordination, control, and evaluation. These functions are essential for effective bank management, ensuring optimal resource utilization and a focus on increasing profitability while mitigating risks (Cocris & Chirlesan, 2008). Maximizing profitability is a primary objective for banks, similar to other non-banking entities. Banks must pay attention to competitive market information, select the right markets and products, incentivize and reward employees based on performance, possess a deep understanding of financial tools and techniques, maintain sound financial management practices, and develop strategic initiatives to remain competitive.

In order to thrive in the competitive landscape, banks need to build a loyal customer base, offer relevant products and services, adapt to market competition, secure sufficient capital for investment, excel in retail selling, and implement effective marketing programs. The ability to provide quick and efficient services while continuously meeting customer needs is crucial for banks to differentiate themselves and succeed in the market.

In summary, pricing strategies, promotion efforts, management quality, and performance evaluation are all vital components in the banking sector. Banks must carefully consider these factors and adapt to changing market dynamics to maximize profitability, maintain customer satisfaction, and ensure long-term success in a competitive environment. Another point of departure that helps to make a business decision is precisely that moment in which decisions are taken from the point of view of risk, which is especially valid in the context of conducting an audit. All decisions regarding an organization's future activities are inherently tied to the level of uncertainty and, consequently, risk. In the banking sector, where risk is a key factor, it is closely intertwined with marketing decisions. However, clearly pinpointing the risks solely associated with marketing activities can be a challenging task.

Considering the unique characteristics of a bank, along with external factors and the inherent volatility of banking products and services, it becomes evident that there is a direct relationship between profit and risk in bank management. Recognizing this correlation is crucial. Moreover, performance within a bank is closely linked to the creation of added value

and the ability to strike an optimal balance between costs and benefits, thereby underscoring the connection. It is worth noting that assessing bank performance becomes compromised when analyzing "underperformance", which stems from flawed managerial policies. When referring to underperformance, we allude to the risk of losing invested resources and unrealized revenues. Quantifying earnings and effectively managing risks are of utmost importance in evaluating the quality of banking activities, gauging performance, and assessing the competence of bank managers. A secure and profitable banking operation involves safeguarding depositors' funds and shareholders' investments by reducing risk while capitalizing on market opportunities.

### 3. Discussion and conclusions

Success in a business depends on risk-taking, which means that the profit made is usually at low levels if there is no risk-taking. To succeed in business, one must be willing to take risks, as avoiding risk typically leads to lower profits. Risks specific to the banking sector encompass a wide range, with notable ones being credit risk, exchange rate risk, and interest rate risk (Bichi, 2004, pp. 54).

As we have observed, performance in the banking sector involves exploring investment opportunities in financial markets that generate profits for bank customers and shareholders while simultaneously mitigating risk to an acceptable level. From a performance standpoint, marketing can contribute to mitigating the inherent risks in financial services by gathering accurate information about the business environment and customer behavior. This performance indicator is viewed as a benchmark that reflects the bank's position in the market, achieved and sustained through competitiveness, which is itself driven by performance.

In a competitive free market environment, banks must analyze the relationship between desired profits and the associated risks, thereby shedding light on the efficiency of each bank as an individual entity or as part of a complex system. Bank performance and the analysis of specific indicators are highly relevant to investors, companies seeking credit, and business individuals with established relationships with a particular bank.

An important aspect of bank performance is realized within the context of globalization and European integration. Consequently, the evolution of financial and monetary markets within this framework has led to the emergence and development of the deregulation process. Deregulation is characterized by the central bank refraining from intervening in the activities of commercial banks and instead implementing monetary policy decisions.

The indicators of bank performance can also be explained from the perspective of the global economic and financial crisis, whereby the deterioration of the banking system resulted from the involvement of a high number of inexperienced employees. Conversely, the adjustment and improvement of professional knowledge to meet the needs arising from the opening of the Romanian economy and the resumption of market relationships were among the determining factors in triggering the crisis. The financial crisis is a consequence of factors and processes that affected both the macroeconomic level of the global financial environment and the microeconomic level of individual banking institutions and specific market segments. It led to the emergence of unprecedented and complex systemic risks. The vulnerability of the banking system exhibited increasing trends, driven by both internal and external factors.

In conclusion, the topic of marketing audits is currently a highly debated one. The importance and utilization of this strategic control tool are growing, and companies are realizing its significance for their long-term growth and success. However, an audit will only generate value and be useful if the results are effectively implemented. Therefore, the effectiveness of a marketing audit increases when it incorporates a structured sequence of diagnostic steps.

A marketing audit examines marketing processes and recommends ways to enhance their efficiency. It can be seen as a tool that utilizes all available information and combines it with

specific marketing audit procedures to obtain a comprehensive picture, including recommendations and anticipated outcomes. Its effectiveness lies in the systematic execution of diagnostic steps. It is important to note that the marketing audit is an ongoing process that should be regularly conducted to keep up with changing market dynamics and ensure continuous improvement. By periodically reviewing and reassessing marketing activities, organizations can adapt to market trends, seize new opportunities, and address emerging challenges.

Therefore, the marketing audit is a critical tool for evaluating and increasing the effectiveness of marketing efforts within an organization. By systematically evaluating marketing strategies, tactics and performance, it helps identify areas for improvement and supports informed decision making. Through its comprehensive analysis of the marketing environment, customer behavior and marketing effectiveness, marketing auditing enables organizations to optimize their marketing activities, gain competitive advantage and achieve long-term success.

Regarding *the limitations* of the study, it only aimed to clarify, based on the study of the specialized literature, the role of marketing audit in increasing the competitiveness of the banking organization, presenting the methods and tools that can be used to measure the efficiency of marketing activity. As mentioned, although the specialized literature presents the concept from a theoretical point of view (Rădulescu, 2019), there is practically no consensus on the methods and tools to be used, each auditor adapts the methods used to the specifics of the field and the organization. Therefore, to have a clearer picture of how banking organizations perceive and use marketing audit, future directions of study should focus, starting from the documentary study carried out, on direct marketing research both among management and marketing personnel, to identify practical methods and tools for analyzing the efficiency of marketing activity.

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## **Factors Influencing Consumer Value and Attractiveness in Physical Shopping Centers: Evidence from the Western Cape, South Africa**

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### **Abstract**

The shift towards digital retail platforms has significantly impacted physical shopping centers, leading to a phenomenon often referred to as the "retail apocalypse." Despite this trend, physical shopping centers continue to offer unique value through customer experiences that digital platforms struggle to replicate. This study investigates the factors affecting customer value and attractiveness in physical shopping centers in the Western Cape, South Africa. Employing a qualitative, phenomenological research design by conducting in-depth interviews with nine participants before the point of saturation was reached, this study explores how factors such as aesthetics, design, tenant mix, customer service, and safety and security contribute to the attractiveness of these centers. The findings reveal that shopping centers offer unparalleled value through immersive experiences, highlighting the importance of value pricing, immediate delivery, social interaction, and relaxation in fostering customer loyalty and engagement. In addition, the study identified key factors that participants found to be unattractive physical shopping centers, including large crowds, rude employees, unhygienic bathroom facilities, and parking fees. These findings offer valuable insights for shopping center managers and marketers in enhancing customer experiences and addressing deterrents to foster greater customer retention.

**Keywords:** Physical shopping centers, customer value, shopping experience, qualitative research.

**JEL classification:** M31, L81, D12.

### **Introduction**

Over the last decade, the global retail landscape has experienced a considerable shift in both operations and functionality. Retailers have notably expanded their range of products and delivery methods, increasingly leveraging technology, particularly through digital platforms (Cantrell et al., 2020). At the heart of these industry-wide transformations lies the rapid advancement of technology (Rossolov et al., 2021). In recent years, both scholars and industry professionals have voiced growing concerns about the possible decline of traditional shopping centers—a trend commonly referred to as the "retail apocalypse" (Lee et al., 2022). While online retail has flourished, traditional shopping centers have seen the opposite trend (Lee et al., 2022).

Nevertheless, despite the significant changes within the retail environment, physical shopping centers remain crucial in consumer engagement and commerce (Križan et al., 2014). Even though e-commerce has expanded rapidly in specific regions, Makhita et al. (2019) contend that physical shopping centers still play a vital role in influencing consumer behaviors. Therefore, for both retailers and urban planners, understanding the value and appeal that shopping malls hold for consumers is crucial. These insights are essential for developing shopping centers that drive economic growth and enhance customer satisfaction (Teller et al., 2008).

Consumers' preferences to shop in physical shopping centers are mainly driven by the distinct advantages offered through in-person shopping. These benefits relate directly to social and experiential benefits such as social contact, examining products through touch, and the atmosphere within a shopping center (Ntlhe, 2023). Furthermore, elements such as availability of products, convenience of acquiring products, and the wide selection of retail options available within physical shopping centers plays an important role in the sustainability of physical shopping centers in the retail landscape (Ikadeh and Cloete, 2020). Additionally, the design and layout of a shopping center, quality of customer service, and other features and facilities provided to consumers at the shopping center largely shape their shopping experience, thereby cultivating customer loyalty in a retail environment that constantly competes with online retailers. The purpose of this study is to explore the factors that influence customer value, as well as the appeal of physical shopping centers in the Western Cape province of South Africa. The Western Cape boasts a diverse population and offers a vibrant retail sector. As such, this province provides the ideal physical retail spaces to examine consumer behavior. The findings of the research will assist physical shopping centers to identify strategies to enhance consumers' shopping experiences to increase foot traffic and build customer loyalty, to stay competitive in the retail realm.

## **1. Literature review**

### **1.1 The retail apocalypse phenomenon**

The retail apocalypse phenomenon has gained increased attention over the past years, particularly about the extensive closure of brick-and-mortar stores across the United States and Europe. The extensive closure of physical retail spaces implies a large scale transformation which will directly impact local communities (Helm et al., 2020). This trend is largely attributed to the rise of e-commerce and changes in consumer behavior. This phenomenon has sparked significant discussion among scholars, who have explored its broader implications for the retail sector and the potential impact on shopping centers (Hagberg et al., 2016). However, research indicates that the retail apocalypse isn't solely a result of the growth of online shopping. Other contributing factors include the over-saturation of retail spaces, shifting consumer preferences, and various economic fluctuations (Helm et al., 2020).

Many shopping centers have found it challenging to meet the evolving demands of consumers, who increasingly value convenience and unique, experiential offerings over traditional in-store shopping experiences (González and Waley, 2013). In response to these challenges, El-Adly (2019) highlights how the retail apocalypse has compelled retailers to innovate and reassess their value propositions. This has led to the transformation of shopping centers into experiential destinations that offer far more than just retail transactions. In South Africa specifically, retailers in physical shopping centers are increasingly incorporating leisure and entertainment features in their in-store offerings, to increase the number of consumers visiting their stores. This is done despite the fact that retailers in physical shopping centers are facing global challenges unique to the retail industry (Mason et al., 2019).

### **1.2 Physical shopping centers and customer value**

Physical shopping centers are providing a unique experience to consumers that surpasses simple transactions, which hold a significant appeal to consumers (Dennis et al., 2010). Utilitarian value is considered a key aspect of enhancing in-store shopping experiences as it includes practical benefits such as convenience in acquiring products, as well as the opportunity to physically touch and feel products before committing to making a purchase. This plays a particularly significant role in the case where a consumer prefers to assess product quality as

part of the purchasing process (Babin et al., 1994). This is confirmed by research conducted by Zhang et al (2022) who found that more retailers are placing emphasis on providing their customers with multisensory experiences in their physical stores to increase and enhance customer value. Furthermore, consumers often view physical shopping centers as the ideal place to find competitive prices and special promotions for products. As such, the economic value offered by shopping centers increase consumers' overall satisfaction with their shopping experience (Lloyd et al., 2014). The convenience of acquiring products that consumers need immediately is viewed as an additional advantage of physical shopping centers. Consumers' desire for immediate gratification is instantly satisfied with obtaining their purchases instantly, compared to having to wait for delivery as is the case with online shopping (Jones et al., 2006). Another unique benefit of the social value of physical shopping centers is the fact that it serves as collective spaces for individuals to meet, socialize with friends, and engage in a variety of amenities offered by the centers (El-Adly and Eid, 2017). As such, the social value derived from shopping in these centers provides a relaxing ambience with a sense of escaping reality, ultimately making consumers' shopping experience more enjoyable (Bäckström and Johansson, 2017).

### **1.3 Attractiveness of physical shopping centers**

The appeal of physical shopping centers is essential in enhancing customer experiences and attracting visitors (Ortegón-Cortázar and Royo-Vela, 2017). The aesthetic qualities of these spaces are particularly influential, as visually pleasing environments create positive first impressions, making the shopping experience more enjoyable and encouraging shoppers to spend more time (Jang et al., 2018). Equally significant is the thoughtful design and layout of shopping centers, which greatly affect how easily customers can navigate the space, contributing to a more convenient and satisfying shopping experience. Well-planned layouts are often linked to higher customer satisfaction (Krasnikolakis et al., 2018).

Another critical factor is the tenant mix, as a diverse selection of stores and services caters to a broad range of consumer needs, offering everything from everyday essentials to luxury goods under one roof (Zhang et al., 2020). Additionally, another factor that significantly impacts consumers' shopping experience is the ability to offer high-quality customer service. Here, the aim is to ensure that consumers' needs and wants are satisfied efficiently, in order to indirectly enhance the overall attraction of physical shopping centers (Tomašević et al., 2020). Lastly, the safety and security of consumers at physical shopping centers is crucial. Consumers are more likely to return to these centers if they feel safe while they browse and experience a sense of effective security measures to ensure their safety and overall well-being (Badiora and Odufuwa, 2019).

### **1.4 Physical shopping centers in the South African landscape**

Physical shopping centers remain a critical cornerstone to the retail landscape in South Africa (Van Niekerk and Cloete, 2020). Many South African consumers continue to profoundly value the tangible encounters in combination with the social value offered by physical shopping centers, despite the global shift of consumers to shop online (Mason et al., 2019). As such, physical shopping centers are designed to seamlessly integrate and address a comprehensive range of consumer retail needs to create a multifunctional environment to a diverse consumer market (Van Niekerk and Cloete, 2020).

Although the integration of technological features to enhance consumer engagement and satisfaction (such as mobile payment systems and digital marketing tools) are increasingly adopted by South African shopping centers, the industry continues to face significant

challenges (i.e. economic volatility and rising operational costs) prompting retailers to redesign current business models to ensure competitiveness (Masebe et al., 2020).

Despite these hurdles, South African shopping centers are evolving to meet changing consumer expectations, ensuring they remain a vital part of the retail sector (Mason et al., 2019).

## **2. Research methodology**

To realize the objectives of the study, qualitative research was conducted and guided by an interpretivist paradigm, which is deemed suitable for exploring complex human experiences and perceptions in consumer behavior research (Creswell, 2013). An inductive phenomenological approach was adopted to deepen the understanding of customers' lived experiences regarding shopping centers. The methodology considers the personal and emotional characteristics of shopping experiences and is supportive of rich insights into the factors creating customer value and attractiveness (Hirsch, 2015).

A non-probability purposive sampling method was used for this study. Only those participants older than 18 years, who visited a physical shopping center in the Western Cape province of South Africa in the last six months were approached for participation in the study. The Western Cape province formed the context of this study because of its balanced demographic profile and because it is one of the major retail centers in South Africa (Bell, 2020). Participants were recruited by posting an invitation to the study on Facebook pages of large regional shopping centers, ensuring the participants from different demographic profiles were included (Babin and Zikmund, 2016).

In-depth interviews were conducted with nine participants who were selected to ensure that more insight into their shopping experiences and value perception of physical shopping centers was attained. It allowed the researchers to gain a deeper and holistic understanding of the participants' perspectives. The interviews were conducted online through Microsoft Teams and Zoom to make it easy and accessible for the participants (Mishra and Alok, 2015).

Thematic analysis was conducted, which is a systematic approach for qualitative research with respect to coding and theme identification. Major themes and categories about perceptions of value among customers and the attractiveness of physical shopping centers were discovered, allowing researchers to gain new insights into how customer satisfaction and loyalty can be enhanced in such establishments. To further guarantee trustworthiness and rigor of the findings, member checking, peer debriefing, and triangulation were applied. This included inviting participants to scan transcriptions of the study to check for accuracy and utilize multiple sources of data to corroborate findings (Creswell and Poth, 2018).

Ethical guidelines were adhered to when conducting the study by obtaining informed consent from each participant prior to conducting the interviews, allowing participants to be fully informed about the purposes and procedure of the study. The participants were informed that they are free to withdraw from the study at any time, and that their anonymity and confidentiality of the information provided is ensured. In addition, the study was approved by the appropriate institutional ethics committee of the university and hence adheres to the universally accepted ethical principles for research involving human subjects.

## **3. Results and discussion**

Through a comprehensive analysis of participant interviews, three major themes emerged as central to understanding these factors: Value Derived from Physical Shopping Centers, Attractiveness of Physical Shopping Centers, and Unattractiveness of Physical Shopping Centers. Results indicate how these themes comprise several factors that contribute to the value derived by participants when shopping at a physical shopping center, as well as factors that

make physical shopping centers attractive or unattractive to participants. Subsequently, these themes are examined in greater depth and offer insights into how they impact perceived value and attractiveness within physical shopping environments.

### 3.1 Theme 1: Value derived from physical shopping centers

The study identified several key factors that participants find of significant value when shopping at physical shopping centers. These factors are discussed in more detail subsequently.

#### *Utilitarian Value*

The results of the study show that many participants enjoy touching and feeling products when visiting a physical shopping center. Some of the participants like the variety of stores and products that are offered at a physical shopping center. A few of the participants expressed that they enjoyed window shopping when at a shopping center. While a handful of participants indicated that they derived value from being able to fit clothing items when they frequented a physical shopping center. A small number of participants mentioned that they were able to see the latest trends when they were at a shopping center.

Participant 2 noted: *"Especially with clothes, I prefer going to the store and seeing it because I feel like I would get my money's worth if I see it and try it on at the store"*. Participant 8 said: *"I value seeing the quality and, you know, touching the product"*.

Recent studies support this assertion, indicating that physical interaction with products positively influences the confidence of customers in their purchase decisions (Heller et al., 2019). However, other studies argue that the uniqueness in value proposition posed by the ability to touch and feel products in physical shopping centers is decreasing with the advent of new technology and innovations in artificial intelligence on online shopping platforms (Hilken et al., 2017).

#### *Economic Value*

The results of the study indicate that most of the participants expressed that they feel they have spent their money well after visiting a physical shopping center. Some of the participants indicated that there were more specials at a shopping center as opposed to online stores. A few participants felt that physical shopping centers offer cheaper prices than online stores.

Participant 5 noted that: *"Prices online are most definitely hyper inflated. I don't know the reason behind that. There is also a delivery fee on top of the hyper inflated prices"*. Participant 7 said: *"I get more value for money if I shop at a physical shopping center"*.

This finding corresponds to a study conducted by Oghazi et al. (2018) wherein the findings showed that price perception and the likelihood of being able to compare prices in different stores are strong drivers of customer preference regarding physical shopping centers. However, since online retailers are now more engaged in competitive pricing strategies and online discounts, this economic advantage of the physical retail environment may be short-lived, as found by Hagberg et al. (2016) in their study.

#### *Immediate Delivery*

The findings of the study indicate that most participants appreciate that they are able to buy for and receive their products instantly and that there is no waiting period. Some of the participants expressed that they received efficient customer service when visiting a physical shopping center, allowing them to shop and take delivery of their purchases much faster than when opting to shop online.

Participant 1 said: *“When I go to a shopping center, I get to take what I see and pay for it, after which I leave with it in my hands”*. Participant 7 echoed this sentiment by stating: *“One annoying thing about shopping online is having to wait”*.

This finding is supported by Akram et al. (2018) who emphasize that the immediate gratification associated with shopping in physical shopping centers leads to customer satisfaction. However, with the advent of same-day delivery options, the gap may finally start to close, at least for the advantage that physical stores seem to hold over online shopping platforms (Hübner et al., 2016).

#### *Social Value*

The findings of the study show that participants who visit a physical shopping center derive much value in their ability to converse and interact with fellow customers and staff.

Participant 4 said: *“For me, it’s more about the personal interactions with not only staff, but also other customers”*. Participant 8 said: *“Sometimes you go shopping to meet other customers, and you just talk about this or that”*.

This finding is further supported by El Hedhli et al. (2016) who identified social interaction as a primary motive for shopping in physical stores. However, with the integration of more social features in online shopping platforms, such as customer reviews and live chats, the social value of online shopping is also becoming more significant and may challenge the dominance of physical stores in this regard (Pizzi et al., 2021).

#### *Relaxation*

The results of the study show that most participants find frequenting physical shopping centers a relaxing and therapeutic experience. Some participants shop at a physical shopping center to escape the routine of everyday life.

Participant 1 said: *“I find it therapeutic”*. Participant 2 added: *“If I need to relax, I would go to the mall to do that”*. Participant 5 said: *“It’s more like some sort of dopamine when I shop”*.

This finding aligns with the results of a study conducted by Cao et al. (2018) who found that the retail environment can have significant impact on customers moods and levels of stress, often having a calming or rejuvenating effect. Other studies, however, argue that stress created through crowds, challenges with parking, and long queues related to the physical retail environment, can offset this perceived relaxation effect, suggesting a more nuanced view of the shopping experience (Baker & Wakefield, 2012).

### **3.2 Theme 2: Attractiveness of physical shopping centers**

The attractiveness of shopping centers was found to be influenced by several factors, including aesthetic appeal, design and layout, tenant mix, customer service, and safety and security.

#### *Aesthetic Appeal*

The results of the study show that many participants are attracted to the aesthetics of physical shopping centers. Most participants are attracted to the decorations and displays at a shopping center. Some of the participants are attracted to the entertainment offered at shopping centers. A few of the participants are attracted to festive decorations when visiting a physical shopping center. A small number of participants are attracted to the tidiness of a shopping center.

Participant 5 said: *“The aesthetics of a mall in general makes me want to go there”*.

A study conducted by Pantano and Gandini (2017) emphasized that a pleasant and visually appealing store environment significantly enhances customer satisfaction. In addition, Turley and Milliman (2000) identified store aesthetics as a key element of the retail atmosphere that influences customer behavior.

#### *Design and Layout*

The findings of the study indicate that a majority of the participants find the cleanliness of a shopping center an attractive quality. Some of the participants expressed that the addition of drinking stations/fountains would add an attractive element to shopping centers. Some of the participants mentioned that the layout of a shopping center enhances the attractiveness of a shopping center. A few participants expressed that an addition of more seating would improve the attractiveness of a shopping center. A small number of participants mentioned that a convenient location is an attractive quality.

Participant 3 highlighted: *“Please give me a clean and tidy shopping center”*. Participant 4 said *“Having a good layout in a shopping center is important”*.

This finding supports the work by Bonfanti and Yfantidou (2021) who claimed that it is the physical design of a retail environment that is important for providing a unique experience for customers and contributes to heightened levels of customer satisfaction. On the other hand, poor store layout and design will result in customer frustration, therefore leading to lower overall customer satisfaction (Faria et al., 2022; Nguyen et al., 2022).

#### *Tenant Mix*

The results of the study show that most of the participants expressed the view that coffee shops or the addition of coffee shops can make a shopping center more attractive. Some of the participants viewed a shopping center as a one-stop shop due to it comprising a variety of different stores. A few of the participants mentioned that bookshops are an attractive factor and expressed that small stores that have online stores make things easier and more convenient.

Participant 2 said: *“A coffee shop or something like that will make me want to stay a bit longer”*. Participant 3 said: *“I enjoy having that one-stop shop for all types of things that I need”*.

This finding aligns with the study conducted by Sit et al. (2018) that found the mix of tenants to be a critical determinant of shopping center attractiveness and customer loyalty. Furthermore, findings by El-Adly (2019) suggest that tenant mix must be carefully curated since inappropriate mixes could decrease customer footfall and reduce customer satisfaction.

#### *Customer Service*

The results of the study show that most of the participants consider quality service delivery from the staff an attractive factor at a shopping center. A few of the participants consider the appearance of the staff when at a shopping center as equally important, emphasizing that the cleanliness and neatness of their uniforms contribute to the overall service received.

Participant 3 noted: *“I like the service delivery at a physical shopping center”*. Participant 9 said: *“The staff need to be dressed nicely”*.

This finding is consistent with a study conducted by Seo and Lee (2019) which found service quality to be the most influential factor in customer satisfaction within retail settings. The role that customer service has conventionally played in stores, however, may be changing with the new automated and self-service technologies, thus creating a challenge but equally an opportunity for retailers (Orel and Kara, 2014).

### *Safety and Security*

The findings indicate that most of the participants expressed that security is an important aspect that makes a shopping center attractive. Some of the participants indicated that secure parking enhances the attractiveness of a shopping center.

Participant 3 emphasized: *“Those are the shopping centers that I really love – those that take our safety into consideration”*. Participant 8 said: *“If there are more security guards around, I definitely feel safer”*.

The findings of recent studies conducted by Ceccato and Tcacencu (2018) and Ylilehto et al. (2021) support this finding, emphasizing the importance of safety and security in the formation of customer perception about retail environments. However, some studies suggest that highly visible security measures may occasionally have the reverse effect on customers, making them uneasy and thus detracting from the shopping experience as a whole (Becker and Jaakkola, 2020; Valdez-Juárez, 2021).

### **3.3 Theme 3: Unattractiveness of physical shopping centers**

The findings of the study show that a large majority of the participants dislike large crowds that can be found at a shopping center. A portion of the participants indicated that they dislike the layout of a shopping center, dislike rude employees and dislike long queues. Some of the participants mentioned that they dislike unhygienic bathrooms and the parking fees of a physical shopping center. A few of the participants expressed that they dislike festive decorations, the lack of store variety and limited automated teller machines (ATMs) at a physical shopping center.

Participant 1 said: *“I find it so overwhelming when I walk into a shopping center and I find it busy”*.

According to recent studies, a thoughtful layout and design can increase customer satisfaction, while poor design may increase frustration and dissatisfaction (Bonfanti and Yfantidou, 2021). Other studies, however, have suggested that sometimes innovative layouts that break with convention might improve the shopping experience through the creation of discovery and novelty effects (Rosenbaum et al., 2017).

Furthermore, a study conducted by Parikh (2018) emphasized the importance of cleanliness, among other critical factors, that determine customer satisfaction in physical retail environments. In contrast, a few studies have indicated that although hygiene is of utmost importance, it does not contribute to customer loyalty as much as product quality and customer service (El-Adly, 2019).

In terms of the variety of store offerings, Teller and Elms (2012) established that in-store offerings are one of the major determinants of a shopping center's attractiveness. However, other studies posit that excessive provision of choice may lead to choice overload, whereby customers would experience feelings of being overwhelmed and consequently dissatisfied with the shopping experience (Guy, 1998).

### **Conclusion**

This study presents the key drivers of customer value and attractiveness of physical shopping centers in the Western Cape province of South Africa. Despite e-retailing platforms, physical shopping centers still sustain conspicuous advantages, particularly in the areas of sensory engagement, immediate acquisition of products, and social interaction. In this regard, the study revealed that customers were attracted to the in-store shopping experience by the tactile experience, obtaining products instantly, and social aspects associated with in-person shopping. Furthermore, the success of a shopping center in terms of attracting and retaining customers is significantly influenced by the attractiveness of the center, careful layout and

design, and the choice of tenant mix. Crowds, poor layout and design, and hygiene problems all have a negative impact on the shopping experience.

The enhancement of sensory experiences for customers through interactive displays and experience marketing should be the focal areas of investment for shopping centers to tackle these areas of concern and to sustain competitiveness. It can also enhance the shopping experience by availing technologies like augmented reality fitting rooms and through improved layout and design that promote a customer-friendly shopping experience. Moreover, high standards of hygiene, a diversified tenant mix, entertainment, dining options, and visible yet unobtrusive security measures are also some of the major factors that need to be considered. Provided that shopping centers remain agile and adapt to shifts in customer preferences; they will very much be able to thrive even in this tumultuous digital age.

In essence, several key factors emerge from this study. Convenience is considered a significant component for customers, specifically accessibility, parking availability and an intuitive layout. Shopping centers could also consider extending their operational hours to cater to varied customer schedules. Customer engagement is driven by the choice of tenant mix and availability of a wide variety of products under one roof. Shopping centers could consider the inclusion of a balanced mix of popular brands, niche stores, and pop-up stores to maintain novelty. Aesthetic appeal and the availability of interactive spaces improve the customers' perceptions of the shopping center and increase enjoyment. Shopping centers are perceived as social hubs, and therefore, the availability of dining and entertainment facilities is crucial to improve customer satisfaction. Customers are increasingly aware of safety and hygiene levels, and therefore these aspects should be prioritized by shopping centers to create a more conducive shopping environment. Shopping center managers should consider the findings of this study to remain competitive in the market and to ensure long-term sustainability. Current strategic initiatives should be revised, amended and implemented to align with changing customer preferences.

Several limitations emerged from conducting this study. Firstly, the study only included nine participants, which affects generalizability of the findings to a wider population. Secondly, the study relied only on conducting in-depth interviews for collecting data. This limited the possibility of gaining multiple perspectives, which could have been achieved if observational studies or focus groups were used to collect data. Thirdly, the study was conducted in only one province of South Africa, the Western Cape. Other regions in the country may produce different results in terms of factors affecting consumer behavior.

It is recommended that future studies employ a larger sample size to ensure broader generalizability. In addition, a mixed-methods research approach could be considered to enhance the robustness of the study. This could include surveys with a larger sample size, or the use of focus groups to provide additional insights into factors influencing customer perceptions. Future studies could possibly consider conducting a comparative study between different provinces in South Africa or perhaps include different countries. This would allow for a more profound understanding of customer behavior and shopping center attractiveness.

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## Leveraging AI for Enhancing Sustainable Marketing and Consumer Experience in E-Commerce

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### Abstract

This study examines how Artificial Intelligence (*AI*) can drive sustainable *marketing* efforts and improve consumer experience within *e-commerce*, responding to the growing demand for responsible, data-driven engagement. The research explores the potential of *AI* to create personalized and efficient consumer interactions that align with sustainable business practices. The main objectives include (1) identifying *AI* tools that enable tailored *marketing* in *e-commerce*, (2) understanding *AI*'s impact on consumer satisfaction through real-time, responsive engagement, and (3) evaluating the *sustainability* and ethical implications of *AI* integration in digital *marketing*. The methodology is focused on adopting a qualitative approach, and there is also an analyze that underlines the *DMAIC* method. This study contains a case study of a single company successfully implementing *AI*-driven *marketing* and sustainable strategies. Methods include document analysis and targeted case studies of organizations that use machine learning and data analytics to enhance customer engagement, streamline *marketing*, and support environmental goals. The findings reveal that *AI* can meaningfully enrich the consumer journey through predictive insights, automated support, and real-time personalization, leading to improved satisfaction and loyalty. *AI*'s sustainable impact is demonstrated in more efficient resource use and reduced waste in digital campaigns, offering a responsible path for *e-commerce* growth. This research contributes to *e-commerce* literature by outlining best practices for the ethical use of *AI* in ways that bolster consumer trust, data privacy, and transparency. It provides actionable recommendations for every company aiming to leverage *AI* effectively while fostering a sustainable and ethical business environment. This study offers valuable insights for *e-commerce* businesses looking to adopt *AI* strategies that enhance competitive advantage while advancing *sustainability* in a dynamic digital landscape.

**Keywords:** AI, consumer experience, online marketing, e-commerce, sustainability.

**JEL classification:** M31, O33.

### Introduction

In today's rapidly evolving digital landscape, *sustainability* has become an increasingly significant factor in the decisions of consumers, businesses, and policymakers alike. As environmental concerns rise to the forefront of global discourse, companies across industries are being called upon to integrate sustainable practices into their operations. In particular, the retail and *e-commerce* sectors are under growing pressure to address their environmental impact, given the substantial resources consumed by online shopping and digital *marketing*. Brands that fail to incorporate sustainable solutions not only risk alienating eco-conscious consumers but also miss the opportunity to enhance operational efficiencies that contribute to long-term profitability (Golicic & Smith, 2013).

A prime example of a company leading the way in this area is Patagonia, a global leader in outdoor apparel and gear. Patagonia has long been recognized for its commitment to environmental responsibility, from its use of recycled materials in products to its innovative programs designed to promote *sustainability*. However, with the expansion of *e-commerce* and the growing reliance on digital *marketing*, Patagonia recognized the need to take a more proactive approach to improving both the efficiency of its online operations and the *sustainability* of its digital presence. In recent years, the company has turned to Artificial

Intelligence (AI) as a means to not only enhance customer engagement but also significantly reduce its environmental footprint. This strategic move is in alignment with the broader industry shift towards the use of *AI* in streamlining operations and improving customer experiences (Binns and Jones, 2020).

*AI* has shown great potential for optimizing various aspects of *e-commerce*, from personalized *marketing* to inventory management. By leveraging machine learning algorithms, predictive analytics, and automation, businesses are able to refine their strategies and target consumers with unprecedented precision. For example, *AI* can be used to create personalized product recommendations based on past behaviors, preferences, and demographic data. This, in turn, leads to more efficient ad targeting, reduced waste in *marketing* campaigns, and better resource allocation (Chui et al., 2018). Patagonia, however, has gone a step further, integrating *AI* not only for business gains but also for *sustainability* purposes, focusing on reducing the environmental impact of its *e-commerce* operations.

The application of *AI* in *marketing* and customer engagement is an especially powerful tool for a company like Patagonia, which are committed to maintaining high ethical standards while advancing technological solutions. Through its adoption of *AI*, Patagonia has been able to personalize customer experiences while reducing carbon emissions associated with its digital *marketing* efforts. Moreover, the integration of *AI* has allowed the company to make more informed decisions regarding product development, inventory management, and *marketing* expenditures, further contributing to the overall reduction of its environmental footprint (Patagonia, 2020). This approach has placed Patagonia at the forefront of the growing trend of “green *e-commerce*,” where businesses are increasingly using technology to promote *sustainability* and engage customers in environmentally conscious ways.

This paper will explore Patagonia's strategic integration of *AI* in its *e-commerce marketing* efforts, focusing on how the company utilized the *DMAIC* (Define, Measure, Analyze, Improve, Control) methodology to enhance its *sustainability* practices and *marketing* outcomes. The *DMAIC* framework, a widely used approach in process improvement, was particularly well-suited to the systematic approach Patagonia sought in its *AI* implementation. Through each of the five phases of *DMAIC*, Patagonia was able to identify key areas for improvement, measure the effectiveness of *AI* tools, analyze data to optimize processes, and implement lasting improvements that aligned with the company's *sustainability* goals.

The structure of this paper is as follows: In the first Section I have the Review of the literature, which explores the growing role of Artificial Intelligence (*AI*) in *e-commerce*, focusing on its impact on personalized consumer experiences, *marketing* efficiency, and *sustainability* efforts. It highlights *AI*'s potential to optimize digital *marketing*, reduce environmental waste, and enhance customer engagement, while also addressing the ethical challenges related to data privacy and transparency in *AI* applications. In Section 2, I will provide an overview of the *DMAIC* methodology, explaining each phase and how it applies to Patagonia's *AI* integration. Section 3, I have the case study, I will delve into the specific application of *AI* in Patagonia's *e-commerce* operations. The conclusion in Section 4 will summarize the findings and provide recommendations for further research in the area of *AI* and sustainable *e-commerce*.

By investigating Patagonia's integration of *AI* through the *DMAIC* framework, this paper aims to demonstrate the potential for businesses to leverage cutting-edge technology in ways that align with both operational and environmental goals, providing a model for other organizations in the digital age.

## 1. Review of the literature

### 1.1. Sustainable approach for using AI in e-commerce

The role of Artificial Intelligence (AI) in *e-commerce* has seen remarkable growth in recent years, particularly in its ability to enhance customer experience and *sustainability* in *marketing*. In response to the increasing demand for ethical and responsible business practices, *AI* technologies have been widely adopted by the company to provide personalized and efficient consumer interactions while aligning with *sustainability* goals (Mikalef et al., 2020). This literature review explores the growing body of research on how *AI* is integrated into sustainable *marketing* strategies, with a focus on personalized consumer experiences, *marketing* efficiency, and the reduction of environmental impacts in *e-commerce* settings.

*AI*'s capacity to personalize consumer experiences has been a central theme in recent research. Through machine learning and predictive analytics, *AI* can analyze large datasets to identify consumer behaviors, preferences, and purchasing patterns, enabling every company to deliver highly tailored product recommendations and *marketing* messages. This personalization not only improves consumer engagement but also enhances overall satisfaction. A study by Mikalef et al. (2020) highlights those personalized recommendations powered by *AI* led to a 25% increase in sales for *e-commerce* platforms, underscoring the positive effects of machine learning on consumer behavior. The ability of *AI* to tailor content and product suggestions based on individual customer needs is increasingly seen as a key differentiator in competitive *e-commerce* markets.

A growing body of research has focused on the role of *AI* in improving the *sustainability* of *marketing* efforts in *e-commerce*. *AI*'s ability to optimize digital *marketing* campaigns, reduce waste, and minimize environmental impacts has been a key focus. According to a study by Choi and Lee (2020), *AI*-powered algorithms can significantly reduce the carbon footprint of online *marketing* by optimizing ad placements, limiting unnecessary impressions, and ensuring that digital ads target only the most relevant consumer segments. Their findings suggest that the company using *AI* for targeted digital *marketing* reduced their carbon emissions by as much as 40% compared to traditional methods. This aligns with the environmental goals of every company, like Patagonia, which has committed to reducing its environmental footprint across its operations, including *marketing* campaigns (Patagonia, 2021).

Additionally, *AI* is instrumental in optimizing supply chains and reducing resource waste. By predicting consumer demand with greater accuracy, *AI* can help businesses avoid overproduction and reduce excess inventory, thus minimizing the environmental impact of unsold products. A study by Binns and Jones (2020) highlights that *AI* models improve demand forecasting, leading to more efficient inventory management and a reduction in waste. This capability has significant implications for *e-commerce* businesses seeking to align their operations with sustainable development goals (SDGs) while improving operational efficiency.

*AI* has also been pivotal in enhancing consumer engagement through real-time interactions. *AI*-powered chatbots, virtual assistants, and automated customer service platforms allow for instant communication with consumers, providing them with timely responses to their queries and personalized support. According to research by Abed and Hossain (2021), every company that adopted *AI*-driven customer support saw a 20% increase in customer satisfaction due to faster resolution times and 24/7 availability. Moreover, *AI* technologies such as natural language processing (NLP) enable brands to interact with consumers in a more conversational and personalized manner, fostering stronger emotional connections with customers.

*AI*-driven customer service solutions are particularly valuable in an era where consumers demand fast, seamless, and personalized interactions. As *e-commerce* businesses strive to meet these expectations, the implementation of *AI* not only enhances the customer experience but also boosts brand loyalty and retention (Teece, 2020). Patagonia, for example, utilizes *AI* to

engage consumers with personalized recommendations that align with their values, such as eco-friendly products, which enhances both customer experience and brand loyalty (Patagonia, 2021).

While the benefits of *AI* in sustainable *marketing* are clear, there are growing concerns about the ethical implications of *AI*, particularly regarding data privacy and transparency. As *AI* systems rely on vast amounts of consumer data to make predictions and personalize experiences, concerns about how this data is collected, stored, and used have become increasingly important. The ethical challenges that arise from *AI* in *e-commerce*, including issues related to data privacy, algorithmic bias, and transparency. *E-commerce* businesses that adopt *AI* must ensure they comply with data protection regulations and respect consumer rights, fostering trust and credibility.

*AI*'s contribution to *sustainability* goes beyond *marketing* optimization and consumer engagement. As *e-commerce* operations increasingly adopt *AI* technologies, their environmental impacts can be minimized through more efficient logistics and supply chain management. *AI* can optimize inventory distribution, shipping routes, and even delivery methods, leading to a reduction in carbon emissions from transportation. In 2020, a study by Choi and Lee (2020) demonstrated that *AI*-enabled logistics could reduce carbon emissions by up to 30% by optimizing delivery routes and minimizing transportation distances. These efficiencies are crucial for an *e-commerce* company seeking to reduce their overall environmental footprint while maintaining the speed and convenience that consumers expect.

Implementing digital technologies in an organization can contribute significantly to the optimization and *sustainability* of supply chain management. With the rise of B2B *e-commerce* businesses, these innovations and technological advancements have grown at an accelerated pace, enabling companies to streamline operations and enhance *sustainability*. One of the most notable benefits of such technologies is the reduction of total supply chain costs. By adopting methods like automation, real-time data analysis, and advanced communication tools, organizations are able to minimize waste, improve resource utilization, and reduce overall expenses.

The textile industry, in particular, faces critical challenges related to supply chains, with inefficiencies and high costs impacting both operations and *sustainability* efforts. Several different scenarios and models have been explored in this context, and a mixed-integer non-linear programming (MINLP) model has been proposed as an effective solution to these challenges. This model is designed to reduce costs by incorporating various factors, including the packaging of B2B orders, transportation, and carbon emission taxation. These elements are critical in addressing the growing concerns of environmental impact while maintaining cost-effectiveness in the supply chain.

Although technologies like RFID tags and Internet of Things (IoT) devices can be expensive to implement, their long-term benefits in terms of data accuracy, process automation, and efficiency improvements make them valuable investments. However, the cost of these technologies has been a barrier for many organizations, particularly smaller ones. The proposed MINLP model offers a solution to this problem, leveraging the global solver LINGO package, which optimizes supply chain costs, including network-related expenses, while also accounting for the complexities of real-time decision-making and *sustainability* efforts.

In the study, multiple tests were conducted across different scenarios, providing valuable insights into how different variables impact supply chain costs. Following these tests, a sensitivity analysis was carried out to examine the differences in overall costs, helping to identify which factors most significantly affect the efficiency and *sustainability* of the supply chain. The findings of the analysis indicated that the application of digital technologies and the

use of optimized models can result in substantial cost savings, improved resource allocation, and a more efficient supply chain overall.

The conclusions of the model emphasize that integrating such models into logistics planning and supply chain design can have only a positive impact on organizational efficiency. By leveraging these digital tools, businesses can create more sustainable, cost-effective, and adaptable supply chains that are better equipped to meet the challenges of the modern business environment. The study suggests that the broader adoption of digital technologies, coupled with advanced optimization models, can drive significant improvements in both the financial and environmental performance of supply chains.

## 1.2. Role of AI in marketing

*AI* plays an increasingly pivotal role in *marketing* within the context of supply chain management strategy. As technology continues to evolve, businesses are relying on *AI*-driven solutions to optimize various aspects of their supply chain, including demand forecasting, inventory management, and customer service. One of the most important contributions of *AI* in this space is its ability to analyze vast amounts of data in real-time, providing valuable insights that inform *marketing* strategies. This enables companies to not only streamline their operations but also respond more effectively to market trends and consumer behavior.

Moreover, social media platforms have become essential tools for businesses in the modern marketplace. They serve as a bridge between companies and their customers, allowing brands to engage directly with their audience. This digital interaction builds a strong understanding of consumer needs, preferences, and feedback, which can then be leveraged to optimize *marketing* campaigns and enhance customer satisfaction. Social media also fosters the creation of trust between businesses and consumers, an element that is absolutely crucial for maintaining long-term relationships and ensuring the success of collaborative efforts within the supply chain.

In a supply chain context, trust is a cornerstone of collaboration. Companies often rely on partners to ensure that products are moved efficiently from manufacturer to end-user. When trust is built through transparent communication, shared values, and a mutual understanding of expectations, these collaborations are much more likely to succeed. Social media helps cultivate this trust by offering a platform for open, consistent communication, and real-time engagement with both consumers and other businesses. When companies establish a strong presence on social media, they are not only *marketing* their products but also enhancing the credibility and reliability of their partnerships within the supply chain, leading to smoother operations and more effective collaboration.

Therefore, integrating *AI* in marketing strategies and leveraging social media for relationship-building are key components in optimizing supply chain management. These tools work together to create a more informed, agile, and trustworthy business environment, ultimately contributing to the success of supply chain collaborations and the growth of the business as a whole (Bennett, 2025).

## 1.3. The importance of artificial intelligence for consumer

More importantly, *AI* is transforming the way businesses operate and strategically positioning them to stay ahead of their competition. The implementation of *AI* in various facets of business processes has proven to be highly beneficial in driving efficiency, reducing costs, and increasing value creation. *AI*'s contribution can be broken down into several key areas where it has a direct and profound impact on business performance. These areas of value creation play an essential role in shaping the competitive advantage that businesses strive for in today's rapidly evolving market landscape.

**Accurate Projections and Forecasting Customer Demand:** One of the most powerful applications of *AI* in business is its ability to analyze vast quantities of historical and real-time data to provide highly accurate projections of customer demand. By leveraging machine learning algorithms and predictive analytics, businesses can forecast market trends with an unprecedented level of accuracy. This enables them to anticipate shifts in consumer behavior and demand patterns, which allows for better inventory management, optimized production schedules, and more strategic decision-making. *AI*-driven demand forecasting reduces the risk of overstocking or understocking, ultimately improving operational efficiency and minimizing costs associated with excess inventory or missed sales opportunities. This high degree of accuracy in demand forecasting ensures that businesses can meet customer expectations while optimizing their supply chains.

**Enhancing *Marketing* and Promotions:** *AI* is playing a transformative role in modern *marketing* strategies by enabling businesses to identify and target the right customers with precision. *AI* algorithms analyze customer data, including purchase history, online behavior, demographics, and preferences, to segment target audiences and predict the most effective *marketing* strategies for each group. This deep understanding of customer profiles empowers businesses to design personalized promotions, define optimal pricing strategies, and craft tailored messaging that resonates with the target demographic. *AI*-driven *marketing* platforms also help in optimizing ad placement, ensuring that promotions reach the right people at the right time, maximizing conversion rates, and improving ROI. The ability to automate and refine *marketing* efforts at scale enables businesses to achieve more effective outreach and drive customer engagement while minimizing the inefficiencies of traditional *marketing* methods. This level of targeted *marketing* helps businesses build stronger relationships with their customers and enhances their competitive positioning in the marketplace.

**Providing a Better Customer Experience:** Ultimately, *AI* is about improving the customer experience across every touchpoint. From personalized recommendations and seamless online interactions to predictive customer support and faster response times, *AI* enables businesses to deliver superior customer service. Chatbots and *AI*-powered virtual assistants provide real-time assistance, answering questions and resolving issues quickly and efficiently, which leads to higher customer satisfaction levels. Additionally, *AI* can predict customer preferences and suggest products or services tailored to individual needs, enhancing the overall shopping experience. With *AI*, businesses can create more personalized, relevant, and engaging experiences that drive customer loyalty and retention. The continuous improvement of customer service through *AI*-driven insights and interactions helps businesses stay ahead of competitors and build strong, lasting relationships with their customer base.

These four areas of value creation—accurate demand forecasting, optimized R&D, targeted *marketing*, and enhanced customer experience—are fundamental to gaining a competitive advantage in today's fast-paced business environment. By integrating *AI* into these core functions, businesses can not only improve operational efficiency but also create greater value for their customers. The result is a more agile, responsive, and innovative organization that is better equipped to navigate market challenges, capitalize on new opportunities, and differentiate itself from the competition. As *AI* continues to evolve, its potential to drive value creation and competitive advantage will only increase, making it an indispensable tool for businesses striving for sustained growth and success in the future (Dash, McMurtrey, Rebman & Kar, 2019).

Patagonia, for example, has integrated *AI* into its logistics and product distribution processes to reduce the carbon footprint of its product deliveries. Machine learning models predict the most efficient shipping routes and optimize packaging based on product size and weight, contributing to a more sustainable delivery process (Patagonia, 2021). In addition to

improving operational efficiencies, these *AI* applications also help Patagonia communicate its environmental commitments to consumers, reinforcing its position as a leader in sustainable business practices.

## 2. Methodology

This is qualitative research, by developing a case study, based on the example of the Patagonia companies, exposing the way in which the company uses *AI* based on *DMAIC* methods. The sources of information were secondary, involving documentation from the companies' reports, the companies' website and scientific articles. The methodology applied in this study follows the *DMAIC* framework, a structured approach to drive process improvement (Antony, 2006). Patagonia, a company committed to *sustainability*, integrated Artificial Intelligence (*AI*) into its *e-commerce* operations to enhance *marketing* strategies and reduce its environmental impact. The Define phase focused on setting clear objectives, such as improving *marketing* efficiency, personalizing customer interactions, and minimizing the carbon footprint of online shopping. In the Measure phase, Patagonia established metrics to track customer engagement with personalized recommendations and the environmental impact of digital *marketing*, using *AI* to monitor ad efficiency and customer behavior. During the Analyze phase, the company utilized *AI* analytics to identify patterns in eco-conscious purchasing and optimize *marketing* spend, leading to reduced waste and improved targeting. The Improve phase saw Patagonia refine its *AI* algorithms to better recommend sustainable products and optimize ad placements, which resulted in increased customer engagement and reduced *marketing* costs. Finally, in the Control phase, Patagonia implemented *AI*-driven monitoring systems to ensure the *sustainability* and effectiveness of its strategies over time, maintaining real-time tracking of key metrics such as customer satisfaction and environmental impact. This *DMAIC* approach enabled Patagonia to improve its *e-commerce* operations while aligning with its *sustainability* goals, showcasing the effective integration of *AI* in enhancing both customer engagement and environmental responsibility.

## 3. Case study

Patagonia, a global leader in outdoor clothing and gear, has consistently been at the forefront of integrating *sustainability* into its business model. Recognizing the growing demand for environmentally responsible practices in *e-commerce*, the company sought to leverage Artificial Intelligence (*AI*) to enhance both its *marketing* strategies and consumer engagement, while reinforcing its commitment to environmental *sustainability*.

*DMAIC* is a structured methodology, designed to drive process improvement by systematically addressing inefficiencies and variability (Antony, 2006). It consists of five key phases: Define (identifying project goals and customer requirements), Measure (quantifying current performance and gathering data), Analyze (examining data to identify root causes of issues), Improve (developing and implementing solutions to address root causes), and Control (establishing controls to sustain improvements over time) (George & al., 2004). The ultimate goal of *DMAIC* is to reduce variation and enhance process performance, with the framework being widely used in industries to ensure consistent product quality and operational efficiency (Pyzdek & Keller, 2018).

- The first phase of their *AI* integration followed the Define stage, where Patagonia set clear objectives for using *AI*. These objectives included improving the efficiency of their digital *marketing* efforts, enhancing personalized customer interactions, and reducing the carbon footprint associated with online shopping and *marketing* campaigns. To achieve these goals, Patagonia identified key areas for *AI* application, such as predictive analytics for personalized product recommendations and

automated, AI-driven content creation that would appeal to customers' environmental concerns. The company also aimed to address consumer concerns about data privacy and transparency by integrating AI-driven security solutions.

- In the Measure phase, Patagonia established metrics to track the effectiveness of its *AI* tools in meeting *sustainability* and *marketing* goals. The company implemented data collection systems to monitor customer engagement with personalized recommendations, response rates to *sustainability*-driven campaigns, and the overall environmental impact of its *e-commerce* operations. One of the key indicators was the reduction in the environmental footprint of *marketing* campaigns, specifically tracking the efficiency of ad spend and the reduction of waste in digital advertisements. Patagonia also utilized *AI* to analyze the behavior of customers on their *e-commerce* platform, such as which *sustainability* messages or eco-friendly products had the most significant impact on purchasing decisions. This data was continuously monitored to ensure that the *AI* models were generating the desired outcomes without compromising the company's ethical standards or environmental goals.

- During the Analyze phase, Patagonia employed AI-powered analytics to dig deeper into customer behavior, *marketing* efficiency, and resource utilization. The company utilized machine learning models to segment its customer base more effectively, identifying patterns in eco-conscious purchasing behavior and understanding how specific AI-driven messages impacted purchasing decisions. These insights allowed Patagonia to understand which *AI* applications had the greatest positive effect on consumer satisfaction and brand loyalty. Additionally, the company analyzed the carbon impact of its *marketing* campaigns, measuring how *AI*-driven optimizations reduced the number of impressions or digital advertisements served to irrelevant users. By using *AI* to track resource usage and improve the precision of their digital outreach, Patagonia was able to streamline *marketing* efforts while aligning more closely with its *sustainability* goals. This phase also revealed opportunities for improvement in Patagonia's supply chain and *e-commerce* operations, as *AI* could predict consumer demand with greater accuracy, thereby reducing overproduction and excess inventory.

- In the Improve phase, Patagonia made adjustments to its *AI* models based on the insights gained from the analysis. The company refined its predictive analytics algorithms to better recommend sustainable products to customers based on their past behaviors, demographic information, and expressed environmental values. Additionally, AI-driven content generation was optimized to ensure that messaging was not only personalized but also accurately reflected the company's *sustainability* ethos, further aligning with Patagonia's mission to reduce the environmental impact of consumption. Patagonia also optimized its digital *marketing* budget using AI, focusing ad spend on the most impactful, eco-conscious customer segments. These improvements led to better customer experiences and increased brand loyalty, as consumers appreciated the company's commitment to both personalized service and *sustainability*. The company also began to experiment with *AI* in logistics to reduce the carbon footprint of product delivery, using machine learning to optimize shipping routes and delivery methods, further reducing its environmental impact.

- Finally, in the Control phase, Patagonia implemented *AI* tools to ensure that the improvements made during the earlier phases were maintained over time. The company established continuous monitoring systems, powered by AI, to assess the effectiveness of its personalized *marketing* campaigns and ensure that *sustainability* objectives were still being met. This phase involved the creation of dashboards and reporting systems that provided real-time data on key *sustainability* and *marketing* metrics, such as the

environmental footprint of digital campaigns, customer satisfaction scores, and AI-driven personalization accuracy. By controlling these variables, Patagonia could ensure that the company remained agile and adaptive, making adjustments as needed to stay ahead of both consumer expectations and industry trends. Through this ongoing process of measurement, analysis, and improvement, Patagonia successfully maintained its position as a leading example of how *AI* can be used to drive both consumer satisfaction and environmental *sustainability* in *e-commerce*.

The results and findings which are observed after using *DMAIC* method. The impact that has the *DMAIC* method when it comes to Customer Engagement, Ad Spend Efficiency, Waste Reduction, *Sustainability*, and Carbon Emissions.

Customer Engagement: *AI* has helped increase customer engagement by 113%, which reflects the effectiveness of *AI* in delivering personalized *marketing* messages and recommendations.

Ad Spend Efficiency: Patagonia saw a significant improvement in *marketing* ROI (180%), indicating that *AI*'s targeting and personalization led to more effective use of advertising resources.

Waste Reduction: By optimizing ad placements and reducing irrelevant impressions, Patagonia cut down *marketing* waste by 40%.

*Sustainability*: The percentage of purchases related to sustainable products increased, likely due to *AI*'s role in promoting eco-friendly items based on customer behavior.

Carbon Emissions: The *AI* optimization in digital *marketing* campaigns led to a 40% reduction in the carbon footprint, highlighting the potential for *AI* to contribute to environmental sustainability.

Patagonia's implementation of *AI* in *e-commerce marketing* exemplifies the company's commitment to balancing innovation with *sustainability*. Through a systematic approach involving the five phases of *AI* integration (Define, Measure, Analyze, Improve, Control), Patagonia has been able to streamline its *marketing* efforts, personalize customer experiences, and significantly reduce its environmental footprint. By leveraging *AI*, Patagonia not only improved operational efficiency but also reinforced its position as a socially responsible brand, demonstrating how *e-commerce* businesses can utilize cutting-edge technology to foster *sustainability* without compromising ethical standards.

## Conclusion

In conclusion, this study highlights the significant role Artificial Intelligence (*AI*) plays in advancing sustainable *marketing* practices and enhancing the consumer experience within *e-commerce*. Through a qualitative approach based on case studies, the research illustrates how *AI* can fulfill the growing consumer and societal demands for both personalized service and environmental responsibility. By utilizing tools such as predictive analytics, machine learning, and *AI*-driven personalization, companies can deliver highly tailored interactions that not only elevate customer satisfaction and loyalty but also contribute to a more resource-efficient, environmentally friendly business model.

One of the core findings of this study is the dual impact *AI* has on customer engagement and *sustainability*. Companies like Patagonia, known for their commitment to *sustainability*, use *AI* to streamline digital *marketing* efforts by optimizing ad placements and targeting eco-conscious segments, which leads to a reduction in digital *marketing* waste and a smaller carbon footprint. Furthermore, *AI*-powered predictive models enable *e-commerce* companies to improve demand forecasting, allowing them to reduce overproduction and manage inventory

more sustainably. These efficiencies translate to real-world environmental benefits, including a reduction in emissions from logistics and minimized waste from unsold products. Patagonia's experience serves as a compelling example of how *AI* can enhance *marketing* impact while maintaining alignment with environmental goals.

This study also reveals that *AI*-driven customer engagement strategies, such as personalized product recommendations and real-time automated support, significantly improve customer satisfaction. *AI*'s ability to quickly analyze data and respond to individual preferences fosters a consumer experience that is both seamless and relevant. The result is not just higher engagement but a stronger emotional connection between the customer and the brand. As more consumers prioritize brands with transparent, sustainable practices, companies that adopt *AI* responsibly are likely to cultivate greater trust and long-term loyalty.

Nevertheless, the integration of *AI* must also navigate critical ethical considerations, particularly concerning data privacy and transparency. The study emphasizes that companies leveraging *AI* for personalized *marketing* must ensure compliance with data protection regulations, respecting consumer privacy and rights. Ethical *AI* practices that are transparent about data usage and aligned with consumer expectations are essential for building credibility and trust in the digital era.

However, this study has several limitations. As a qualitative study, it does not rely on quantitative data, meaning it does not provide statistical generalizations, but instead captures a limited range of insights into *AI*'s role in sustainable *marketing*. The research is based on case studies from a few companies, and thus does not explore a broader spectrum of businesses or industries. Additionally, the study focuses solely on the perspective of companies, rather than exploring customer perceptions or experiences. Furthermore, the research is based on secondary data sources, which may not always reflect the latest developments or provide firsthand insights into the practical challenges companies face in implementing *AI*.

While this study offers practical insights and best practices, it is important to note that further research is needed to address the limitations of this work. Future research could explore the application of the *DMAIC* (Define, Measure, Analyze, Improve, Control) methodology in a wider range of companies and industries, including those outside *e-commerce*, to better understand the broader impact of *AI* on *sustainability*. Additionally, analyzing customer perceptions of *AI*-driven *marketing* would offer a more comprehensive understanding of the consumer experience. Future studies could also investigate the ethical implications of *AI* in *marketing*, particularly in relation to data privacy and transparency. By expanding the scope of research to include both primary data sources and a wider variety of companies, a more holistic view of *AI*'s role in sustainable business practices can be achieved.

This research, while offering valuable insights into the role of *AI* in sustainable *marketing*, paves the way for future exploration into its broader applications and ethical considerations.

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## **Sports Sustainability in Romania. How Sports Clubs in Romania's Football 1st Division Communicate about Sustainability**

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### **Abstract**

This paper aims to highlight the level of knowledge and applicability of sustainability in sport at the level of sports entities in Romania. The importance of sustainability in sport is becoming increasingly evident worldwide, as major sporting events are among the largest generators of CO<sub>2</sub> emissions, considering that the last 4 editions of the Olympic Games have averaged more than 2 million tons of CO<sub>2</sub> emissions during the Games. In order to find out how this phenomenon is reflected in Romania, we conducted a direct, observational-based research, analyzing the communication policy of sports entities on the main online channels (social media and websites). This research was realized in the field of football, the main trend-setting sport in Romania. In the specialized literature, sustainability is, most often, measured in terms of its three dimensions: the economic, the social and the environmental dimension. , which is the structure that has been used also for the analysis of sports organizations' online communication from the present study. The main research results indicate that there is a stand-alone strategy dedicated to sustainability both at the highest level of football in Romania (the Romanian Football Federation), and for some of the sports clubs registered in the Romanian football 1st Division. However, there are still some clubs that have their sustainability approach included in their overall strategy. Another relevant result shows that most of the sustainability actions communicated by Romanian football clubs are limited to the social dimension. This work can be useful for all Romanian sport federations and clubs, the National Agency for Sport (the equivalent of the sports ministry), the Romanian Olympic and Sport Committee, NGOs, athletes and people involved in sport, in the process of raising awareness of the importance of an effective strategy dedicated to sustainability.

**Keywords:** Sports sustainability, communication strategy, sustainability strategy, Romanian football.

**JEL classification:** M31.

### **Introduction**

Sustainability is a global theme that has reached many sectors of the economy and industry (Bunget et al, 2023). In sports, sustainability is a hot topic, as major sporting events have a major impact on the environment and communities as a whole. At the Romanian level, in terms of the number of fans watching sport competitions, football is the most popular and watched sport, both in stadiums (with more than 2 million spectators physically attending

Romanian football 1<sup>st</sup> Division matches in stadiums for the 2023-2024 season), on TV or in different online media (gsp.ro, 2024).

However, in the Romanian football, sustainability topics are in their infancy, and the level of involvement in social or environmental activities among Romanian football clubs is totally different from one club to another. With this paper, we want to analyze how Romanian football 1st Division clubs communicate in relation to their sustainability approach. At the same time, we want to discover examples of good practices, but also how the sustainable behavior of Romanian football 1st Division clubs could be improved.

## 1. Sustainability and its applicability in sports

Most specialists define sustainability as a process or a capacity to maintain or improve the level of quality associated with human life, respecting the limits supported by ecosystems that pertain to the social, economic and environmental domains (Ellili, 2023). Thus, in the area of sustainability, the economic, environmental and social elements are managed as efficiently and appropriately as possible to ensure a normal livelihood among the present generations, as well as the future ones (Vicente and Camocho, 2024). The process of sustainability should be supported by ensuring a long-life cycle among products and services, integrating reuse, repair and recycle processes (Rogers, Deutz and Ramos, 2021; Istudor et al, 2022). In this way, the importance of sustainability in today's world is increasing day by day, with both companies and people needing to conduct their activities in a way that has a positive and long-term impact. To better understand the current and future importance to sustainability, Bunget et al. (2023) define the 3 dimensions as follows:

- **The social dimension** is often defined in the literature as the area of sustainability that aims to promote social inclusion and promote cooperation between people, helping to overcome certain social barriers. It also envisages unity among people by achieving common goals (Taylor et al., 2015).
- **The environmental dimension** aims to improve and adopt friendly behavior in relation to the environment, through a high protection of natural resources and reducing the negative impact of human activity on the environment. It promotes sustainable practices such as waste reduction, energy conservation and carbon footprint reduction. Thus, this dimension covers people and organizations that are engaged in environmentally beneficial activities (Klaperski-van der Wal, 2023).
- It is **the economic dimension** that aims to encourage sustainable consumption and production by reducing waste and promoting resource efficiency. We are talking here about the bridge between economic growth and environmental protection. Thus, long-term economic stability is promoted by investing in sustainable infrastructure and practices that benefit both the economy and the environment (Murga-Menoyo, 2014).

Through sustainable endeavors characteristic of the three above-mentioned dimensions, individuals and organizations seek to minimize negative impacts on the planet and society, with natural and human systems being promoted through specific practices (Vicente and Camocho, 2024; McCullough, Orr and Kellison, 2020).



*Figure 1. Sustainable Development Goals*

Source: United Nations, 2024.

On a different approach, the concept of sustainability, according to the UN, is based on the 17 pillars (goals) that are intended to define an international guide of good practices for all countries worldwide in terms of time-efficient development, taking into account environmental, economic and social elements. The 17 pillars of sustainable development (presented in Figure 1) are associated with the 2030 Agenda, based on the 8 overarching Millennium Development Goals, and address issues such as society as a whole, environment, peace, partnerships, development (prosperity). In this manner, the process of sustainable development can be implemented and attributed to any area in today's society, if we understand that at its core is minimizing the ecological footprint and allowing relevant and sufficient time for natural-type resources to return to their original capacities and characteristics (Adams, Kewell and Parry, 2018).

**Sustainability in the sports area** is becoming more and more important if we think about the major sporting events of recent times and their input on the world. It is seen as an effective process of managing sport events and activities carried out by sport organizations and athletes, taking into account economic, social and environmental impacts (Cury, Kennelly and Howes, 2023). Sustainable sport events aim to increase the positive impact on society (economic benefits, development of a lasting infrastructure and social inclusion), but also to decrease the negative impact (environmental destruction, social disruption caused by participants' noise). Thus, the process of conducting events should ensure a favorable contribution to the long-term development of the host community without jeopardizing the prosperity of sport for future generations (Parra-Camacho et al., 2023).

In the specialized literature, sport sustainability is seen as a defining integrated part for the long-term livelihood of sport entities. It comes as a balance between the sporting success, financial dimension, social dimension and environmental dimension in the context of continuous adaptation to the challenges of commercialization, digitalization and stakeholder diversity (Varmus, Kubina and Adámik, 2021).

**Table 1. UN objectives and their applicability in the sports area**

The social dimension	The environmental dimension	The economic dimension
Good Health and Well-being	Affordable and Clean Energy	Partnerships for the Goals
Quality Education	Sustainable Cities and Communities	
Gender Equality	Responsible Consumption and Production	
	Climate Action	

Source: Authors' analysis based on United Nations, 2024

According to Table 1, referring to the UN objectives and their applicability in the sports area, we can see that 3 of them can be adapted to the social dimension in sport, 3 can be adapted to the environmental dimension in sport, while only one can be adapted to the economic dimension in sport. It is worth mentioning that, these elements adapted to sport and divided on the 3 dimensions can be modified, depending on the context of analysis. The current form is adapted to the context of the present research, for a better understanding of the researched topic.

## 2. Marketing communication and social media in sport

Marketing communication in sport refers to the strategic and effective use of communication tools and channels in order to promote the world of sport (athletes, sports teams, sport events, sport-related services or sport-related products). This process encompasses the realization, management and delivery of information messages to the public interested in sport, the aim being to maintain a positive relationship between the athletes / sport teams / sport events / sport related services / sport related products and the sport consumer (Bradbury and O'boyle, 2017, p.9). Thus, an effective marketing communication process can help capitalize on multiple and long-term connections that the general public may have with sport.

In the specialized literature, the sport communication process is defined as "an activity of people in sport who, on the basis of a sport framework or endeavor, deliver sport-related symbols in various contexts" (Pedersen et al. 2007, p. 196; Byon and Phua, 2021).

Among the communication tools, social media is seen as a revolutionary medium for marketing communication, imposing a certain dynamic among companies when it comes to adapting to the changes associated with communicating with target audiences (Constantinescu et al., 2019). Social media is a key element of sports marketing communication. It has a major impact when it comes to fan engagement, increased attendance at sports events, increased revenue from ticket sales, promotional items and merchandise, and last but not least, sports brand awareness. In other words, social media has a direct impact on the overall experience of the sport audience, realizing strong socio-emotional connections between fans and sport (Strzelecki and Czuba, 2018).

In order to better understand the importance of social media in sport and in the communication process of sports clubs, we need to consider a few important aspects in terms of fans and increasing fan interest:

**Engaging fans:** Sports teams, athletes, and other sport-related entities can maintain a direct, lasting, and real-time connection with fans through social media platforms. In this way, loyalty and interaction between fans and sport is ensured through social media platforms, fostering a sense of belonging and community. What needs to be taken into consideration by sports teams, athletes and other entities associated with sports is that they need to deliver constant content, coming up with real-time updates (Siguencia et al., 2017).

**Brand awareness and brand extension:** Brands can also be very well exposed through social media, helping to increase their visibility by reaching national, international and even global audiences. Through social media, different hastags, viral content, and partnerships with various influencers can help build a strong presence for the sports brand and new fans can be attracted to the sports product (Strzelecki and Czuba, 2018).

**Targeted promotion:** social media platforms have various and highly advanced targeting options (fans), so sports teams, sports and other sports-related entities can easily reach that appropriate target audience in terms of interests, behavior and location, making marketing efforts much more effective and with much better results (Strzelecki and Czuba, 2018).

**Content sharing:** within social media platforms, content can be distributed in a variety of formats such as images, videos, live sessions, reels and stories, the sports product is one that can appeal to a variety of consumer segments (Siguencia et al, 2017).

**Data and analytics:** social media platforms can provide top-level data and statistics about how the target audience (fans) behave online, what they prefer and what they resonate with best. Moreover, one can measure various indicators of a social media campaign related to different social media activities (Strzelecki and Czuba, 2018).

### 3. How Sports Clubs in Romania's Football 1st Division Communicate About Sustainability

#### 3.1. Research methodology

This work can be useful for all Romanian sport federations and clubs, the National Agency for Sport, the Romanian Olympic and Sport Committee, NGOs, athletes and people involved in sport, in the process of raising awareness of the importance of an effective strategy for sustainability.

**The main problem** of most sports clubs in Romania is that they do not have an effective strategy for sustainability, the main cause being the precarious financial resources, but also their poor management. Moreover, the adoption of a sustainability strategy at higher levels, such as those of sports federations in Romania, has so far been carried out only by the Romanian Football Federation.

In order to see the typology of sustainability actions, as well as how Romanian football 1st Division teams communicate in this respect, we have conducted a research among their online communication channels (social media and website).

Based on the 3 dimensions of sustainability, **the objectives of this study** are the following:

**O1:** Determine the number of Romanian football 1st Division clubs that communicate about their dedicated sustainability strategy or actions.

**O2:** Determine the number of Romanian football 1<sup>st</sup> Division clubs that have a sustainability report.

**O3:** Determine the number of Romanian football 1st Division clubs that cover through their strategy all 3 dimensions of sustainability.

**O4:** Identify the main sustainable source of funding within Romanian football clubs.

**O5:** Identify the number of clubs that communicate transparently about their financial situation.

**O6:** Identify sustainability issues reported by Romanian football 1st Division clubs (match-fixing, doping or sports betting).

**O7:** Identify the number of Romanian football 1st Division clubs that communicate the existence of training and development programs for employees and athletes.

**O8:** Identify the number of Romanian football 1st Division clubs that are consistent with the sustainability communication on environmental and social standards.

Regarding the **research method** used, this is a descriptive research based on direct observation of what Romanian football 1<sup>st</sup> Division clubs communicate on their online channels. The research was conducted exclusively online (social media and website), in the period 01.10.2024 - 01.11.2024, using an observation grid with 25 variables (Table 2).

In terms of the **sampling** process, all 16 active teams in the 2024-2025 season of the Romanian football 1st Division were considered, the condition being the possession of an active website and at least one social media account. Thus, we realized a complete representation.

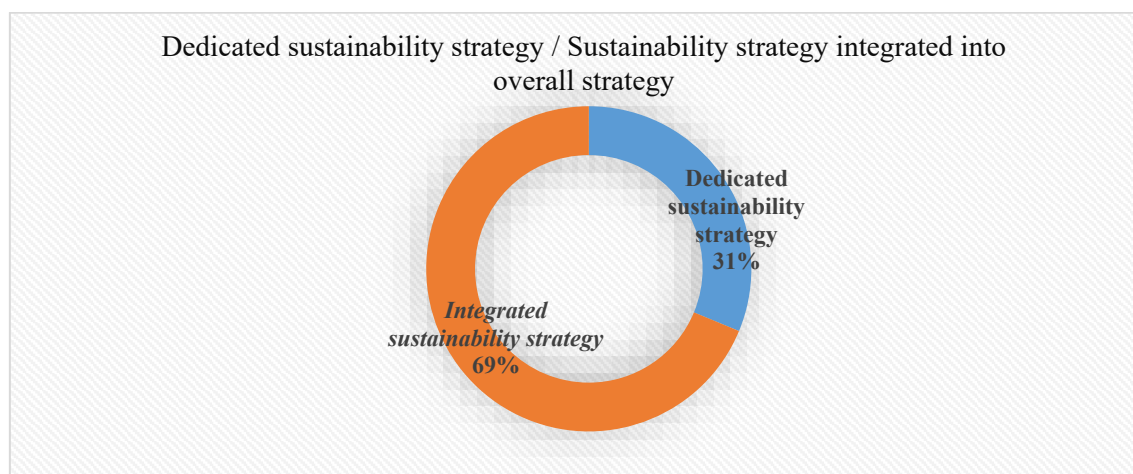
*Table 2. Observation grid*

	Research variable	Related objective		Research variable	Related objective
1	Dedicated sustainability strategy / Sustainability strategy integrated into overall strategy	O1	14	Communication on the fight against corruption: Match-fixing	O6
2	Communicating on social media about sustainability actions	O1	15	Involvement activities: Donations	O7
3	Communication of sustainability actions on the website	O1	16	Involvement activities: Events in schools	O7
4	Sustainability report	O2	17	Training and development programs for employees and athletes	O7
5	Areas covered by the sustainability strategy: Economic and governance	O3	18	Social inclusion policies at club level	O7
6	Areas covered by the sustainability strategy: Social	O3	19	Communication on recycling / waste reduction	O8
7	Areas covered by the sustainability strategy: Environmental	O3	20	Communication on energy efficiency	O8
8	Sustainable sources of funding: Ticket sales	O4	21	Communicating partnerships that meet sustainability standards: Sponsors	O8
9	Sustainable sources of funding: Sponsorship	O4	22	Communicating partnerships that meet sustainability standards: Suppliers	O8
10	Sustainable sources of funding: Merchandising	O4	23	Communication on recycling actions	O8
11	Transparent financial communication	O5	24	Communication on carbon footprint / pollution: in terms of transportation of players	O8
12	Communication on the fight against corruption: Sports betting	O6	25	Communication on carbon footprint / pollution: post about fans transport alternatives to cars	O8
13	Communication on the fight against corruption: Doping	O6			

Source: Authors' analysis, 2024

### 3.2. Data analysis

For a better understanding of the communication of Romanian football 1<sup>st</sup> Division clubs, we started this analysis with some basic variables. We wanted to see if, within the clubs, there is a dedicated sustainability strategy, if they communicate on social media channels about sustainability and if they communicate about sustainability actions on the website.

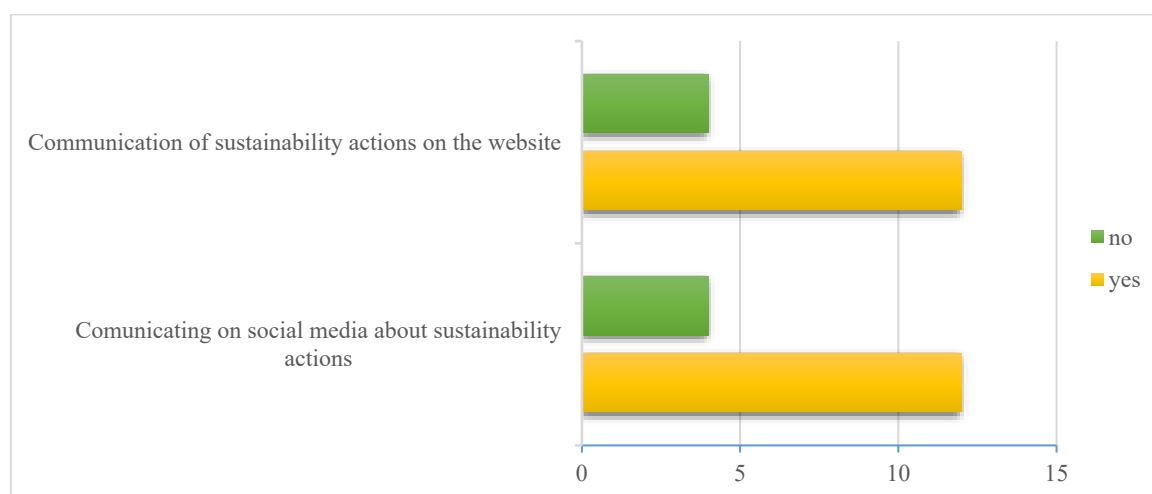


**Figure 2. Dedicated sustainability strategy / Sustainability strategy integrated into overall strategy**

Source: Authors' analysis, 2024

Through this first variable of the research, we wanted to see if, at the level of Romanian football 1<sup>st</sup> Division clubs, there is a dedicated sustainability strategy for each football team. As it can be seen in Figure 2, only 31% of the teams (5 out of 16) have a dedicated sustainability strategy, while the remaining 69% (11 out of 16) have a sustainability strategy integrated into the overall team strategy. Although this seems to be a less favorable situation, we have to take into account that the Romanian Football Federation only approved the new sustainability strategy in 2022 and is the only sports federation in Romania that has implemented this approach, thus we have to give sports organizations (in this situation, football clubs) time to adjust to the new reality.

To better understand this objective, the next step of the research was to find out if Romanian football 1<sup>st</sup> Division clubs communicate on their website or social media about sustainability.

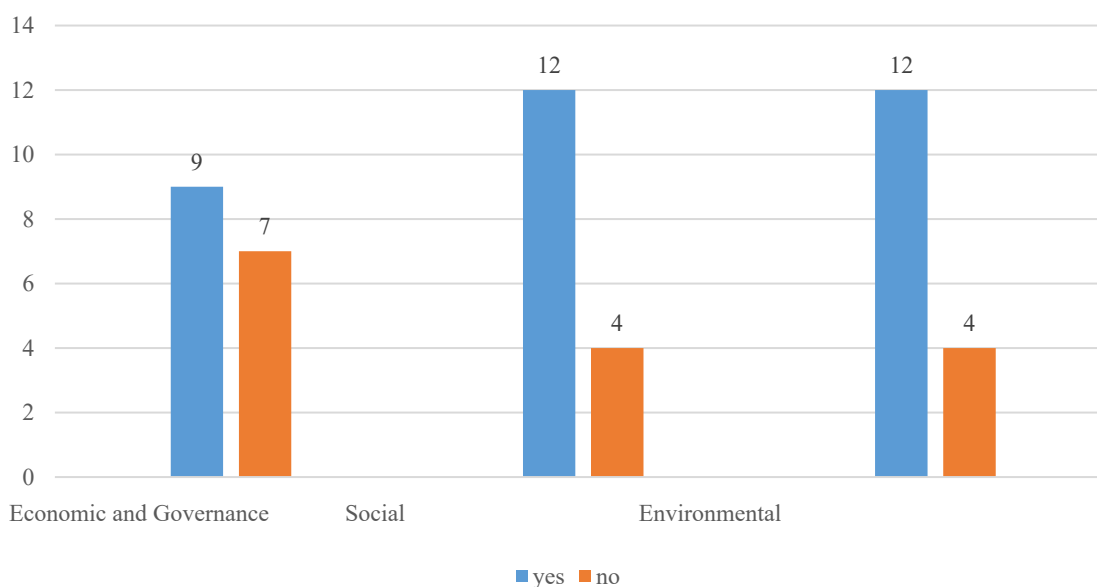


**Figure 3. Communicating on social media and website about sustainability**

Source: Authors' analysis, 2024

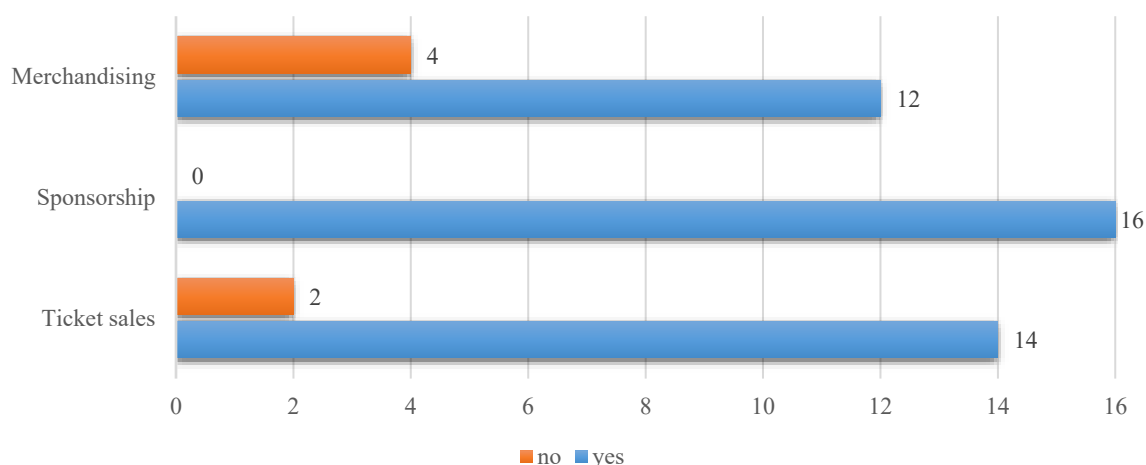
It can be seen from Figure 3, 12 out of 16 clubs (75%) have communicated on the website about the sustainability actions they have already carried out, at the same time, the same number of clubs have communicated about sustainability actions on social media. Thus, the only teams that have not carried out any of the above actions are: UTA Arad, Unirea Slobozia, Oțelul Galați and Gloria Buzău. The teams Gloria Buzău and Unirea Slobozia are newly promoted in the Romanian football 1<sup>st</sup> Division, so they are still in the process of adaptation, both from a footballing point of view, but also from a strategic and administrative point of view. Oțelul Galați and UTA Arad are two teams that have not been constant neither in terms of sport nor financially, so sustainability is not necessarily an important issue for them. In this way, at the time of the research, the 4 teams mentioned above are rather interested in staying in the Romanian football 1<sup>st</sup> Division and in having more constant performances, so that they can develop, and then start building for a better future, also in terms of sustainability.

The secondary objective of the present research was related to the existence of sustainability reporting at club level. The results of the research showed us that none of the football teams in the Romanian football 1<sup>st</sup> Division currently has a sustainability report presented on their website or social media.



**Figure 4. Areas covered by the sustainability strategy: Economic and governance, social and environmental**  
Source: Authors' analysis, 2024

To achieve the third objective of this research, we decided to measure whether clubs communicate in respect to all three areas of sustainability: economic and governance, social and environmental. It can be observed in Figure 4, that the social and environmental areas are the most frequently found in the sustainability strategies of football clubs (12 out of 16 teams having included these 2 areas in their strategy). The area associated with economic and governance is less present in clubs' sustainability strategies, with only 56% of clubs also covering this area of sustainability. This can also be associated with the increasingly common financial problems encountered by Romanian football 1<sup>st</sup> Division teams: payment of salaries, insolvency and bankruptcy.

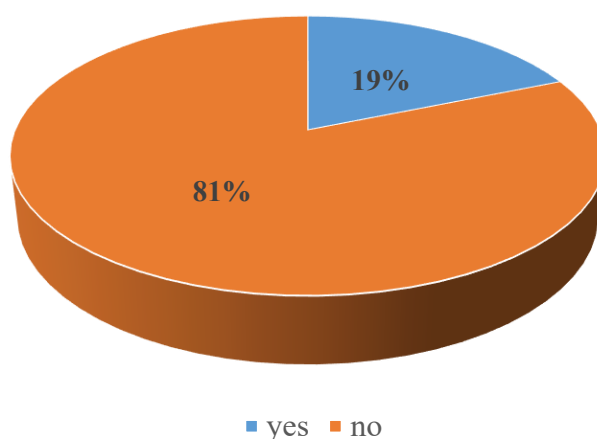


**Figure 5. Sustainable sources of funding: Ticket sales, Sponsorship, Merchandising**

Source: Authors' analysis, 2024

In order to achieve the 4<sup>th</sup> research objective, we decided to link 3 variables to sustainable funding sources – Ticket sales, Sponsorship, Merchandising (Figure 5). Through these variables we wanted to find out which is the most common sustainable source of financing. Sustainable sources of financing refer to the sources of own revenue that help a sports club to exist in a specific competition even when public funding from public authorities is no longer available.

Thus, it can be seen that sponsorship is the main sustainable source of funding, with all clubs having at least one private sponsor (sports betting firms being the main sponsor). In second place, ticket sales are the most common source of sustainable financing, with 87.5% of the teams maintaining this action throughout the season (only Unirea Slobozia and Gloria Buzău do not carry out this action constantly, but only during important matches where the interest in the matches is high). Merchandising is the least common sustainable form of financing, with only 75% of the teams in the Romanian football 1<sup>st</sup> Division selling various items associated with the sports club.

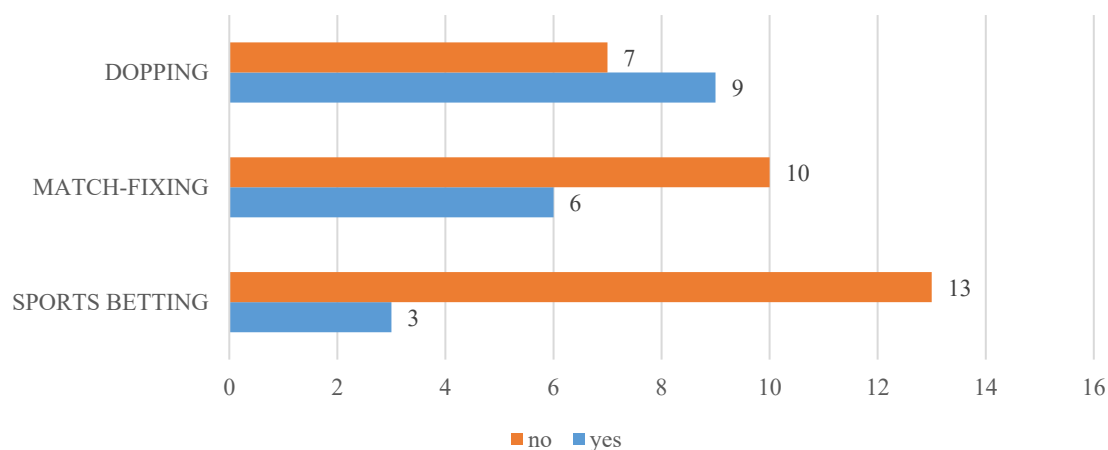


**Figure 6. Transparent financial communication**

Source: Authors' analysis, 2024

Transparent financial communication (Figure 6) is associated with the 5<sup>th</sup> objective of this study. It is very important to include the transparent financial communication part in a

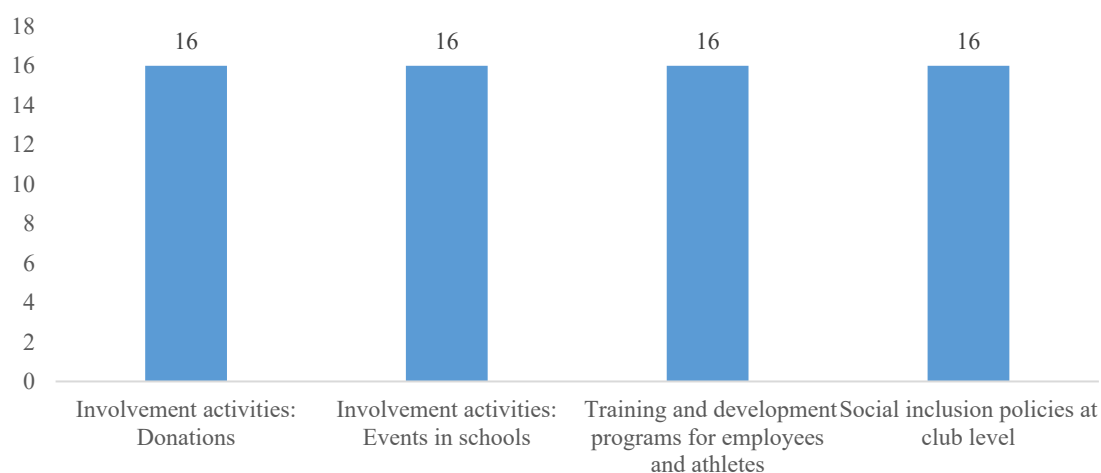
sustainability strategy, and, in this case, it can be observed that only 19% of the teams communicate transparently about their financial situation. The teams that assume this financial communication in a transparent way are: U. Cluj, Dinamo Bucharest and Univ. Craiova. It is surprising that FCSB, last season's champion and the most financially stable team in recent years, does not communicate transparently about its financial situation.



**Figure 7. Communication on the fight against corruption: Sports betting, Match-Fixing and Doping**

Source: Authors' analysis, 2024

The 6<sup>th</sup> objective of the present research focused on communication associated with the fight against corruption (Figure 7). Thus, 3 research variables were associated with this objective: Sports betting, Match-Fixing and Doping. It can be observed that, among the 3 directions, the least communicated about is sports betting (only 3 out of 16 clubs communicate about it). This may be influenced by the fact that all teams in the Romanian football 1<sup>st</sup> Division have a sports betting sponsor. In the second place we find match-fixing, about which only 6 out of 16 teams (37.5%) communicate. It can be observed that, most often, football clubs in the Romanian football 1<sup>st</sup> Division communicate about doping (9 out of 16 teams communicate on social media or website about the fight against doping).



**Figure 8. Social Engagement and Social Responsibility Activities**

Source: Authors' analysis, 2024

The existence of training and development programs for employees and athletes is an essential point in the sustainable development of a sports club. Thus, through objective number 7 of this research, we wanted to see how many clubs communicate about the existence of such programs (Figure 8). It can be observed that all Romanian football 1<sup>st</sup> Division clubs communicate about the existence of such programs within their sustainability strategy. At the same time, we can observe that all clubs communicate about engagement activities such as donations and events in schools, as well as social inclusion policies at the club level.

Objective number 8 of the present research was about identifying the number of Romanian football 1st Division clubs that are in line with the sustainability communication on environmental and social standards. According to the results of the study, we could observe that none of the football teams in the Romanian football 1st Division communicates in these directions. At the same time, none of the football clubs in the Romanian football 1st Division communicates about partnerships that meet sustainability standards (sponsors and suppliers), recycling actions, carbon/pollution footprint (in terms of transportation of players and in terms of postings about fans leaving the car at home to come to the matches using alternative means of transportations).

#### 4. Research findings, theoretical and practical implications

From a practical point of view, this research has three main conclusions, which fall under the following three main ideas:

- A. Football clubs are involved in their community, but do not report this (sustainability reports are missing):** Although the football clubs in the Romanian football 1<sup>st</sup> Division communicate about various actions of involvement in society (donations and events in schools), they are not transparent and do not report their activities in a systematic way. Rather, all these actions seem to be carried out in order to tick off certain tasks from those imposed by the Romanian Football Federation. At the same time, although the sources of income at the level of these clubs are both private (mostly) and public sources, only a small part of them communicate transparently. This can lead to a loss of credibility and the attraction of long-term partners is decreasing.
- B. Sports integrity communicated in low proportions:** Despite the fact that all football clubs in Romanian football 1<sup>st</sup> Division have a sports betting sponsor, they do not communicate much about the fight against match-fixing or sports betting. This can create a less than professional image, and long-term reputation is obviously damaged.
- C. Prioritization of social and environmental issues over economic and governance issues:** In most situations, football clubs in Romanian football 1<sup>st</sup> Division predominantly communicate about sustainability actions that are attributed to the social and environmental areas (75%), while the economic and governance areas appear in smaller proportions (56%). At the same time, transparent reporting of the financial situation is poorly represented, with only 19% of the sports clubs doing so. Finally, it can be noted that none of the teams communicate on recycling, energy efficiency or sustainable partnerships.

From a **theoretical point of view**, considering the fact that the vast majority of Romanian football 1<sup>st</sup> Division clubs do not have a dedicated sustainability strategy, we can state that they realize a process of promoting sustainable actions without a clear set of objectives. By means of these undefined sustainability objectives of the football clubs, the present study demonstrates that, at the level of the Romanian football 1<sup>st</sup> Division, teams actions fall rather in the greenwashing area. As a result of this, transparency remains the main practice that any club needs from the point of view of sustainability in sport, because only in this way fans can become loyal in the long term and sponsors can be attracted to the club much more effectively.

**Conclusions, limits and future directions**

The present research demonstrates the incipient stage of sustainability in sport in Romania, which is present more as a greenwashing process, an area very little developed or integrated at club's strategy level. It can be observed that, although more than half of the football teams in Romanian football 1<sup>st</sup> Division addresses all areas of sustainability in their communication, they do not clearly state this fact and their actions are communicated in a superficial way, with no sustainability report to support the existence and coherence of their actions.

Another important point that emerges from our research is related to sporting success and its place in sustainability. The sporting success of a sports team or an athlete in various major competitions (national and international) can be an essential factor in their sustainable development, becoming a fourth area of sustainability in sport, which must be effectively addressed by any specialist in the field. Sporting success can determine the sustainable existence of a team or an athlete, can influence their actions and decisions, and links and influences the other three dimensions of sustainability.

Although the results presented are quite evident and credible, it should be taken into account that the research was limited in several aspects. The first limitation of the research is related to the subjectivity of the authors. The proposed topic, both theoretically and practically, may have a certain level of subjectivity, as the research (the practical part) was a qualitative one, and the attachment to the topic may have a high impact in the final analysis. The second limitation of the research is related to the absence of an extensive and representative quantitative research method, without which the results cannot be expanded to a statistically significant target population. The third limitation of the present research is related to the sources of information. For this research, the sources of information were sports club websites and social media channels. Thus, the content we analyzed came only from the clubs' own perspective (what they have posted in relation to their own activity), without referring to what others have written about them or what clubs have done in terms of sustainability but didn't communicate about.

Potential future directions for this research could be to conduct a quantitative study on how sports clubs in Romania communicate about sustainability, to address new target audience segments (athletes, sports people, sports fans, business representatives who have contact with the sports area), but also to study some aspects related to the cultural values of Romanian sports fans that are impacting the openness to sustainability.

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