MERCADOS y Negocios

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Editor's Letter

We are excited to share the 55th issue of Mercados y Negocios, which reflects our growing international reach. We would like to sincerely thank the scientific community for its trust and support. As part of our commitment to fostering research and development, we remind our authors that Mercados y Negocios welcomes resubmission of rejected papers. This policy enables reviewers to offer feedback that helps authors refine their work, fostering a constructive dialogue that strengthens research contributions.

This approach empowers authors to identify and address areas for improvement, ultimately enhancing the quality and impact of their publications. We are excited to announce the publication of the 55th issue of Mercados y Negocios. It is encouraging to see that the journal is gaining an international readership. We want to extend our heartfelt thanks to the scientific community for their continued trust in our platform. We want to remind our authors that Mercados y Negocios has a policy that allows for the resubmission of rejected papers.

This approach enables reviewers to provide valuable justifications for their decisions and serves as a tool to support researchers in enhancing their work. It also provides authors with a clear path for addressing areas for improvement in their submissions.

Palak Dev and Garima Sainger wrote the first article, Benefits of digital training approaches on non-banking economic divisions in India. In this study, the authors examine the benefits of digital training approaches in non-banking economic divisions in India. The study's outcomes revealed the prevalence of digital training in non-banking institutions and the significance of online learning platforms in offering practical training to employees. Furthermore, the study also evaluates the impact of digital training approaches on employee performance in the organization. The study recommends implementing online learning platforms in non-banking financial institutions to accomplish organizational objectives.

The second article is titled "Impact of E-Service Quality of Mobile Application on Customer Perceived Value." Rohit Kumar Sharma and Sanjeev Padashetty wrote it. This article examines the effect of mobile app service quality on Consumer Perceived Value (CPV) in online shopping in India, specifically in Bengaluru, and Customer Satisfaction (CS) on CPV. The findings show that mobile app service quality significantly affected CPV, with reliability and consumer service being the most critical dimensions. In contrast, content quality was the least essential dimension.

Ni Wayan Ekawati, I Gusti Ayu Ketut Giantari, Komang Rahayu Indrawati, I Gusti Ayu Tirtayani, and Irene Hanna H. Sihombing wrote the third article: Situational Impulsive and Compulsive Online Purchase of Fashion Products in Generation Z. This study investigates the situational factors influencing impulsive and compulsive online purchases of fashion products among Generation Z. The findings indicate that financial management has a negative and significant effect on impulsive buying, meaning that better financial management reduces the likelihood of impulsive purchases. On the other hand, materialism and socioeconomic status positively and significantly affect impulsive buying, showing that stronger materialistic traits and higher socioeconomic status increase unplanned purchasing behavior. Time affluence demonstrates a positive but insignificant effect, suggesting that having ample time does not necessarily influence impulsive buying decisions.

The fourth paper is Nintendo and the Blue Ocean Strategy: Designing the Four Actions Matrix. Its author is Adan Jacinto Flores Flores. This research analyzes Nintendo's strategies within the framework of the four-action matrix of the BOS (i.e., eliminate, reduce, increase, and create). This study provides lessons and teachings to be considered by organizational strategists when designing strategies that leverage distinctive characteristics into competitive advantages that satisfy both established objectives and customer desires and expectations. Furthermore, the work can be a reference framework in subsequent empirical research.

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We hope these articles spark meaningful discussions and provide valuable perspectives in their respective fields. We thank the authors for their rigorous research and contributions. We welcome feedback and encourage readers to use these studies to advance knowledge and practice.

Sincerely,
Dra. Tania Elena González Alvarado
Executive Editor

Benefits of digital training approaches on non-banking economic divisions in India

Beneficios de los enfoques de capacitación digital en las divisiones económicas no bancarias de la India

Palak Dev
GLA University Mathura (India)
yspalak@gmail.com
https://orcid.org/0009-0004-3474-059X

Garima Sainger
GLA University Mathura (India)
garima.sainger@gla.ac.in
https://orcid.org/0000-0003-3701-7490

ABSTRACT

The current research examines the benefits of digital training approaches in non-banking economic divisions in India. The present study adopted quantitative analysis employing the SPSS version 23 software package. A structured questionnaire survey method is used to collect the data from employees working in the non-banking economic division, and a purposive sampling approach is used for analysis. The objective of the method is to collect data relating to employees' insights concerning adopting digital training. ANOVA, frequency, and regression tests are executed in research. The study's outcomes revealed the prevalence of digital training in non-banking institutions and the significance of online learning platforms in offering practical training to employees. Furthermore, the study also evaluates the impact of digital training approaches on employee performance in the organization. The study recommends implementing online learning platforms in non-banking financial institutions to accomplish organizational objectives.

Keywords: Digital training, online learning, employee performance, non-banking financial institutions, digital transformation.

Jel Code: D83, D89

Benefits of digital training approaches on non-banking economic divisions in India

RESUMEN

La presente investigación examina los beneficios de la capacitación digital en las divisiones económicas no bancarias de la India. El estudio adoptó un análisis cuantitativo con el paquete informático SPSS versión 23. Se empleó una encuesta estructurada mediante cuestionario para recopilar datos de los empleados de la división económica no bancaria, y se empleó un muestreo intencional para el análisis. El objetivo del método es recopilar datos sobre la percepción de los empleados respecto a la adopción de la capacitación digital. Se realizaron pruebas ANOVA, de frecuencia y de regresión. Los resultados del estudio revelaron la prevalencia de la capacitación digital en instituciones no bancarias y la importancia de las plataformas de aprendizaje en línea para ofrecer capacitación práctica a los empleados. Además, el estudio también evaluó el impacto de la capacitación digital en el desempeño de los empleados en la organización. El estudio recomienda la implementación de plataformas de aprendizaje en línea en instituciones financieras no bancarias para lograr los objetivos organizacionales.

Palabras clave: Capacitación digital, aprendizaje en línea, desempeño laboral, instituciones financieras no bancarias, transformación digital.

Código JEL: D83, D89

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INTRODUCTION

Digitalization is related to the management and technology of information about services and products. The digitalization process includes every organization, including small and large companies and all levels of the economy (Kulkarni et al., 2022).

Technological changes, advancements, and market competition impact an organization's survival (Nazuri et al., 2025). Especially during times of crisis, organizations have to adapt to modern methods for training to improve and manage the agility of the employees (Kumar & Kumar, 2022). Modern training techniques require the implementation of new technologies. Electronic or digital training (DT) is essential in improving resilience through training on diverse skills (Samantaray et al., 2023).

The most significant transformation of society is the implementation of Internet services and information technology, such as Google Meet, Zoom, and Skype, in the schooling and training of employees in an organization (Tusa & Dumitrescu, 2025), which leads to greater effectiveness and efficiency, quality acquisition, and information awareness. DT trains all employees through digital media such as intranets, extranets, and the Internet (Hassan et al., 2020). DT is a lesson or course delivered electronically, such as web-based activities and programs related to a particular training subject (El Omari et al., 2022).

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DT is based on web-based training and video conferencing. Adopting online learning in employee training offers many benefits (Md et al., 2025), including decreasing the cost of resources required for the traditional training process. The main advantage is that trainees can connect to a training session anytime and anywhere (Balogun & Enemuo, 2022). In addition to presenting educational content and materials, the DT allows the trainees to communicate live, participate using questions, and give opinions. The trainees interact through discussions, emails, and blogs.

Technology helps companies perform better competitively (Steggemann, 2023). Employee performance (EP) is the outcome of examining the employee's work in terms of success, organization standards, and goals. The interest in e-training has increased in many developing countries, such as India, due to the ability of technologies to contribute to social and economic development (Alhooti & Anto, 2020).

An organization's stability and future depend on employee performance (Hermawan & Rahayu, 2025). A well-trained employee can gain a competitive advantage when all employees have the required talents and skills. With the development of technology, there is a revolution in e-training, which improves the performance and productivity of the

organization (Ismail et al., 2022). For better improvement of individual growth, which can generate benefits for the organization, DT is an essential mechanism because it has been used as the benchmark organizations utilize to determine employee task performance (Rodrigues et al., 2023). E-training is an alternative to ensuring that the company can maintain pace by meeting the employees' requirements and, similarly, can perform cost-effectively.

DT is similar to e-learning in several ways, particularly in the context of technology and knowledge delivery. E-training is unambiguously a less time-consuming process than e-learning, which is mainly designed to attain a specified learning skill or outcome(Selase & Avenorgbo, 2021).

Most organizations consider DT a unique competitive advantage and implement it with the sole intention of increasing the productive workforce and work performance, since online learning offers detailed knowledge to employees. DT supports employees in expanding the variety of training content and keeps them updated regarding information related to developing particular job areas (Al-Shorman et al., 2021).

It was widely used during the pandemic in many organizations worldwide since DT overcomes the challenges of face-to-face training and long distances between the workplace and employees (Alghamdi et al., 2022). Many industries have adopted DT, including manufacturing, education, agriculture, and the financial sectors.

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The financial sector has undergone many changes with the advancement of technology. The structure of the financial system has evolved, with non-banking economic divisions (ED) contributing more to the industry. Non-banking financial companies comprise various business models, such as investment funds, money market funds, insurance corporations, pension funds, and special purpose units (Emter et al., 2021).

The non-banking economic division is a sector comprising institutions involved in offering financial services. This division complements the banking sector by providing alternative financial facilities required by the public, like hedge funds, private funds, insurance, pensions, and much more (Karamoy & Tulung, 2020).

Non-banking financial institutions (NBFIs) are considered financial intermediaries; these organizations collect funds from corporations, net-worth clients, and individuals to extend the financing for the corporate, secondary market, and other large corporations (Khowaja et al., 2021). DT in the non-banking financial organization has become necessary in today's technological landscape.

Without appropriate training and limited access to digital tools and resources, the organization's team feels challenged in communication, collaboration, online security, and data protection. Talent competition is aggressive, meaning an institution does not depend on its employees' existing skills.

Employee engagement generally determines the mindset of employees in the organization. Non-trained employees perform ineffectively, and their interest in working within an organization is reduced.

The biggest challenge for organizational authorities when working remotely is onboarding remote personnel. While managers cannot interact with new company employees, tracking and supporting tasks become challenging. Thus, through training, employees help onboard them. With the help of DT and development, managers can support newly joined employees in training in a particular area and the skills necessary to perform.

Effective development and training enable management to guarantee the new employees' enthusiasm for joining the organization and performing their roles. DT provides several opportunities for innovation and growth in non-banking ED. This also includes equipping employees with the knowledge to offer a personalized service. Hence, the present study emphasizes the advantages of DT to understand the need to implement DT within the non-banking finance organization.

Digital transformation (DTF) has modernized the commercial industry, including non-banking financial organizations. DT motivates a regular learning culture among people, which develops employees' skills and professional knowledge. Online training programs are favorable to many organizations across the world. Organizations can create or purchase courses according to their requirements and start training their new employees. Online training enables employees to use materials from remote locations and learn daily, eventually impacting performance. When faced with challenges, employees can access resources anytime at their convenience and pace.

Effective training programs enable workers to understand the job role quickly and apply learned knowledge. DT makes quality knowledge retention easier and reduces the employees' travel time. Since DT is cost-efficient compared to traditional training and promotes innovation within financial institutions, many organizations adopt online employee training. By investing in DT programs, organizations can offer their employees the required knowledge and skills to use digital tools and technologies effectively, which improves productivity. This also helps organizations maintain competitiveness in a constantly growing digital landscape. Understanding DT supports employees in adapting to new platforms, tools, and knowledge essential for productive operations.

The present study emphasizes the advantages of DT on non-banking EDs in India. The research objectives of the current study are

•   To provide an overview of the adoption of digital technologies in non-banking institutions in India

•   To assess the significance of online learning platforms in providing practical training to employees

•   To evaluate the impact of DT approaches on the EP in the organization

•   To recommend a framework for effectively implementing e-learning platforms in NBFCs to achieve the organizational goals.

The paper is organized in the following order: Section 1 provides an elaborate introduction regarding the benefits of DT approaches to non-banking ED. Furthermore, the introduction section illustrates the significance of the research. In section 2, prevailing research works related to the current study will be reviewed. The current study's research methodology will be elucidated in section 3. In section 4, the outcome of the analysis will be discussed. In section 5, the analysis outcome will be addressed and compared to that of existing studies. In section 6, the limitations of the study will be elaborated. Finally, in section 7, the brief conclusion regarding the current research will be discussed along with future recommendations for the study.

THEORETICAL FRAMEWORK

The Technology Acceptance Model (TAM) is a helpful framework for understanding the adoption of digital training methods in non-banking sectors in India. Created by Davis in 1989, TAM suggests that two main factors impact technology acceptance: perceived usefulness (PU) and perceived ease of use (PEOU).

Regarding digital training, perceived usefulness refers to how employees view online training as a way to improve their job performance and skills. Employees believe digital training can enhance their competencies and provide valuable resources, and are more likely to engage with these programs. Alternatively, perceived ease of use refers to how easily employees can navigate and use digital training platforms. User-friendly interfaces and access to technical support can improve the user experience and reduce resistance to new technologies.

Moreover, TAM acknowledges that external factors such as organizational culture and technological infrastructure play a significant role. A culture encouraging continuous learning can positively impact PU and PEOU, motivating employees to embrace digital training initiatives. Additionally, having adequate technological resources, including reliable internet access and appropriate devices, is crucial for ensuring smooth adoption.

By using TAM as a theoretical framework, researchers can pinpoint specific factors that influence the acceptance of digital training in non-banking sectors, devise targeted strategies

to enhance perceived usefulness and ease of use, and carry out empirical studies to confirm the model's relevance in the unique setting of the Indian economy. Ultimately, incorporating TAM into evaluating digital training methods can enhance workforce skills and efficiency in these industries.

The achievement of non-banking companies relies heavily on Customer Relationship Management (CRM) practices (Khan, 2023). These practices are more than just transactions and are crucial in building strong, lasting customer connections. Initially, non-banking companies should focus on efficiently collecting and managing customer data to personalize interactions and offerings based on individual preferences. Customer segmentation helps in targeting engagement more effectively. Through personalized and multi-channel communication, customers feel valued and listened to. Providing excellent customer service, including quick issue resolution, further strengthens these relationships.

Non-banking companies should actively seek and act on customer feedback to continuously improve their products and services. Strategies such as cross-selling and upselling should be implemented carefully to benefit the customer rather than push for additional sales. Loyalty programs can encourage repeat business, and well-trained employees who are empowered to engage with customers effectively represent the company.

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Data analytics offer valuable insights for data-driven decisions, and continuous monitoring ensures that CRM practices adapt to changing customer needs. Following data protection regulations and implementing data security measures are essential to maintain customer trust. Eventually, effective CRM practices in non-banking companies play a crucial role in fostering customer loyalty, enhancing brand reputation, and achieving long-term success.

The conventional study (Wiradendi Wolor et al., 2020) was conducted to investigate the effectiveness of e-leadership, e-training, work motivation, and work-life balance on the performance of Generation Y employees. A quantitative research approach, SEM (Structural Equation Modelling), and a survey technique were used to collect data from 200 Gen Y employees at the Honda motorcycle company in Jakarta, India.

The sampling method used was probability sampling with a random sampling method. Primary data was collected by distributing a questionnaire to the targeted population. The prevailing study discovered that e-leadership, work-life balance, and e-training positively impact work motivation. Work-life balance, e-leadership, work motivation, and e-training positively influence an employee's performance. The study concludes that e-training, work-life balance, and e-learning keep employees motivated to work and maintain effective employee performance.

The existing study (Shahriar et al., 2023) investigated the prospects and approaches of e-learning and online training for employee development and learning during the pandemic. Qualitative research methodology was applied, and data were collected through interview questions interpreted according to the participants' responses.

The outcome of the study indicated that digital learning offered convenience and flexibility during a crisis, and from the perspective of HR (human resources), digital learning has allowed the organization to rapidly adopt the new secure normal to ensure organizational development and growth within the company structure, along with decent outcomes. Implementing e-learning and flexible working situations has allowed organizations to rapidly cope with modern technology, causing a tremendous shift in the corporate sector and organizational culture. The prevailing study concludes that e-learning and blended training are successful alternatives to traditional training methods.

The conventional study (Ma et al., 2022) examined the efficiency of blended training in the organization. Due to the pandemic, a company has altered its training method to enhance organizational and employee performance (Contreras & González, 2021). The study considered employee candidates of the sales team from 2019 to 2021 for analysis. The participants learned courses online, evaluated them before their traditional training, and validated employees' learning experiences in blended training.

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These evaluations were considered to determine training efficiency and effectiveness by considering training time duration. The prevailing study revealed that the organization could enhance the training efficiency by decreasing the training period and improving employee performance. In conclusion, blended learning allows the organization to enhance EP with less time.

The existing study (Kumar & Kumar, 2023) analyzed the perceived influence of e-training on the trainees' self-assessment and experience. Quantitative methodology was applied for analysis, and data were collected from 853 employees in North Indian companies through structured questionnaires. Additionally, an SEM model was utilized to validate the association.

The study's results point out organizational and infrastructure support as the primary dimension, followed by trainer capabilities and design, to influence the training's perceived usefulness. The perceived trainee experience strongly impacts the outcome of the e-trainee, as the trainee professed a significant, optimistic self-assessment. The study's conclusion indicates that employees in the organization accept and support the e-training.

The banking sector has embraced electronic HR management (e-HRM) practices to enhance the organization's and HR department's functions. The conventional study (Arshad et al.,

2023) explored the influence of three main e-HRM practices, including e-training and development, e-HR evaluation, and e-recruitment, on the bank's performance.

A quantitative research approach was applied, and data sources from the financial institution that had integrated protocols of e-HRM were used. The prevailing study found that e-recruitment significantly influences a bank's performance. Further, through e-recruitment, efficiency and quality of talent acquisition have improved. Similarly, e-training and development also positively impact bank performance, enhancing the capabilities and skills of banking employees. The study concludes that e-HR evaluation is an effective process for finding the improvement needed in the bank organization.

The existing study (Bikse et al., 2021) determined to scrutinize the progress of DTF and relevant abilities for employees and discover the challenges and opportunities in Latvia during the pandemic. A quantitative research methodology was employed, and a survey method was applied to collect data from Latvian employers using a questionnaire.

The applied research methodology was based on investigating relatable theoretical concepts regarding DTF. The prevailing study revealed that most respondents who participated in a survey rated the DTF implementation level as medium-high or high, representing a good trend and prevalence of digitalization in the community, even when some companies are at an early stage of DTF. The main challenge was discovered to be the improvement of digital skills and human capital abilities because of some companies' insufficient efforts in offering additional learning to their employees. The study concludes that there is a need for a holistic approach to ensure the DTF implementation with maximum efficiency.

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The existing study (Al-Ghezawi & Megdadi) examined the influence of e-learning on employee performance at commercial banks (CB). A quantitative research approach was applied, and a questionnaire was utilized to collect data from 411 employees from all departments in 13 Jordan CBs. The SPSS tool and descriptive-analytical method were used for analysis. The prevailing study determined the significant influence of e-learning and its variables, such as e-seminar, e-workshop, and e-training, in improving the performance of employees in aspects of work capabilities, competencies, skills, and knowledge. Furthermore, the study suggests a periodic schedule to ensure the employees learn with the help of e-learning components.

The prevailing research (Papanko, 2022) has been conducted to evaluate the effectiveness of internal audits and their connection to the financial performance of chosen non-banking financial institutions in Ghana's Ashanti Region. The research utilized an observational cross-sectional descriptive survey to ensure a comprehensive collection of information regarding

internal audit effectiveness and financial performance conditions without affecting the study setting.

The purposive sampling method was used to gather data from the employees of thirteen chosen non-banking organizations. The research revealed a notable degree of internal audit competency (approximately 55 percent), a reasonable level of management backing to promote the effectiveness of internal audits in non-banking financial institutions, and a strong positive correlation between internal audit competency and the financial performance of non-banking financial entities.

Internal audit independence was also discovered to correlate positively with financial performance. Therefore, it was advised that the boards and management of non-banking financial institutions ensure sufficient audit staff and rigorously follow strategies designed to enhance internal audit competence, independence, and management support systems.

The prior research has assessed the influence of different employee retention tactics on employee happiness. The study used a descriptive design, employing a structured questionnaire to gather data from Manappuram Asset Finance Limited employees. The Statistical Package for the Social Sciences (SPSS) software was utilized to analyze the data, enabling descriptive and inferential statistical assessments and ANOVA.

The results showed that successful employee retention tactics, including recognition initiatives, career growth opportunities, and a supportive work atmosphere, significantly improve employee satisfaction and lower turnover rates. The research emphasizes the necessity of strong retention strategies to cultivate a more satisfied and dedicated workforce in the organization. (Sultanova et al., 2024)

Presents a model for understanding the different approaches taken by countries in digitalizing banking services. This model can be used to assess the status of digital training in sectors outside of banking, considering factors such as technological infrastructure, regulatory backing, and consumer readiness. A strong technological foundation is crucial for successful digital training.

Countries with advanced digital banking systems tend to demonstrate improved service efficiency and customer involvement. Likewise, non-banking industries in India need to invest in technology to support comprehensive training schemes that can adjust to the changing demands of the workforce. The regulatory environment substantially impacts the effectiveness of digital training efforts. Just as supportive regulations have driven the digitalization of banking in various nations, similar frameworks are required for non-banking sectors to ensure that digital training schemes are accessible and in line with industry standards.

DTs are becoming more critical in tackling social issues related to inequality and improving the well-being and empowerment of socially disadvantaged groups. However, studies show that instead of reducing social inequalities, the use of DTs has made them worse in various ways, especially for those who are already marginalized.

A study in India (Bisht et al., 2025) involving employees from five MFIs that offer uncollateralized group loans to poor rural women found that the focus on making money through DTs in providing microfinance has caused the MFIs to deviate from their original mission, resulting in a decrease in the quality and extent of their services. The use of DTs has hindered the development of social and human capital, which are both crucial for reducing poverty and have increased exclusion rather than closing the gap. It highlights the importance of reaching more people and those in greater need (i.e., reaching the poorest borrowers) to understand the shift in mission.

The prevailing research aimed to create a structure for effectively implementing digital transformation. Through a thorough analysis of existing literature and conversations with industry professionals, 17 independent variables and three dependent variables that could impact the adoption of digital transformation were identified.

This study followed a hypothetico-deductive research approach. A survey of 43 non-demographic questions rated on a five-point Likert scale was distributed among the intended recipients. Four hundred seventy-three participants responded to the study, including top executives from various financial institutions like public sector banks, private sector banks, non-banking financial companies, urban cooperative banks, and regulators. The study's findings demonstrated that the successful implementation of digital transformation depends on the organization's and employees' readiness and how employees perceive customer experiences with digital technology. The research led to the establishment of a framework for effectively embracing digital transformation.

Research gap
•   The existing study (Ma et al., 2022) was limited to the probation procedure, which made it challenging to draw inferences for EP that were relatable to its longstanding organizational victory.
•   The existing study (Shahriar et al., 2023) has not discussed the pedagogues' diverse and innovative aspects and skill sets.
•   The conventional study (Bikse et al., 2021) did not conduct an in-depth analysis and discuss the necessary infrastructure regarding DI to execute remote work for the long term.

It also failed to mention the investments made in developing digital skills.

From the above literature review section, the following hypotheses are formulated:

Hypothesis 1
H1: Digital technologies are prevalent in non-banking institutions.
$H1_0$: Digital technologies are not prevalent in non-banking institutions.

Hypothesis 2
H2: Online learning platforms have a significant influence on the training of employees in non-banking ED.
$H2_0$: Online learning platforms have no significant influence on the training of employees in non-banking ED.

Hypothesis 3
H3: DT has a significant impact on the EP in the organization.
$H3_0$: There is no significant impact of DT on the EP in the organization.

RESEARCH METHODOLOGY

Research Design
The research design is deemed to implement several processes, instruments, and procedures to collect data for research. The complete framework and the research flow of the current study are outlined in the design. The research design is the entire structure or plan leading the research process. It is a precarious research component and outlines how a study has been carried out, containing the techniques and methods applied to analyze and aggregate data.

A well-organized research study is important for determining whether the research objectives are met and whether the outcomes are reliable and valid. It incorporates a suitable approach for the current research by answering the questions (Baur, 2019). The questionnaire will be framed based on study variables and questions to execute the quantitative analysis for the current research (Mohajan, 2020).

The questionnaire is used in primary data collection to conduct a survey. Primary data collection gives researchers control over data collection, from planning the research methodology to choosing the sample size and gathering data. e data. The quantitative research used a questionnaire to gather primary data from employees in non-banking economic divisions in India (Sürücü & Maslakci, 2020). The present study uses a quantitative research methodology to collect data using a questionnaire (Alber & Saleh, 2020).

Study Area
The research was conducted by employees in non-banking economic divisions who were enthusiastic about participating in the survey. This helps to accomplish the current research productively. The survey was conducted with the support of the respondents. The individuals who participated in the survey for this research are people working in NBFCs in India. This will improve the significance of the research purpose. Hence, this makes the process of collecting data easier.

Sample Size and Population
The sample size is the number of observations or respondents involved in the study. A strong research design requires a determined, exact size of the sample. Instead of the selected sample size, the final sample size decides the information's value for the quantitative method. For any study, the sample size must be decided critically with a perception of obtaining precise and generalized results (Stratton, 2021).

In the present study, a suitable sample engagement will be selected to the extent of receiving the information related to the intended objective (Lakens, 2022). A sample unit is the extraction of a smaller group of data from the population for the research sample. Similarly, the current study collects data from 425 participants to gain information on the benefits of DT. The focused participants comprise individuals working in a non-banking ED. Proper selection techniques are vital in research (Berndt, 2020).

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The probability sampling method incorporates a random selection. It provides equal opportunities to the population for being chosen. The researchers congregate and examine the data and then define the conclusions and hypotheses that depend on trends and patterns examined from the data. The aim is to collect empirical indications and process them for the research. This approach is often applied in descriptive or exploratory research; the aim is to collect information and produce new insights without restricting the existing concepts, and examples of sampling include opportunistic and convenience sampling (Farrugia, 2019).

The current study used the purposive sampling method to select respondents. Purposive sampling selects a sample by relevant experiences and information to the research purpose. It consists of choosing cases or participants based on the precise characteristics or criteria that match the research objectives (Campbell et al., 2020).

Research instrument
The current study will accumulate data with a structured questionnaire from employees in a non-banking ED. The questionnaire method is the most straightforward way to gather data from the chosen participants. In this technique, the respondents are conferred with a list of

questions with connected recommendations to guide them in selection. The current research embraces the questionnaire method to gather data. These modes are commonly applied to evaluate the quantitative data. The questionnaire is categorized into two types: structured and unstructured. Hence, the present study embraces a structured questionnaire to collect data from the carefully chosen respondents.

Data Analysis
A quantitative approach is a type of research method that involves collecting numerical data, scrutinizing the data according to the research purpose, and hypothesis testing. It is regarded as a systematic phenomenon for collecting data and executing statistical and mathematical techniques. The key purpose of the quantitative method is to examine the correlation between study variables and offer anticipated results. This technique is applied to gather data from respondents and define the outcomes for the targeted population (Dzwigol, 2020).

Measuring and quantifying the study variables creates drifts, patterns, and associations. The quantitative approach collects data from the participants through a survey, face-to-face interviews, closed-ended questionnaires, and online polls from a vast circle. The Likert scale and various forms in the questionnaire are employed to analyze the participants' results. Quantitative methods reveal the result of the gathered data in numerical values. The quantitative method generates reliable and accurate results.

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The current study uses the quantitative data analysis method. It analyzes data gathered using a structured questionnaire from sample respondents. The data are recorded using an Excel sheet to reveal study variables—the software tool SPSS is utilized to analyze the study variables in an Excel sheet. The study's outcome is estimated using ANOVA, regression, and frequency tests.

The given techniques will be applied to identify the data and verify the association between the study variables of the current research. Based on the outcome of the study variable, interpretations will be conducted, and essential development will be recommended in the current study.

Digital Technologies refer to various tools and platforms used for digital training, and this will be evaluated by conducting surveys to gauge how familiar employees are with these tools and how often they use them. Online Learning Platforms are different platforms used for training, which are determined based on how satisfied users are with them and how easily accessible they are. Employee training is evaluated based on their knowledge and skills, and how long and intense their training sessions are. Employee Performance is measured using indicators relevant to each employee's job and performance assessments that employees provide themselves.

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With the help of SPSS (Statistical Package for Social Science) software, the outcome of the current study will be efficient for documenting the study variables. The progress incorporated in the current research is demonstrated in Figure 1. The result of the variables' frequency will be shown in the figures and table. In contrast, frequency tests, regression evaluations, and ANOVA evaluations will be conducted to assess the current study's structured hypothesis.

Figure 1
Research Design
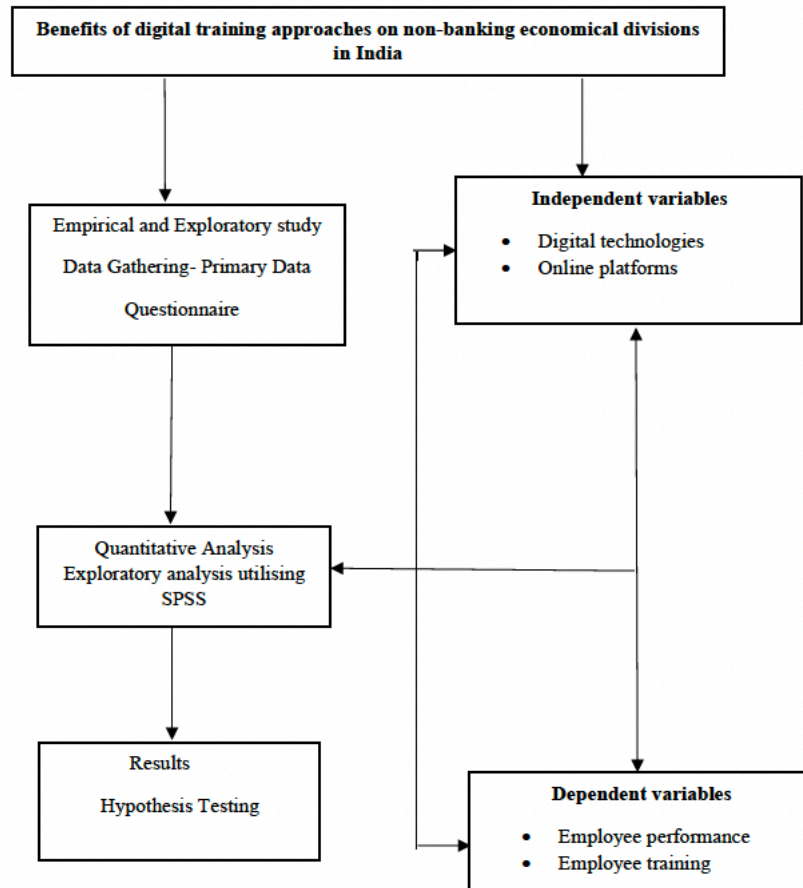
Source: Own elaboration.

The measurement of accumulated data from the primary data collection technique in the present study is done using the SPSS tool. SPSS software is a set of software programs that studies and analyzes scientific information for social science and research purposes. SPSS software is familiar due to some general characteristics, including the user manual. This is well-documented and uncomplicated to observe the instruction simplicity and its language.

In SPSS, the basic functionalities conferred are a statistical program intended for quantitative data analysis. This includes modeler programming, text analysis, bivariate statistics, cross-tabulation, and survey frequencies. SPSS needs less execution time and faster results than

other statistical tools for data analysis. In the current study, statistical analysis and deep evaluation are conducted.

The data set produces accurate results, and SPSS deals with big data sets in other formats. As a result, it finds the study's limitations and produces statistical solutions. Hence, the current study uses SPSS software to analyze and test the research hypothesis and see the possible results of DT benefits in non-banking EDs.

ANOVA has been chosen to demonstrate the impact of online learning platforms on the training of employees in non-banking financial sectors, and linear regression aids in illustrating the depth of the relationship and providing insights into how the independent variables affect employee performance in the organization.

RESULTS

Demographic data
425 respondents who are employees working in NBFIs are considered participants in the present study. The demographic particulars of the contributors are illustrated below:

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Graph 1
Work experience
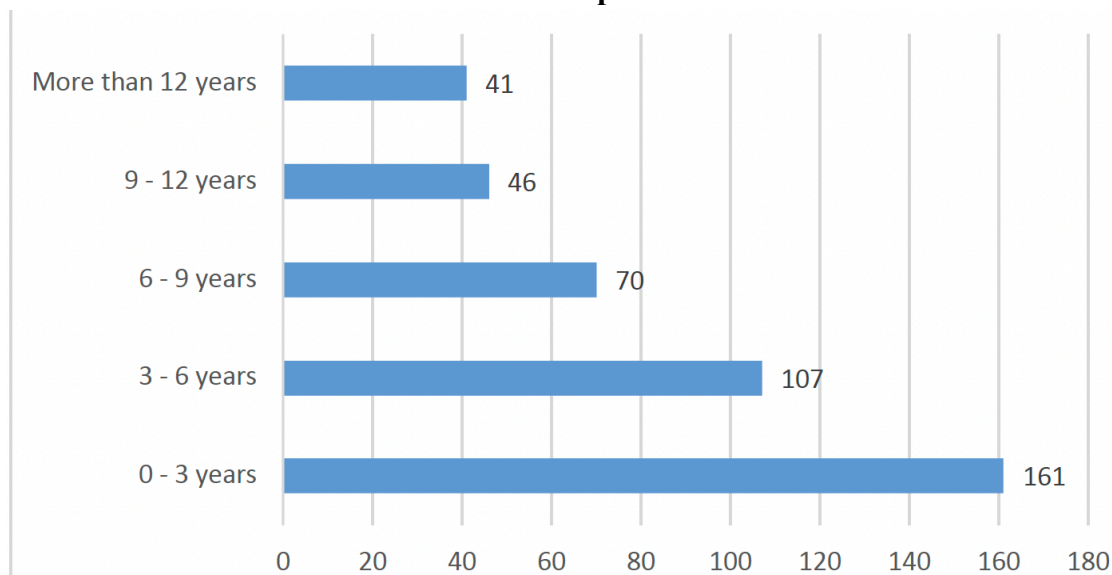
Source: Own elaboration.

Graph 1 illustrates the work experience of participants in NBFIs. The majority of the respondents have 0-3 years of work experience. This group contributes more to the research

study than any other age category. Such groups share more knowledge regarding DTs and their influence on non-banking ED.

Graph 2
Designation
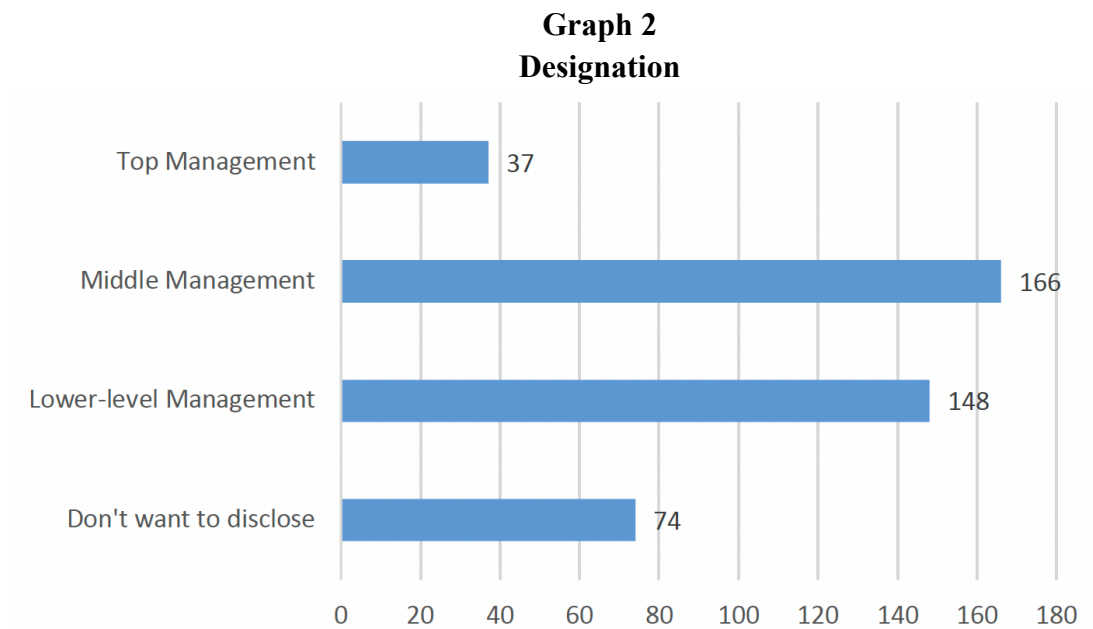
Source: Own elaboration.

Graph 2 demonstrates the designation of the survey respondents. Most of the participants belong to the middle management level, and this group contributes more to the research study than other management level categories. Their contribution enhances the research's precision and accuracy.

Statistical analysis

Hypothesis 1
H1: Digital technologies are prevalent in non-banking institutions.
H1$_0$: Digital technologies are not prevalent in non-banking institutions.

Frequency Test
It is utilized to identify the number of occurrences of specific variables and measure the reliability of prediction.

Table 1

Management is ready to bear the risk (financial and organizational) implied in DT implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.4	2.4	2.4
	Disagree	3	.7	.7	3.1
	Neither Agree nor Disagree	29	6.8	6.8	9.9
	Agree	155	36.5	36.5	46.4
	Strongly Agree	228	53.6	53.6	100.0
	Total	425	100.0	100.0	

Source: Own elaboration.

Graph 3 demonstrates the prevalence of digital technology adoption in non-banking institutions. Most respondents strongly agree that financial management and the organization's interests in implementing DT, regardless of risks, with a percentage value of 53.6%.

H1: Digital technologies are prevalent in non-banking institutions, as the above analysis of the management interest and enthusiasm in adopting DT proves.

Graph 3

Respondents' opinions about the adoption of DT
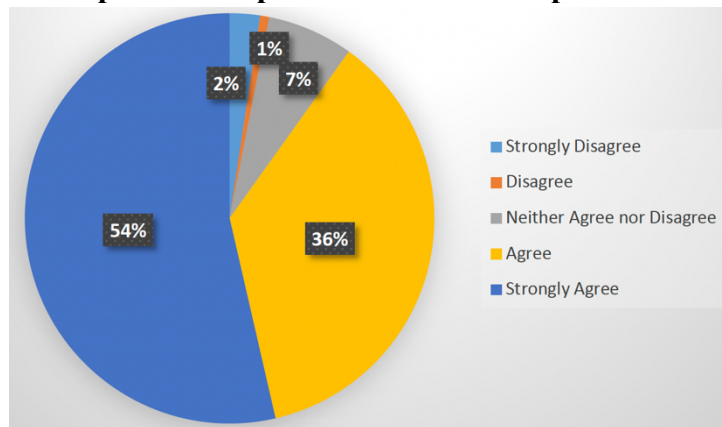
Source: Own elaboration.

Hypothesis 2

H2: Online learning platforms have a significant influence on the training of employees in non-banking ED.

H2$_0$: Online learning platforms have no significant influence on the training of employees in non-banking ED.

One-way ANOVA

It is utilized to determine the impact of social media and research objectives on dependent variables and to investigate the variation (Liang et al., 2019). The current study adopted one-way ANOVA to evaluate online learning platforms' impact on employee training.

Table 2
Digital technology enables better needs assessment, overall training design, and implementation effectiveness

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	9	1.56	1.014	.338	.78	2.33	1	4
2	2	2.00	1.414	1.000	-10.71	14.71	1	3
3	7	3.43	.535	.202	2.93	3.92	3	4
4	158	4.23	.657	.052	4.12	4.33	2	5
5	249	4.82	.406	.026	4.77	4.87	3	5
Total	425	4.49	.777	.038	4.42	4.57	1	5

Source: Own elaboration.

Table 3
ANOVA

	Sum of Squares	df	Mean Square	F	Sig. (S)
Between Groups	135.634	4	33.908	118.088	.000
Within Groups	120.601	420	.287		
Total	256.235	424			

Source: Own elaboration.

Table 3 illustrates the significant influence of online learning platforms on employee training in non-banking financial organizations. The analysis's p-value is .000. The one-way ANOVA result proves that digital technology enables better and more effective employee training.

H2: The above analysis proves that online learning platforms significantly improve the training of employees in non-banking ED.

Hypothesis 3
H3: **DT** has a significant impact on the EP in the organization.
H3$_0$: There is no significant impact of DT on the EP in the organization.

Regression

It is utilized to analyze the association between the independent and dependent variables of the study. This technique is applied to assess the significance of the dependent variable compared to the independent variable.

Table 4
Model Summary

Model (M)	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816ª	.665	.665	.501

a. Predictors: (Constant), DT facilitates me to accomplish work on time.

Source: Own elaboration.

Table 5
Coefficients

M	Unstandardized Coefficients		Standardized Coefficients	t	S
	B	Std. Error	Beta		
1 (Constant)	.392	.143		2.752	.006
DT facilitates me to accomplish work on time.	.902	.031	.816	29.002	.000

a. Dependent Variable: DT Improves commitment towards the job.

Source: Own elaboration.

Table 4 illustrates the outcome of the regression test, with an R-squared value of 0.665. Table 5 demonstrates the significant impact of DT on the EP, with a p-value of .000. This indicates that many respondents agree that DT improves their commitment to work and supports them in accomplishing work on time, which enhances their performance in the organization.

DISCUSSION

The present study's outcome demonstrates the adoption of digital technologies in non-banking EDs in India. An online learning platform enhances the organization's employee training efficiency. The current study also highlights the influence of DT approaches on EPs in non-banking financial institutions. The analysis test demonstrates the prevalence and benefits of DT in non-banking EDs in India.

The existing study (Deng et al., 2023) illustrates the significance of digital technologies in facilitating decision-making and knowledge sharing using enhanced communication and coordination, and their influence on organizational job performance. The outcome of the prevailing study revealed that enhanced knowledge sharing and decision-making with the help of technologies improve employees' job performance. The present study discusses DT's influence on the organization's EP and demonstrates the significant impact of DT on the performance of employees and the adoption of digital technologies in organizations. (Papanko, 2022)

Highlights the significant findings regarding internal audit effectiveness and its correlation with financial performance in non-banking financial institutions in Ghana's Ashanti Region. The study revealed that approximately 55% of respondents rated the competency of internal audits as satisfactory, indicating a moderate level of effectiveness. Furthermore, a strong positive correlation was identified between internal audit competency and the financial performance of these institutions, suggesting that enhanced audit practices can lead to better financial outcomes. Similarly, compared with the present research, it has also emphasized the importance of management support and the independence of internal audits, which were found to influence financial performance positively.

The present study has underscored the necessity for boards and management to prioritize adequate staffing for internal audits and implement strategies to improve audit competence and independence. By doing so, non-banking financial institutions can foster a more robust internal control environment, ultimately leading to improved financial performance and organizational success.

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The existing study (Heslina & Syahruni, 2021) determines the impact of information technology, employee engagement, activities, training, and HR competency on employee performance. The prevailing study proves that HR competence, employee engagement, and technology significantly influence employee performance. Additionally, the study demonstrates the benefits of information technology. Similarly, the present shows the benefits of DT in the organization, not just the general advantages of digital technology. The current study outcome demonstrates the significant impact of DT approaches on employee performance.

The existing study (Sapta et al., 2021) demonstrates the three factors, such as organizational culture, job satisfaction, and technology, motivating the performance of bank employees. The study's outcome indicates that all three factors significantly impact employee performance. The current study focuses on a particular benefit of digital technology, DT, for improving employee performance. Furthermore, the present study also illustrates the importance of online learning platforms for practical training. (Bansal, 2020)

Training significantly enhances employees' usability and acceptance of digital banking services, ultimately lowering banking costs for this demographic. This consistent finding emphasizes the importance of in-branch initiatives in facilitating customer transitions to digital banking.

Beyond the benefits identified, such as improved service usability and reduced costs, other advantages include increased employee financial literacy, greater confidence in digital platforms, and promoting financial inclusion by bridging the gap between traditional banking and emerging digital services. Moreover, compared with the present research, the training programs can enhance job satisfaction and employee retention, as workers feel more competent and valued within their roles, further contributing to a more stable workforce in the unorganized sector. These insights underscore the critical role of targeted training initiatives in empowering employees and promoting broader acceptance of digital banking solutions in India.

The existing study (Wavre & Kuknor, 2024) determined the main attributes to evaluate employee engagement in DT programs to enhance training effectiveness. The result revealed the main components of quality, team dynamics, attention, practical examples, and a professional approach. Similarly, the current study discussed DT's significance and influence on employee performance efficiency. The present study outcome determined the significant importance of DT in enhancing EP within the organization.

The existing research (Verma, 2024) explores the different aspects of digital technology and its effects on NBFCs. A total of 350 questionnaires were distributed in a self-administered survey. The researcher used purposive sampling to select the sample. Out of the total, 253 questionnaires were completed and used for analysis with SPSS. A structured questionnaire was employed to gather data on the impact of digital marketing services on NBFCs. The survey results indicated that participants believe DT can improve the speed of service delivery. Similarly, the present study signifies the importance of DT in elevating the performance within the organization.

The prevailing research (Usmia et al., 2024) demonstrates the benefits of the digital system in private banks. It employs quantitative research methodology and a descriptive analysis method. The sample population consisted of employees in the operation sector. Implementing the barcode system also makes it easier and faster to process asset stock-taking using the asset inventory application, thereby increasing overall work productivity.

The calculated t value reveals no significant difference in performance before and after the digital system implementation. On the contrary, the regression analysis of the present study

shows that the DT improved commitment towards work and support in accomplishing work on time, which enhanced their performance in the organization.

The prevailing research (Muduli & Choudhury, 2024) examines the acceptance of technology and workforce agility in the banking sector. The data were gathered from high—and low-level executives in the Indian banking sector. SPSS has been utilized for data analysis. The outcome proves that the acceptance of technology positively impacts performance. Moreover, workforce agility has a mediating impact on technology acceptance and outcomes. Likewise, the present research demonstrates that training programs improve job satisfaction and employee retention in NBFCs.

The conventional study (Bahl et al., 2024) assesses the efficacy of training for managerial and non-managerial bank employees in the banking sector. The data were gathered from 402 respondents, and SEM-PLS was utilized for analysis. The outcome shows that the DT is more effective in managerial bank employees and that they are more skilled after training programs. Likewise, the present study reveals that the DT significantly impacts the organization's EP.

The prevailing study (Almubaydeen et al., 2025) examines the implementation of digital technologies in commercial banks. The data were gathered from 60 staff members, and SPSS was utilized for analysis. The outcome proves that digital technologies aid in improving firm performance. Likewise, the present study signifies the beneficiaries of digital technologies in non-banking institutions.

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LIMITATION

The foremost constraint of the present study is that the contributors to the research are employees working in non-banking financial organizations in India. Hence, the consequences might lack generalizability. Human activities are an ever-changing model that cannot remain constant. Therefore, the study's outcome continuously varies with understanding different online consumers on various platforms regarding DT in managing non-banking ED. The inference provided by the research can be valuable in understanding the benefits of DT adoption in the NBFIs.

CONCLUSION

DT allows financial organization employees to offer better customer service with the help of digital channels—knowledge to help customers solve technical issues, digital transactions,

and other digital banking features. DT equips employees with essential skills to utilize digital tools like financial management software and digital banking platforms. Since financial institutions produce a large amount of data, DT implementation enables employees to extract needed insights from market trends, financial performance, and customer behavior.

DT empowers the system to thrive in the digital era and deliver quality to the organization's customers. Therefore, the current study analyzes the adoption of digital technologies in non-banking institutions to understand their prevalence in India. DT improves concentration on the job and facilitates accomplishing work on time. Hence, DT approaches significantly influence the performance of employees in the organization.

The present study also demonstrates the importance of e-learning platforms in offering practical training to employees. Subsequently, the current study recommends appropriate implementation of digital learning platforms, such as choosing a suitable platform and assessing an organizational requirement for practical training, which enhances the EP in the non-banking ED.

Theoretical implications

Applying the TAM to digital training methods in non-banking economic sectors in India has significant theoretical implications. TAM focuses on two main factors influencing technology adoption: perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness refers to employees' belief that digital training will improve their job performance and skills. Employees acknowledge the advantages of such programs, such as increased financial literacy. They are more likely to participate in them, and the perceived ease of use relates to how user-friendly and accessible the training platforms are; simpler interfaces encourage engagement.

The interaction between PEOU and PU is vital, as increased ease of use can enhance perceived usefulness, creating a positive loop for technology adoption. External factors such as organizational culture and technological infrastructure can also impact PU and PEOU. A culture that promotes continuous learning can improve perceptions of the value of digital training, while adequate technological resources facilitate smoother implementation. Overall, using TAM provides a systematic understanding of the factors affecting the acceptance of digital training, helping organizations develop effective initiatives that enhance employee skills and drive sector growth.

Practical Implications

Additionally, the move towards digital training methods encourages an atmosphere of ongoing education within companies. This culture change is crucial for adjusting to the quickly changing financial environment influenced by fintech advancements. With NBFCs using technology more to provide services, providing employees with the required skills

through digital training is necessary for staying competitive in the market. Accepting digital training methods provides a theoretical understanding of learning and adoption processes and practical advantages that can promote growth and inclusivity in India's non-banking economic sectors.

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Impact of E-Service Quality of Mobile Application on Customer Perceived Value

Impacto de la calidad del servicio electrónico de la aplicación móvil en el valor percibido por el cliente

Rohit Kumar Sharma
Alliance University (India)
rohitPHD719@bus.alliance.edu.in
https://orcid.org/0009-0000-0986-4620

Sanjeev Padashetty
Alliance University (India)
sanjeev.padashetty@alliance.edu.in
https://orcid.org/0000-0001-6474-1383

ABSTRACT

The present study examines the effect of mobile app service quality on consumer perceived value (CPV) in online shopping in India, specifically in Bengaluru, and customer satisfaction (CS) on CPV. A quantitative research method was employed, in which the researchers collected data from 222 randomly selected consumers using structured questionnaires and interviews. The analysis was completed in R Studio with analyses including discriminant validity, confirmatory factor analysis, and structural equation modeling (SEM). The findings show that mobile app service quality significantly affected CPV, with reliability and consumer service being the most critical dimensions. In contrast, content quality was the least essential dimension. Additionally, CS significantly positively affected CPV and partially mediated the relationship between content quality, navigation, visual design, contact, and CPV.

Keywords: Service quality; CPV; online shopping; consumer satisfaction; Bengaluru

Impact of E-Service Quality of Mobile Application on Customer Perceived Value (CPV)

RESUMEN

El presente estudio examina el efecto de la calidad del servicio de la aplicación móvil en el Valor Percibido del Consumidor (CPV) en las compras en línea en la India, específicamente en Bengaluru, así como el efecto de la Satisfacción del Cliente (CS) en el CPV. Se empleó un método de investigación cuantitativo, en el que los investigadores recopilaron datos de 222 consumidores que fueron seleccionados aleatoriamente mediante cuestionarios estructurados y entrevistas. El análisis se completó en R Studio con análisis que incluyeron validez discriminante, análisis factorial confirmatorio y modelos de ecuaciones estructurales (SEM). Los hallazgos muestran que la calidad del servicio de la aplicación móvil tuvo un efecto significativo en el CPV, siendo la confiabilidad y el servicio al consumidor las dimensiones más significativas, mientras que la calidad del contenido fue la dimensión menos significativa. Además, la CS tuvo un efecto positivo significativo en el CPV y medió parcialmente la relación entre la calidad del contenido, la navegación y el diseño visual, el contacto y el CPV.

Palabras clave: Calidad del servicio; CPV; Compras en línea; satisfacción del consumidor; Bangalore

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INTRODUCTION

Over the last few years, smartphones and mobile apps have changed how customers engage with companies (Stocchi et al., 2022). Mobile apps are crucial for offering services like shopping, banking, entertainment, and social media (Hossain et al., 2020). This change has highlighted the importance of e-service quality, the overall standard of services provided through electronic channels. With growing competition in the mobile app industry, knowing the factors that impact e-service quality is essential for businesses looking to improve CS and loyalty (Yunus et al., 2024).

Modern customers are more knowledgeable and selective than in the past. Due to the abundant information, they have high expectations for mobile apps and seek seamless and personalized experiences (Susiang et al., 2023).

Studies show that customers are more willing to switch to other apps if their needs are unmet, underscoring the need to provide top-notch e-services that cater to their preferences. Efficiency, system reliability, fulfillment, privacy, and responsiveness determine how customers perceive and experience e-services (Guzman & Al-Hakimi, 2024).

There is a concept called Customer Perceived Value (CPV), which refers to how customers assess what they receive from a service compared to what they give up, like time, money, and effort (Anwar et al., 2021). This evaluation plays a crucial role in determining customer satisfaction and loyalty.

Many studies have found a positive link between the quality of e-services and CPV (Butt & Umair, 2023), indicating that better service quality leads to customers seeing more value in the service. For example, if a mobile app is efficient and easy to use, users are more likely to view it as valuable. Furthermore, having a reliable system that is always available builds trust and improves the overall user experience.

Although the connection between e-service quality and CPV is well-established in traditional e-commerce settings, further investigation is needed, specifically within mobile applications (Miao et al., 2022). The distinctive features of mobile platforms, such as small screen sizes, varying connectivity, and different user interactions, impact how users perceive the quality and value of a service.

Measuring e-service quality is challenging despite its many facets and despite being crucial. Different aspects contribute to the overall quality of service, but their significance can vary depending on the context and demographics of consumers. For instance, younger customers

may value efficiency and responsiveness more than older users, who prioritize privacy and security features. Moreover, many businesses do not have strong frameworks for efficiently evaluating e-service quality.

User experience (UX) design is crucial in influencing perceptions of the quality of electronic services (Susilawati et al., 2024). A well-crafted mobile app should make it easy for users to navigate, quickly find information, and have an intuitive interface that enhances user engagement. Conversely, a poorly designed UX can result in frustration and dissatisfaction. Research indicates that apps with excellent UX enhance perceived service quality and positively impact CPV by creating enjoyable interactions that promote repeat usage.

The quality of the content is crucial in assessing the efficiency of a mobile app. Quality content must be pertinent, precise, and interesting to fulfill user requirements effectively. Studies suggest that comprehensive and well-organized content boosts user interaction and loyalty, as users revisit apps offering valuable information and perspectives (Aqeel, 2021). Additionally, as search engine algorithms such as Google continue to evolve and focus on content significance, apps that offer top-notch content are more likely to draw in users and sustain their engagement. Substandard content quality can result in increased bounce rates and user discontent, ultimately reducing the perceived worth of the app.

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Effective navigation is also a crucial element of e-service quality on mobile apps. Users anticipate smooth interactions that help them locate information swiftly and effectively. An appropriately crafted navigation system decreases annoyance and improves the overall user experience. Studies indicate that instinctive navigation leads to greater user satisfaction, enabling users to do tasks with little effort (Yadav et al., 2024). Alternatively, complex or non-intuitive navigation may lead to users abandoning the app and forming negative opinions regarding its quality.

Hence, streamlining navigation routes is vital to ensure that users can readily reach the desired content. A mobile app's general layout substantially impacts how users perceive its quality. Attractiveness, consistency of layout, and ease of use are essential factors that help create a positive user experience. Good design improves usability and helps build emotional connections with users, motivating them to interact more with the app.

Research has demonstrated that visually appealing apps are more likely to keep users engaged for extended periods and lead to repeat use (Chopdar & Balakrishnan, 2020). Additionally, design features should be adjusted for different screen sizes and devices to ensure a cohesive experience on various platforms. Making sure that the design meets user expectations is essential for enhancing CPV.

Customer service contact is vital to e-service quality in mobile apps, but is often neglected. People may face problems or need assistance when using an app, so having easily reachable and responsive customer support is crucial for keeping users satisfied (Huma et al., 2024). Studies show that addressing issues promptly through efficient customer support methods significantly boosts perceived value (Oloveze et al., 2022). When users feel supported and appreciated by a service team, their overall experience is enhanced, resulting in greater loyalty and positive recommendations.

The significance of mobile apps in influencing consumer behavior in different industries is crucial to grasping the connection between e-service quality and how customers perceive value. This study intends to fill the gaps in understanding this relationship within the mobile app context to assist businesses in improving user experiences and retaining customers for the long term. The results will be vital in crafting strategies to enhance service provision in the constantly changing digital market.

Problem identification
In the fast-changing world of mobile apps, the quality of online services plays a significant role in CS and loyalty, making it crucial for businesses to understand how e-service quality impacts CPV. However, several complicating factors exist in this relationship. Firstly, many mobile apps show inconsistent levels of service quality in areas such as efficiency, responsiveness, and privacy, resulting in varied customer experiences.

As users become accustomed to high-quality digital interactions, their expectations increase; failing to meet them can lead to dissatisfaction and decreased perceived value. Furthermore, there is often a lack of clarity on which aspects of e-service quality impact CPV, making it difficult for businesses to prioritize improvements effectively. Poor user experience (UX) design worsens the situation, as difficulties in navigation and long loading times can reduce overall satisfaction. In addition, concerns about data privacy can harm users' perceptions of mobile apps, resulting in a drop in perceived value if they believe their personal information is not adequately safeguarded.

Quantifying e-service quality and its direct effect on CPV is challenging due to the subjective nature of customer experiences; many organizations lack strong metrics or frameworks for practical evaluation. These challenges can lead to serious consequences, such as higher customer turnover, reduced brand loyalty, and negative financial impacts as dissatisfied customers look for alternatives. Addressing these challenges is essential for businesses wishing to enhance the quality of their mobile apps' e-services and improve CPV, ultimately encouraging long-term user engagement and satisfaction in a fiercely competitive market.

Significance of the study

Impact of E-Service Quality of Mobile Application on Customer Perceived Value (CPV)

The importance of this research lies in its ability to improve comprehension of the crucial link between e-service quality and CPV in mobile apps. With the expansion of mobile commerce, businesses need to acknowledge that high e-service quality is not only a competitive advantage but a requirement for retaining and satisfying customers. By exploring the aspects of e-service quality that have the most significant impact on CPV, this study offers valuable insights that can assist organizations in optimizing their mobile apps to meet user expectations effectively. Moreover, the results can help businesses identify key areas for enhancement, resulting in improved user experiences, greater customer loyalty, and increased revenue generation. Additionally, this research adds to the academic literature by addressing gaps in understanding how different aspects of e-service quality interact with customer perceptions in the mobile environment. This study is essential for professionals wanting to improve their service offerings and scholars looking to enhance the theoretical framework surrounding e-service quality and customer value in the digital era.

Objective

The objectives of the study are as follows.

- To empirically examine the impact of M-application service quality on CS in online retail in Bengaluru.
- To empirically examine the influence of CS on CPV in online retail in Bengaluru.
- To assess the mediating role of CS in the relationship between m-application service quality dimensions and CPV.

The present paper is based on the current drift in depicting the e-service quality of mobile applications on CPV. On the other hand, scrutiny of contemporary research that has remarked on similar research work through varied use of analytical methods is characterized in Section 2. Added this, Section 3 illustrated the methodology used in the present research. Further, the results of the current study are indicated in Section 4. Consequently, Section 5 represented the conceptual discussion on the perception of current research. Section 6 shows the limitations of the paper. The conclusion from the present paper is presented in Section 7 in an orderly fashion.

LITERATURE REVIEW

In today's age of IT advancement, there has been a significant increase in the use of e-commerce mobile applications for making purchases. This growth has led to a surge in research in this field, prompting further studies to address gaps in marketing strategies through practical analysis. Over the last ten years, the quality of mobile application services has been acknowledged as a crucial factor in distinguishing service offerings and establishing a competitive edge. The current study examines works related to the M-S-QUAL theory

(Hassan, 2024) and the Theory of Planned Behavior (Sousa et al., 2022). Their theoretical contributions are analyzed to understand the impact of M-Service Quality effects on CPV.

M commerce applications

The combination of mobile telecommunications and the Internet has led to numerous exciting opportunities and has been a driving force behind the expansion of e-commerce. Integrating these technologies into our daily lives has changed how we work, socialize, learn, and purchase. The subsequent sections will introduce and explore various topics within the literature on m-commerce. M-commerce covers many applications and involves various value-adding activities that ultimately benefit the consumer. The European Commission (1996) developed a framework to outline these activities, drawing from Porter and Millar's (1985) classic value chain analysis. This framework comprises six core processes and two main categories: infrastructure, services, content, and products.

Service Quality

Consumers judge an entity's excellence or superiority based on service quality (Omar et al., 2021). Evaluating service quality over physical products is more challenging because services are intangible (Wirtz et al., 2021). Heterogeneity and inseparability further complicate the judgment process. Various methods exist in marketing literature to assess service quality, with SERVQUAL and SERVPERF being the most well-known. SERVQUAL, developed by Parasuraman et al. (1988), consists of five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. (Cronin Jr & Taylor, 1992)

Introduced SERVPERF, focusing on performance rather than expectations to measure service quality. However, it is suggested that customer satisfaction has a more significant impact on purchase intention than service quality. Parasuraman and others (2005) proposed using two scales to measure e-service quality. The first scale, E-S-QUAL, comprises four dimensions (efficiency, fulfillment, system availability, and privacy), while the second scale, E-S-QUAL, consists of three dimensions (responsiveness, compensation, and contact).

While m-commerce is often seen as an extension of e-commerce, it can also be seen as a distinct channel with advantages for consumers (Lucas et al., 2023). The characteristics of the mobile channel are significantly different from those of other channels, which calls for creating a separate service quality scale for m-commerce (Dastane et al., 2020). This scale is crucial because mobile technology introduces a new service delivery mode that businesses are unfamiliar with.

For instance, E-S-QUAL looks at the services firms provide and how technology impacts service quality (Çelik, 2021). The rise of mobile technology has transformed our expectations

of a commerce platform, highlighting the need for a suitable scale to measure M-commerce service quality (AlSondos & Salameh, 2020). Researchers in M-commerce often face the challenge of assessing mobile service quality.

CS

CS is determined by three main factors, including the overall perception of a company's service quality (Marcos & Coelho, 2022). In the context of mobile commerce, CS refers to a customer's assessment and emotional reaction to the overall product or service experience in a mobile commerce setting (Hsiao, 2022). CS can be interpreted as individual transactions or a cumulative evaluation (Thanasrichatthon, 2023). The transaction-specific approach suggests that CS is based on the customer's recent purchasing experiences (Hamilton-Ibama & Ogonu, 2022*)*.

CPV

CPV can be described based on different aspects such as quality, benefit, money, and social psychology (Thanasrichatthon, 2023). From a financial viewpoint, value is created when customers pay less for goods using discounts and coupons (Duan et al., 2022). In terms of quality, value is determined by the disparity between the price paid for a product and its quality (Uzir et al., 2021).

The beneficiary perspective suggests that perceived value is the overall assessment by customers of the benefits gained versus the sacrifices made (Lin, Wang, & Huang, 2020). Additionally, non-monetary costs like search, transaction, negotiation, and time spent during the purchase should also be considered (Sharma et al., 2020). From a social psychology standpoint, value is found in the significance of buying specific goods within the buyer's community (Ou et al., 2022). Perceived value is the evaluation of product benefits by consumers, considering both the initial sacrifices and the performance of value-added services provided by mobile applications (Wu & Andrizal, 2021).

Research Gap

Much literature examines the association between content quality and CS. Still, there is a lack of research on analyzing the various dimensions, such as e-service quality, consumer support contact, and navigation and design. Furthermore, the prevailing research focuses on conventional e-commerce platforms but does not distinguish service quality in mobile applications and e-service quality in general settings. Most research focuses on the factors impacting CS and engagement, but does not examine the CPV interaction with these factors.

THEORETICAL FRAMEWORK

In this study, the Mobile Application Service Quality framework's conceptualization encompasses the following theories.
● Theory of Planned Behaviour
● M-S-QUAL: Mobile service quality measurement model.

Theory of Planned Behaviour and Reasoned Action
Icek Ajzen created a psychological theory that aims to explain human behavior in certain situations. The theory suggests that a person's intention to act is the leading indicator, with this intention being influenced by three main factors: attitude, subjective norms, and perceived behavioral control (Basoglu et al., 2009).

Figure 1
Theory of Planned Behavior and Reasoned Action
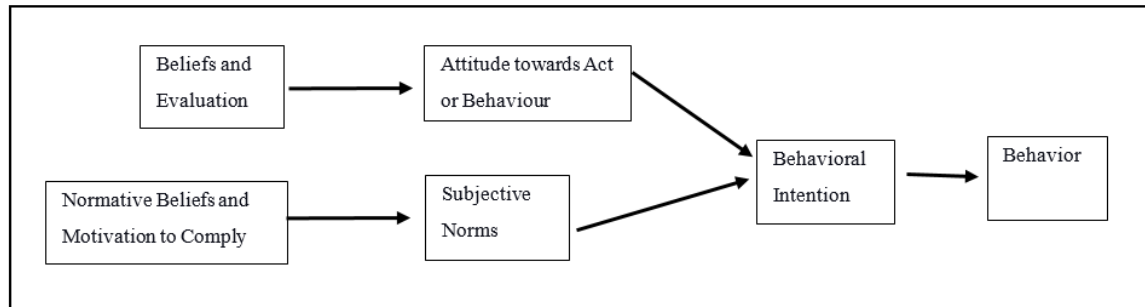
Source: Own elaboration (Basoglu et al., 2009).

This intention is influenced by factors such as attitude, which reflects a person's positive or negative evaluation of the behavior; subjective norms, which represent perceived social pressures and beliefs about how others view the behavior; and perceived behavioral control, which accounts for an individual's belief in their ability to perform the behavior based on internal and external factors.

While the Theory of Reasoned Action focuses solely on attitudes and subjective norms, the Theory of Planned Behaviour enhances this model by incorporating perceived behavioral control, making it more applicable to scenarios where external constraints may affect behavior. Both theories have been widely utilized in various fields, providing valuable insights into how intentions shape actions.

Hence, the Theory of Planned Behavior and the M-S-QUAL model enhance our understanding of consumer behavior and service quality regarding mobile apps such as those

for online shopping. TPB discusses the role of attitudes, subjective norms, and perceived behavioral control in forming the intention to use mobile apps to shop.

Positive attitudes toward app usability and efficiency of shopping, social pressure from peers and influencers encouraging the use of an app, and the confidence to use the app effectively are all elements of a person's behavioral intention and create perceived value. On the other hand, M-S-QUAL directly incorporates service quality dimensions, such as reliability, responsiveness, and ease of use, to evaluate mobile service quality. These dimensions are tied to customer satisfaction and perceived value by providing uninterrupted service or functionality, consistent access to accurate information, and timely customer service.

SERVQUAL and SERVPERF scale

Parasuraman, Zeithaml, and Berry proposed that service quality is determined by the gap between customer expectations and their experience of a service (Kandampully, 1998). Service quality was initially based on four key dimensions (content quality, ease of navigation and visual appeal, management and customer service, and system reliability and connectivity) and was assessed using 24 specific items.

Figure 2
SERVQUAL and SERVPERF scale

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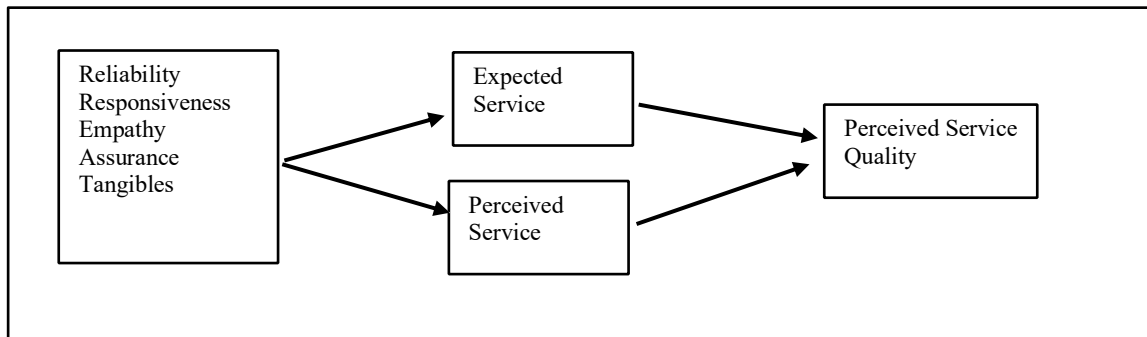
Source: Own elaboration.

According to (Parasuraman et al., 1988) the SERVQUAL model, illustrated in Figure 2, it is a widely used framework for assessing service quality across five dimensions: tangibles, responsiveness, reliability, assurance, and empathy. This model was developed to measure the gap between customer expectations and perceptions of service delivery based on the expectancy–disconfirmation paradigm. SERVQUAL has gained significant attention in academic and practical circles due to its diagnostic value and adaptability across the healthcare, banking, and telecommunications industries. However, scholars have raised concerns about its conceptual framework and measurement methodology. For instance, (Cronin Jr & Taylor, 1992) they argued that using the service quality performance model (SERVPERF) instead of SERVQUAL yields more reliable, valid,

and predictive results for measuring service quality. Similarly, other studies (AlSondos & Salameh, 2020; Osman et al., 2024) have supported SERVPERF as a superior tool for assessing service quality outcomes while acknowledging SERVQUAL's strength in providing diagnostic insights into service quality gaps.

M-S-QUAL

M-S-QUAL (Huang et al., 2015) is a reliable and valid framework for assessing service quality in mobile applications, as shown in Figure 3. It focuses on crucial dimensions that aid business firms in enhancing their competitive edge in the marketplace and guides strategic initiatives to improve the consumer experience in the mobile context.

Figure 3
M-S-QUAL model
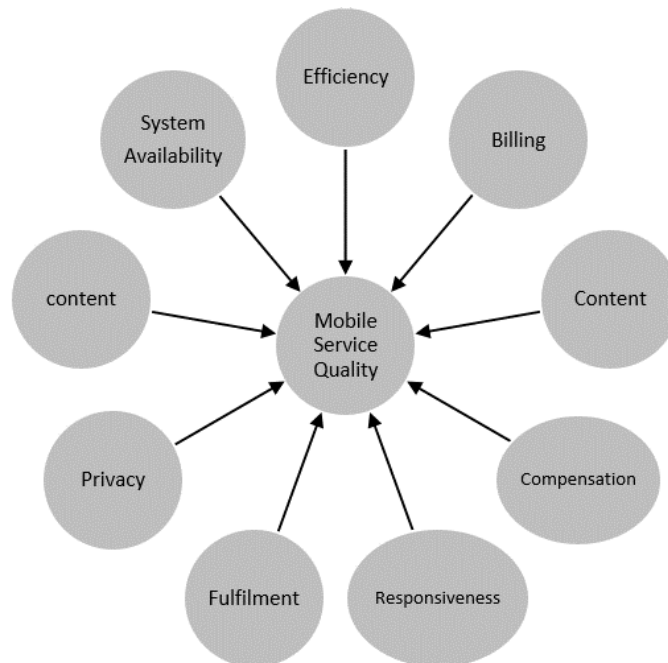
Source: Huang et al. (2015)

The determinants in the model are described as

● "Efficiency: Whether the site responds quickly and is easy to use.
● System Availability: Whether the required technical functions are readily available, and the service promises are accurate.
● Content: Whether the information on the mobile site is appropriate and correct.
● FUL: The extent to which the site's promises about order delivery and item availability are fulfilled.
● PRV: The degree to which customers perceive the site safe and the extent to which their personal information is protected.

● Responsiveness: The effectiveness of the site's problem-handling process and return policy.

● Compensation: The degree to which the site compensates consumers for any problems.

● Contact: Telephone assistance and online representatives are available.

● Billing: Perceived value for money and the convenience of the billing process".

Conceptual Framework

The integration of chief theories, such as the Theory of Planned Behavior and Reasoned Action and the M-S-QUAL theory, generated the proposed conceptual model shown in Figure 4 of the research study.

Figure 4
Conceptual framework
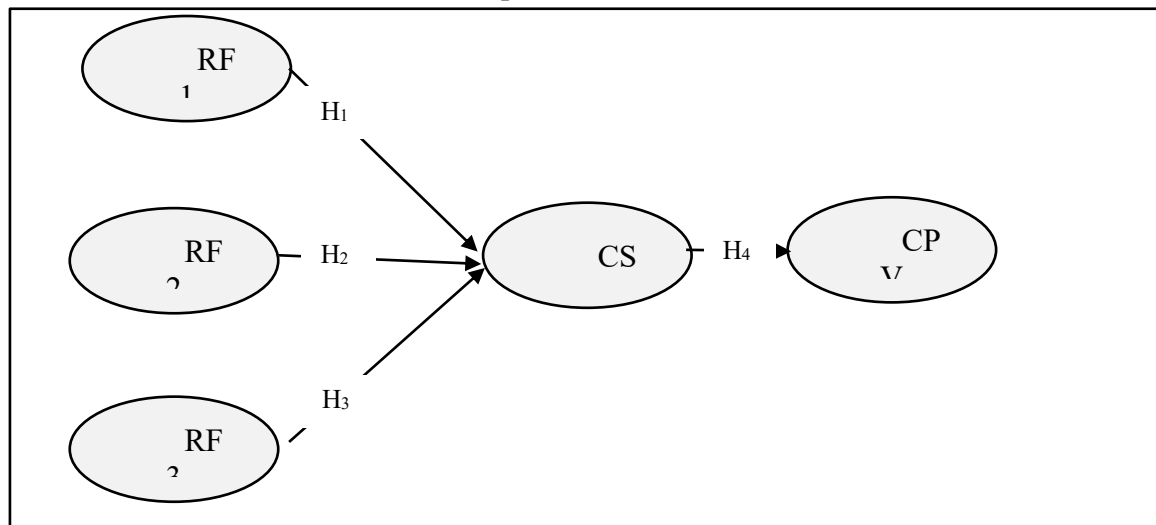
Source: Own elaboration.

The M-S-QUAL model defines RF1 as "whether the information on the mobile site is appropriate and correct." Researchers have envisaged RF1 as one of the most critical factors influencing CPV regarding mobile applications.

$H_0$1: RF1 does not have a significant influence on CS
H_a1: RF1 has a significant influence on CS

The m-S-QUAL model defines RF2 as "M-App is well organized."
$H_0$2: RF2 does not have a significant influence on CS
H_a2: RF2 has a significant influence on CS

RF3 is the availability of telephone assistance and online representatives.
$H_0$3: RF3 does not have a significant influence on CS

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H$_a$3: RF3 has a significant influence on CS

CS is defined as the cumulative impression of a firm's service performance. CPV is defined by constructs such as Quality, Emotional, and Comparative CPV.

Therefore, this study seeks to examine the direct effect of CS on CPV as well as the mediating role of CS in the association between m-application service quality and CPV and proffers the following hypothesis:

H$_0$4: CS does not have a significant influence on CPV

H$_a$4: CS has a significant influence on CPV

H$_0$5: CS does not mediate the relationship between RF1 and CPV

H$_a$5: CS mediates the relationship between RF1 and CPV

H$_0$6: CS does not mediate the relationship between RF2 and CPV

H$_a$6: CS mediates the relationship between RF2 and CPV

H$_0$7: CS does not mediate the relationship between RF3 and CPV

H$_a$7: CS mediates the relationship between RF3 and CPV

METHODOLOGY

Research Design
The research design is supposed to implement several processes, including tools and procedures, to obtain data for the research purpose. Well-designed research is mandatory to acquire reliable and valid outcomes. It incorporates the appropriate method of approach for the present study by responding to the questions (Baur, 2019). The current study employs a quantitative research method. For the quantitative method, data are collected with a questionnaire based on variables and queries to implement the analysis (Mohajan, 2020).

Study Area
The study was conducted among retail consumers in Bangalore, India, who contributed wholeheartedly to the survey and interview. This supports the valid execution of the present study. The survey and interview are conducted with the aid of respondents. The people who contributed to the study are consumers of the retail sector. This will enhance the significance of the research and make gathering data more convenient and faster.

Sample size and population
In contemporary research, a suitable respondent contribution will be designated to obtain data regarding consumers' perceptions of India. The valuable data gathered for the quantitative technique depends on the selected sample size, which helps to prove the study's

objectives (Lakens, 2022). The study incorporated 222 respondents for quantitative research, which included consumers in the respective fields involved in the current study.

Sampling Techniques

The technique used for sampling is the most significant method of collecting the data from the targeted population instead of concentrating on the entire population available (Stratton, 2021). The current study uses a random sampling method to choose the target respondents for the study. Correspondingly, the data to be gathered for the current research will select the willing samples and be able to offer precise responses to be measured. It is also used to find the perception of the dataset and categorize the patterns, which allows one to comprehend the significance of mobile applications in the retail sector (Sreekumar, 2023).

Data Collection

The data collection process is the primary phase in research, which affects the value of attaining outcomes by decreasing the feasible faults that might arise in the research process (Taherdoost, 2021). Our present study collects consumer data to assess the significance of mobile applications among e-commerce consumers. The study collected primary data using a structured, quantitative questionnaire. Secondary data was gathered from various academic journal articles.

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Data Analysis

The quantitative methodology approach involves collecting, scrutinizing, and decoding quantitative data in research. The study levels are synergistic with the quantitative phase. This method gives results that include the incidence under study due to the quantitative data. The present study employed a quantitative research approach as it is more appropriate, with the motive of depicting and enlightening in different aspects (McLeod, 2023).

The R Studio software tool examines the quantitative data attained through a structured questionnaire. The gathered data are exported into an MS Excel sheet for a see-through study of variables.

The quantitative research approach gathers data from respondents with closed-ended queries and infers the responses (Kandel, 2020). This is a naturalistic and multi-method approach, an interpretive technique for its research matter (Maxwell, 2021). An in-depth interview procedure is implemented to question mobile e-commerce application users. This technique describes the respondents' opinions, experiences, emotions, and meanings.

The conceptual model for this study comprises three exogenous constructs, which are dimensions of m-application service quality - RF1, RF2, and RF3, and two endogenous constructs, CS and CPV. In addition, the mediating effect of CS in the relationship between

the four m-application service quality dimensions and CPV was also studied. The study relied on the well-established M-application service quality scale for measuring the exogenous RF1, RF2, and RF3 constructs. Six items of RF1, two for RF2, and three for RF3 were used as per the M-S-QUAL. Additionally, three CS and CPV items were acquired.

Figure 5

Research Design
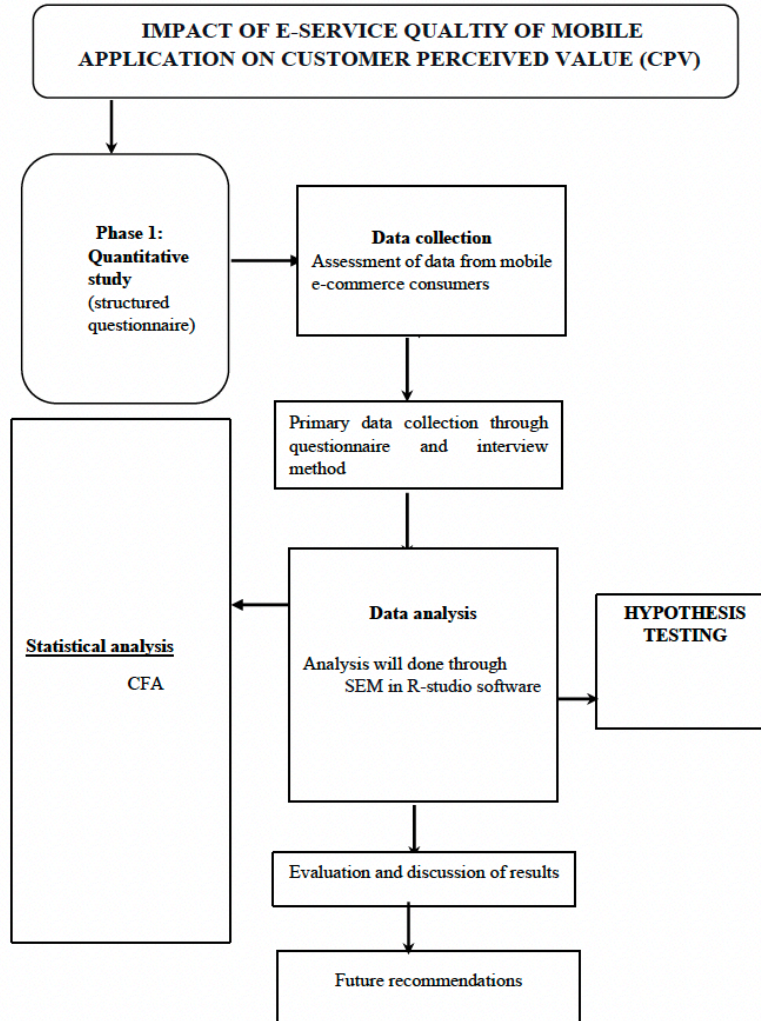
Source: Own elaboration.

Figure 5 demonstrates the process incorporated in the present study for quantitative data analysis using R Studio software, where study variables are determined and executed.

SEM analysis

Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA) are related statistical methods employed mainly in the social sciences to analyze intricate relationships between variables. SEM is a wide-ranging framework where researchers can test theoretical

models by analyzing latent and observed variables, enabling researchers to investigate causal relationships and dependencies in multivariate data. SEM includes several techniques, such as path analysis, and offers a strong method for model fit evaluation using goodness-of-fit indices.

Conversely, CFA is a specialized type of SEM aimed at hypothesis testing concerning the structure of factors underpinning observed variables. The researchers in CFA pre-specify the number of factors and the relationships between them and the observed variables, which allows them to test if the data corresponds to the hypothesized model. This hypothesis-based character makes CFA especially useful for scale refinement and construct validation since it evaluates how well the measured variables capture the underlying latent constructs.

RESULTS

Demographic analysis

222 consumers are considered participants in the present research. The demographic particulars of the contributors are illustrated below*:*

Table 1

Demographic data

Demographic factor	Parameter	No. of respondents	Frequency (%)
Age	18 to 25 years	126	56.8
	26 to 35 years	42	18.9
	36 to 45 years	49	22
	Above 45 years	5	2.3
Gender	Male	154	69.4
	Female	68	30.6
Marital status	Single	146	65.8
	Married	76	34.2
Qualification	Under graduate	68	30.6
	Post graduate	151	68
	PhD/Doctorate	3	1.4
Occupation	Student	19	8.5
	Private	195	87.8
	Public	5	2.3
	Self	3	1.4

Source: Own elaboration.

Table 1 represents the demographic data of the consumers who have joined the review. The age of the respondents is analyzed, and it is concluded that most defendants (56.8%) are between 18 and 25 years old. Regarding gender, male respondents (69.4%) contributed more for research purposes. Based on educational qualifications, most respondents have completed post-graduation (68%). According to the survey, most respondents work in the private sector (87.8%), followed by students and those employed in the public sector. The outcome of the

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demographic data proves that the current study has congregated data from post-graduates and those aged 18 to 25 years working in the private sector, which contributes substantially to the research purposes.

Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) test and the Bartlett test for sphericity were used to evaluate the dataset's suitability.

Table 2
KMO-Bartlett's Test

KMO		0.92
Bartlett's Test	Approx. χ^2	1845.208
	Df	2.785835
	S	136

Source: Own elaboration.

Table 2 illustrates the consequences of the KMO test for examining sampling adequacy and association amongst study variables, respectively. The outcome of KMOs should be more than 0.7 to prove adequate samples (Shrestha, 2021). The KMO result for the study is .92, proving the samples' adequacy. It implies an adequate correlation among the variables. The significant "S" value should be below 0.05 for Bartlett's test to demonstrate the association between the study's variables.

The current study's Bartlett test outcome is significant, explaining that the null hypothesis can be rejected. Moreover, the chi-square value is 1845.208, indicating that the correlation matrix diverges from the identity value.

Construct Reliability and Validity

The reliability of the constructs used in the study was assessed through Cronbach's α. The construct validity was investigated through confirmatory factor analysis (CFA), which evaluated the factor loading, average variance extracted (AVE), and composite reliability (CR).

Table 3 outlines the values of Cronbach's α, factor loading, CR, and AVE for all the constructs. All the questionnaire items exhibit factor loading well above the threshold level, thus exhibiting good convergent validity. The factor loadings of the RF1 construct, RF1.1, RF1.2, and RF1.3, are 0.736, 0.817, and 0.722, indicating the items are strong indicators. For the RF1 construct, the Cronbach's alpha is 0.797, indicating good internal consistency.

AVE is 0.57, confirming the convergent validity since it illustrates more than half of the variance. CR is 0.80, revealing good reliability. In the RF2 constructs, the factor loadings of items RF2.1 to RF2.4 are between 0.678 and 0.770, indicating strong indicators for the construct. Cronbach's alpha is 0.809, indicating internal consistency.

AVE is 0.51, confirming the convergent validity since it illustrates half of the variance. CR is 0.80, revealing high reliability. In the RF3 constructs, the factor loadings of items RF3.1, RF3.2, and RF3.3 range from 0.661 to 0.729, indicating acceptable indicators for the construct.

Table 3
Reliability and validity

	Items	Loading of Factors	Cronbanch's Alpha	Average Variance	Composite Reliability
Content Quality (RF1)	RF1.1	0.736	0.797	0.57	0.80
	RF1.2	0.817			
	RF1.3	0.722			
Navigation and Visual Design (RF2)	RF2.1	0.728	0.809	0.51	0.80
	RF2.2	0.77			
	RF2.3	0.695			
	RF2.4	0.678			
Contact (RF3)	RF3.1	0.729	0.735	0.48	0.74
	RF3.2	0.661			
	RF3.3	0.692			
CS	CS1	0.875	0.847	0.66	0.85
	CS2	0.841			
	CS3	0.723			
CPV	CPV1	0.707	0.744	0.48	0.73
	CPV2	0.778			
	CPV3	0.589			

Source: Own elaboration.

Cronbach's alpha is 0.735, indicating internal consistency. AVE is 0.48, confirming the convergent validity. CR is 0.74, revealing acceptable reliability. In the CS constructs, the factor loadings of items CS1 and CS2 are above 0.849, which indicates strong indicators for the construct. Cronbach's alpha is 0.847, indicating internal consistency. AVE is 0.66, confirming the convergent validity since it illustrates a substantial variance. CR is 0.85, revealing excellent reliability. In the CPV constructs, the factor loadings of items CPV1 and CPV2 are above 0.707, indicating strong indicators for the construct, and CPV3 is less than 0.589, indicating a less significant contributor. Cronbach's alpha is 0.744, indicating internal consistency. AVE is 0.48, confirming the convergent validity. CR is 0.73, revealing adequate reliability. The findings support the robustness of the construct for further analysis.

Confirmatory factor analysis
In addition to examining factor loading, AVE, CR, and CFA were conducted to assess the fit of the measurement model. The measurement model for the study is depicted in Figure 6

Figure 6
CFA – conceptual model
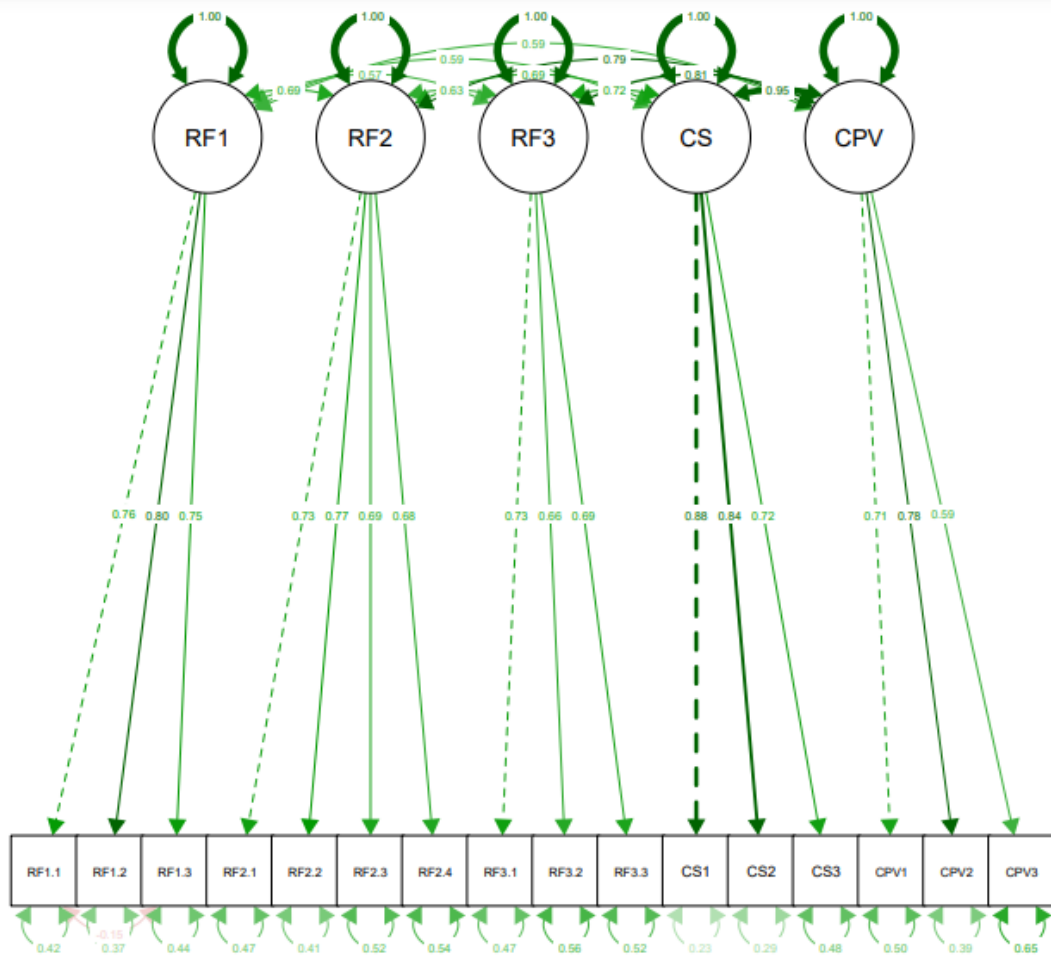
Source: Own elaboration.

The measurement model was examined by calculating seven fit indices, as indicated in Table 4. The model scored a good fit on six indices and an acceptable fit on one of the indices.

Table 4
CFA Fit Indices

Fit Indices	Recommended Value	Results	Results
X^2/df	<3.00	0.8092	Good
GFI	>0.90	0.920	Good
RMSEA	<0.08	0.056	Good
RMR	<0.08	0.034	Good
NFI	>0.90	0.910	Good
NNFI	>0.90	0.950	Good
CFI	>0.90	0.961	Good

Source: Own elaboration.

The key indices indicate that the CFA outcome suggests a good fit for the model. The ratio X^2/df is 0.8092, below the threshold value of 3.00, proving the potential alignment between the model and observed data. GFI is 0.920, exceeding the threshold value of 0.90, proving that the model illustrates a substantial variance in the data.

RMSEA value is slightly above the value 0.056 and remains closer to the acceptable value in the context. RMR is 0.034, below the threshold of 0.08, proving a good fit and indicating the small residuals among the predicted and observed covariances. NFI is reported to be 0.910, exceeding the acceptable value and proving that the model is a good fit compared to the baseline model. CFI is 0.961, significantly above the threshold value of 0.90, proving the model fits better than the null model (Table 4). Hence, the proposed model aligns with the observed data and aids in achieving the validity of the constructs in the research context.

Discriminant Validity
Discriminant validity was also tested, and the results indicated that all the constructs exhibit good discriminant validity. Table 5 provides the consequences of discriminant validity.

Table 5
Discriminant Validity

	RF1	RF2	RF3	CS	CPV
RF1	**0.759**				
RF2	0.694	**0.719**			
RF3	0.575	0.631	**0.695**		
CS	0.595	0.688	0.723	**0.816**	
CPV	0.604	0.788	0.807	0.949	**0.696**

Source: Own elaboration.

Table 5 illustrates the discriminant validity, which is established when the square root of AVE for each construct is greater than the correlation of other constructs. The table above represents AVE's square root as 0.759, 0.719, 0.695, 0.816, and 0.696 for RF1, RF2, RF3, CS, and CPV, respectively. These values are compared with the correlation value among the constructs. The correlation between RF1 and RF2 is 0.694, lower than AVE's square root. Subsequently, the correlation between RF2 and RF3 is 0.631, less than the square root of AVE for RF3.

Meanwhile, the correlation between CS and RF3 is 0.723, less than AVE's square root. The correlation of CPV and CS is 0.949 and is greater than the square root of AVE, indicating the overlapping of the constructs. Most constructs reveal adequate discriminant validity, proving a more significant correlation between CS and CPV. It describes a closer association among these constructs.

SEM

It is a potential statistical technique to analyze the complex association between latent and observed variables. It aids in illustrating the hypothesized relationship, thereby exhibiting the model's interpretation.

Figure 6
SEM
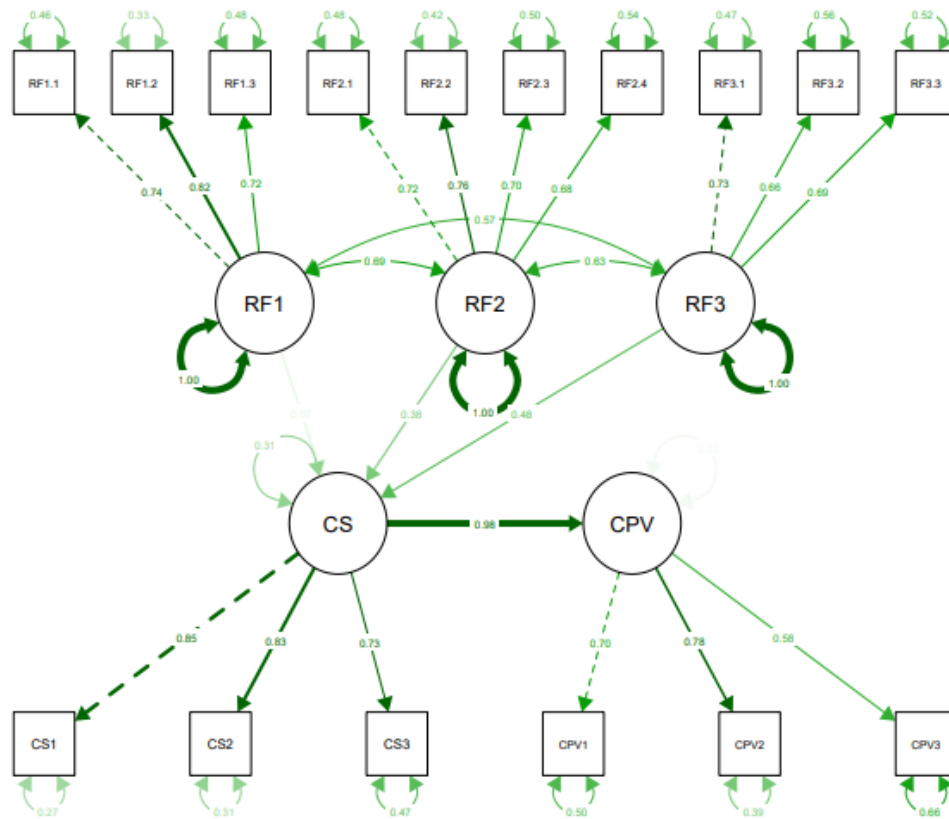
Source: Own elaboration.

Table 6
Hypothesis Testing Results – Direct Relationship

Proposed Hypothesis			Path Coefficient	P-Values (<0.05)	Support
Ha1	RF1 CS	Content Quality (RF1) have significant influence on Customer Satisfaction (CS)	.07	.00	Yes
Ha2	RF2 CS	Navigation and Visual Design (RF2) have significant influence on Customer Satisfaction (CS)	.38	.00	Yes
Ha4	RF3 CS	Contact (RF3) have significant influence on Customer Satisfaction (CS)	.48	.00	Yes
Ha5	CS CPV	Customer Satisfaction (CS) have significant influence on Customer Perceived Value (CPV)	.98	.00	Yes

Source: Own elaboration.

Impact of E-Service Quality of Mobile Application on Customer Perceived Value (CPV)

The study employs SEM utilizing R Studio to test the hypothesis. Figure 6 depicts the structural equation model, while Table 6 indicates the results of testing the direct relationship between RF1, RF2, and RF3 with CS and CS with CPV.

Table 7 illustrates the hypothesis testing for direct relationships. The path coefficient for the RF1 and CS relationship is 0.07, and a value of 0.00 indicates that the value is less than the threshold value of 0.05, proving that the null hypothesis is rejected. This suggests that RF1 impacts the CS of the model. It recommends other factors that might play a crucial role in predicting CS. The path coefficient for RF2 and CS is 0.38, with a p-value of 0.00, proving that RF2 substantially impacts CS. It reveals that a high level of RF2 leads to greater satisfaction.

Table 7
Hypothesis Testing Results – Simple mediation

Total Effect			Direct Effect			Indirect Effect (Bootstrap)				
Estimate	SE	t-value	Estimate	SE	t-value	Estimate	SE	LLCI	ULCI	Outcome
CS mediates the relationship between RF1 and CPV										
0.441	0.076	5.767	0.082	0.051	1.597	0.359	0.057	0.255	0.473	Partial Mediation
CS mediates the relationship between RF2 and CPV										
0.524	0.069	7.655	0.181	0.038	4.758	0.344	0.057	0.239	0.460	Partial Mediation
CS mediates the relationship between RF3 and CPV										
0.562	0.072	7.851	0.203	0.048	4.222	0.359	0.053	0.256	0.463	Partial Mediation

Source: Own elaboration.

Furthermore, the path coefficient of RF3 and CS is 0.48, and the p-value is 0.00, proving statistically significant. Also, the path coefficient of CS and CPV is 0.98, and the p-value is 0.00, proving statistically significant. The significant outcome proves that CS impacts CPV and has a positive association. The high level of CS resulted in greater CPV.

The total effect of RF1 and CPV is 0.441, with a SE of 0.076. Moreover, the t-value is 5.767, proving the relationship is statistically significant. The RF1 has a positive impact on CPV. In addition, the direct effect is 0.082, an insignificant value demonstrating the minimal effect of RF1 on CPV, where CS acts as a mediating factor. On the contrary, the indirect effect is 0.359, with CI ranging from 0.255-0.473, revealing that the CS partially mediates the association between RF1 and CPV (Table 7).

Secondly, the total effect of RF2 on CPV is 0.524, indicating a strong and substantial association. The direct effect of RF2 on CPV is 0.181, and it is recommended that RF2 directly contributes to CPV along with the indirect effects through CS. The indirect effect is 0.344, with CI ranging from 0.239 to 0.460, proving that the CS partially mediates the association between RF2 and CPV.

Furthermore, the total effect of RF3 on CPV is 0.562, which indicates a strong and substantial association. The direct effect of RF3 on CPV is 0.203, and it is recommended that RF3 directly contributes to CPV along with the indirect effects through CS. The indirect effect is 0.359, with CI ranging from 0.256 to 0.463, proving that the CS partially mediates the association between RF3 and CPV.

DISCUSSION

The research study examines the impact of RF1 on CS in online retail in Bengaluru. It also discusses the impact of RF2 and RF3 on CS in the online retail sector. The mediating role of CS in the association between m-application dimensions of service quality, such as RF1, RF2, RF3, and CPV.

All the questionnaire items exhibit factor loading well above the threshold level, thus exhibiting good convergent validity. The Discriminant validity was also tested, and the results indicated that all the constructs exhibit good discriminant validity. SEM indicates the direct relationship between RF1, RF2, and RF3 with CS and CS with CPV.

The outcome concludes that the CS partially mediates the association between RF1, RF2, and RF3 with CPV. The existing research (Revathi & Kavitha, 2025) conveys that high-quality content improves user engagement and trust. It resulted in the CS having a digital service experience. It aligns with the present research, which emphasizes that RF1 substantially impacts the CS while they perceive content in the m-commerce as informative and relevant. Also, conventional research (Farhat et al., 2025) emphasizes that effectual content correlates with CS and user experiences. Navigation and visual design are critical factors impacting CS, reducing frustration and improving the user experience. Conventional research (Halim et al., 2025) indicates that the structured interface impacts positive interactions and motivates repeated visits.

Another dimension of RF3 contact is the effectiveness and availability of consumer support. The existing research (Wattoo et al., 2025) enlightens on the effectual communication channels that impact loyalty and satisfaction in e-commerce. These findings align with the present study, indicating that the RF3 contact significantly impacts CS. Also, it has been proven that CS acts as a mediating factor in RF1, RF2, RF3, and CPV. When consumers have easy access to and timely support, CS has increased (Alhassan et al., 2025). It is aligned with the findings of the existing research that highlight the high e-service quality, resulting in a higher perceived value (Hanaysha et al., 2025). It fosters loyalty and motivates the purchase intention.

Limitations

Although this research brings essential insights into the effect of mobile application service quality on CPV, some limitations should be considered. The research limits its scope so that comparative analysis by segments of different mobile e-commerce app users cannot be conducted, e.g., differences in age, income, or technological skills that might provide finer-grained perspectives on user attitudes. Moreover, the contribution of regulatory frameworks is not accounted for because of the uncertain macroeconomic context and cross-country policy variations, which can affect user expectations and experiences.

In addition, the analysis does not separate urban and rural mobile e-commerce app users, possibly neglecting differences in access to technology, internet connectivity, and shopping patterns that can affect perceptions of service quality. Notwithstanding these limitations, the results point to the importance of mobile applications in delivering successful results in online shopping. Addressing such limitations in subsequent research may help generate a broader picture of consumer behavior and perceptions of service quality across various settings.

CONCLUSION

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The research underscores the critical connection between the quality of e-services and the value customers perceive when using mobile applications. It highlights the significance of content quality, ease of navigation, design, and customer support communication. The study's results indicate that companies should prioritize providing high-quality and relevant content and investing in user-friendly navigation systems to improve the overall user experience. Additionally, it is crucial to create visually appealing designs and offer strong customer support to retain users and cultivate loyalty.

The research outcome conveys that the quality of mobile app service positively influences CPV. Among the various dimensions of service quality, reliability, and consumer service impact the CS. Thirdly, the content quality impacts the CS. Moreover, CS positively influences planned buying behavior. Businesses must also address privacy issues to establish trust with users.

By embracing a culture of constant improvement through regular feedback and performance evaluations, organizations can adjust to evolving user expectations and technological developments. Ultimately, concentrating on these aspects will allow companies to offer enjoyable user experiences that promote engagement and success in the competitive mobile app industry.

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Situational Impulsive and Compulsive Online Purchase of Fashion Products in Generation Z

Compras de moda online en la Generación Z: situaciones impulsivas y compulsivas

Ni Wayan Ekawati
Udayana University (Indonesia)
nekawati@unud.ac.id
https://orcid.org/0000-0001-6337-5983
I Gusti Ayu Ketut Giantari
Udayana University (Indonesia)
ayugiantari@unud.ac.id
https://orcid.org/0000-0001-7841-0526
Komang Rahayu Indrawati
Udayana University (Indonesia)
komangrahayu@unud.ac.id
I Gusti Ayu Tirtayani
Universitas Pendidikan Nasional (Indonesia)
ayutirtayani@undiknas.ac.id
https://orcid.org/0000-0002-7174-0626
Irene Hanna H. Sihombing
Politeknik Pariwisata Bali (Indonesia)
irenesihombing@ppb.ac.id
https://orcid.org/0000-0002-1341-9623

ABSTRACT

This study investigates the situational factors influencing impulsive and compulsive online purchases of fashion products among Generation Z. The findings indicate that financial management has a negative and significant effect on impulsive buying, meaning that better financial management reduces the likelihood of impulsive purchases. On the other hand, materialism and socioeconomic status positively and significantly affect impulsive buying, showing that stronger materialistic traits and higher socioeconomic status increase unplanned purchasing behavior.

Keywords: impulsive buying, compulsive buying, Generation Z, financial management, materialism, socioeconomic status, time affluence, online fashion purchases

JEL code: D12; M31; G53

Situational Impulsive and Compulsive Online Purchase of Fashion Products in Generation Z

RESUMEN

Este estudio investiga los factores situacionales que influyen en las compras impulsivas y compulsivas de productos de moda en línea entre la Generación Z. Los hallazgos indican que la gestión financiera tiene un efecto negativo y significativo en la compra impulsiva, lo que significa que una mejor gestión financiera reduce la probabilidad de compras impulsivas. Por otro lado, el materialismo y el nivel socioeconómico influyen positiva y significativamente en la compra impulsiva, mostrando que los rasgos materialistas más fuertes y un nivel socioeconómico más alto aumentan el comportamiento de compra no planificado.

Palabras clave: compra impulsiva, compra compulsiva, Generación Z, gestión financiera, materialismo, nivel socioeconómico, disponibilidad de tiempo, compras de moda en línea.

Código JEL: D12; M31; G53

INTRODUCTION

Electronic media trading activities have emerged everywhere (Lim et al., 2025; Huang et al., 2025). Shopping with electronic media is a common form of entertainment and has become a part of today's culture (Deepa & Elangovan, 2024). Some people consider online shopping as entertainment, filling free time, managing emotions, and expressing self-identity (Hudson et al., 2017). This condition is reinforced by the availability of resources such as time, financial situations, hedonic reasons, benefits, and marketing stimuli (Iyer et al., 2020). However, it is possible that it can cause uncontrolled purchasing behavior, especially for people who have self-control problems.

Uncontrolled purchasing behavior is termed compulsive buying. Compulsive buying has become a global problem, especially among students (Mestre-Bach et al., 2017). This situation has become a concern for practitioners and academics to be explored further (Ongsakul et al., 2021).

Compulsive buying behavior is closely related to impulsive buying behavior. Compulsive behavior is a more extreme form of impulsive behavior. Unlike compulsive behavior, the need to buy comes from within the individual, influenced by anxiety sensitivity that wants to be alleviated or the desire to feel better or happier (Bighiu et al., 2015).

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Consumers are sometimes unaware of this, especially now that online shopping has become an acceptable addiction (Bighiu et al., 2015). Impulse buying is a growing phenomenon and can be influenced by temporary psychological conditions or situational features of the customer. Impulse buying plays a role online (Akram et al., 2018).

Impulsive buying is stronger if the buyer feels no pressure in payment, such as using a credit card (Syah et al., 2017). Research findings reveal that 85 percent of compulsive buyers have financial problems related to debt (Owusu et al., 2023), and 74 percent of them usually have uncontrolled debt. Material ownership or materialism for impulsive and compulsive buyers is a way to create happiness and success and show their identity (Islam et al., 2018). Materialism is also said to be positively correlated with compulsive behavior.

Socioeconomic status is related to a person's well-being, education, and psychological, physical, and mental health. A person with a good socioeconomic status generally has better comfort in life. Thus, Jalees et al. (2024) argue that individuals with high socioeconomic status are usually wealthy because they frequently buy luxury products that reaffirm their identity and high societal position. Individuals with high socioeconomic status have an

orientation to immediately satisfy their needs and enjoy being noticed by everyone (Gaur, 2013).

Socioeconomic status can shape the strength or weakness of compulsive behavior (Cirino et al., 2002). Impulsive buying requires its own time to shop. Individuals who do not have excess time or feel their lives are rushed and busy generally do not have time affluence (Zhao et al., 2025). Individuals with low time affluence who desire to fulfill emotions and reduce stress tend to create compulsive purchases that previously went through impulsive buying (Zhao et al., 2025). So, impulsive purchases can also be formed in individuals who do not have much time (LaJeunesse & Rodríguez, 2012).

Society is generally expected to behave rationally. However, the development of online activities and the availability of supporting resources create a gap for further research, especially Generation Z's trend in fulfilling their online fashion product needs. Generation Z is exciting to explore with all its unique characteristics and developments during the digitalization and globalization period.

THEORETICAL BACKGROUND AND HYPOTHESES.

H1: Financial Management and Impulsive Buying Behavior
Financial management refers to making informed and responsible decisions about financial resources. Studies have demonstrated that financial management significantly influences impulsive buying behavior. Financial management moderates compulsive buying behavior, suggesting that consumers with better financial management skills are less likely to purchase impulsively (Owusu et al., 2023). Further, the importance of financial literacy in managing impulsive buying behavior has been emphasized, with self-control serving as a mediator (Ayuningtyas & Irawan, 2021). Financial literacy significantly affects online impulsive buying, particularly during the pandemic (Ningtyas & Vania, 2022). Therefore, it is expected that financial management negatively impacts impulsive buying behavior.

H2: Materialism and Impulsive Buying Behavior
Materialism, defined as the value placed on material possessions as a source of happiness and success, has been linked to impulsive buying behavior. Materialism directly influences compulsive and impulsive buying behavior, as individuals prioritize material goods for self-esteem and social validation (She et al., 2021). Studies have also found that materialism fosters impulsive buying tendencies, with financial literacy essential in moderating this effect (Lučić et al., 2021). Additionally, materialism significantly contributes to impulse buying behaviors among younger consumers (Tahir et al., 2021). Therefore, materialism is expected to positively impact impulsive buying behavior.

H3: Socioeconomic Status and Impulsive Buying Behavior
Socioeconomic status (SES), defined by income, education, and access to opportunities, significantly shapes consumer behavior. SES moderates impulsive consumption behavior, with higher SES consumers exhibiting a greater tendency for impulsive purchases (Zhao et al., 2022). Higher SES consumers are more likely to impulse buy due to increased disposable income, and economic development levels, closely tied to SES, also influence online impulsive buying tendencies (Zhao et al., 2022). Therefore, higher socioeconomic status is expected to influence impulsive buying behavior positively.

H4: Time Affluence and Impulsive Buying Behavior
Time affluence, or the perception of having enough time to engage in activities of personal interest, influences consumer behavior, including impulsive buying. Time pressure positively affects impulsive buying, suggesting consumers who feel rushed or have low time affluence are likelier to make unplanned purchases (Liu et al., 2022). Time affluence also correlates with well-being and sustainable consumption, and individuals with more free time may engage in impulsive buying to alleviate boredom (Burchardt & Ickler, 2021). Therefore, time affluence is expected to impact impulsive buying behavior positively.

H5: Impulsive Buying and Compulsive Buying Behavior
Impulsive buying can lead to compulsive buying, particularly when individuals fail to control the urges that arise during impulsive purchases. Social proof, such as consumer reviews or influencer endorsements, strongly influences impulse buying on digital platforms, which can further contribute to compulsive buying (Huang et al., 2025). Additionally, gamification in e-commerce can lead to impulsive buying, as consumers are encouraged to purchase through interactive and engaging experiences (Lim et al., 2025). Impulse buying is a key precursor to compulsive buying, especially in environments that stimulate emotional or social triggers. Therefore, impulsive buying is expected to influence compulsive buying behavior positively.

METHOD

Research design
The design of a study provides an overview of the thought process and the stages that need to be completed. This study uses a quantitative research design (Creswell, 2013). Data measurement for each indicator in quantitative analysis uses a semantic differential scale measurement unit, namely, from 1 to 5. This study uses four exogenous variables and two endogenous variables.

The financial management indicator (X1) consists of price, paying bills on time, making written records of expenses, and staying within the budget. The materialism variable (X2) uses indicators of ownership of products that are not yet owned, liking luxury, ownership of unique products, admiration for others, and happiness. The socioeconomic status indicator (X3) includes higher education, job stability, and parental residence status. The time affluence indicator (X4) is living in a hurry, having much free time, having enough time for what is needed, being able to live a relaxed life, having enough time for essential things, and not having enough time in a day.

The impulsive buying variable indicates making direct purchases, buying without thinking, and seeing and buying the product directly. Indicators of compulsive buying include buying things that cannot be afforded, buying without thinking about what is being bought, buying to refresh the mind, anxiety if not buying, and buying without using.

Population, sample, and analysis
This study's population was Generation Z (late teenagers) in Bali who purchased fashion products online, with an unknown number. Therefore, sampling was done using a purposive random sampling technique. The sample criteria required were late teenagers or Generation Z with the standards of the Indonesian Health Service, aged 17-25, minimum high school or equivalent education, familiarity with social media applications, and already using them to purchase fashion products.

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The total sample size was 300 respondents spread across all districts in the province of Bali. Focus group discussions (FGDs) and in-depth interviews were conducted in an unstructured manner, in a flexible and informal atmosphere, and were conducted repeatedly. Testing the instrument's validity using the Pearson product-moment correlation technique with a minimum limit of r> 0.30. The item is declared reliable by conducting a reliability test with the condition that the Cronbach's Alpha value obtained is greater than 0.6 (Malhotra, 2004).

Path analysis uses inferential statistical analysis. It is an extension of multiple linear regression analysis that estimates the causal relationship between previously determined variables based on theory. Path analysis is used to analyze the pattern of relationships between variables to resolve the direct and indirect effects between independent and dependent variables. The basis for calculating the path coefficient is correlation and regression analysis, and the calculation is performed using software with the SPSS Version 24 program.

RESULT

Consumer behavior generally varies according to the internal and external backgrounds that shape it. The characteristics of the respondents analyzed were all Generation Z people aged 17-26 years throughout Bali. This study used 300 respondents. All indicators to measure the research variables were declared valid and reliable. The inferential statistical analysis used was in the form of path analysis. In this case, the path analysis consists of two regression structures: regression structure I, the influence of financial management, materialism, socioeconomic status, and time prosperity on impulsive buying, and regression structure II, the influence of impulsive buying on compulsive buying. The results of processing statistical data regression structure I are presented in Table 1

Table 1
Results of Processing of Structure Regression I

	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	.616	.301		2.046	.042
Financial Management	.338	.069	-.277	4.871	.000
Materialism	.176	.072	.144	2.426	.016
Socioeconomic status	.222	.053	.234	4.196	.000
Time prosperity	.110	.068	.089	1.619	.106

a. Dependent Variable: impulse buying
  R square: 0,314
  Sig. F: 0,000
Source: Own elaboration.

Based on the results of processing the regression data structure I, a sub-structure equation 1 can be made, namely: $Y_1 = \beta_1 X_1 + \beta_2 X2 + \beta_3 X_3 + \beta_4 X_4 + e_1$
$$Y_1 = -0,277 X_1 + 0,144 X_2 + 0,234 X3 + 0,089 X4 + e_1$$
The following are the results of processing structural regression II, which can be presented in Table 2.

Table 2
Results of Structural Regression Processing II

	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	2.308	.187		12.327	.000
impulse buying	.391	.047	.434	8.317	.000

a. Dependent Variable: Compulsive buying
  R Square: 0,19
  Sig. F: 0,000
Source: Own elaboration.

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Based on the results of processing structure II data, an equation can be made

For sub-structure 2:

$Y_2 = \beta_5 Y + e2$

$Y_2 = 0{,}434\ Y + e2$

Table 3 shows the direct influence relationship between variables.

Table 3
The direct influence of the relationship between variables.

Influence of Variables	Direct Influence
Financial management → Impulse buying	-0,277
Materialism → Impulse buying	0,144
Socioeconomic status → Impulse buying	0,234
Time affluence → Impulse buying	0,089
Impulse buying → Compulsive buying	0,434

Source: Own elaboration.

Direct effect

a) The effect of financial management (X_1) on impulsive buying (Y_1) is -0.277.

b) The effect of materialism (X_2) on impulsive buying (Y_1) is 0.144.

c) The effect of socioeconomic status (X_3) on impulsive buying (Y_1) is 0.234

70   d) The effect of time prosperity (X_4) on impulsive buying (Y_1) is 0.089

e) The effect of impulsive buying (Y_1) on compulsive buying (Y_2) is 0.434

The results of the classical assumption test processed using SPSS 24.0 for Windows software are presented below.

Normality Test

Table 4 shows that the Kolmogorov-Smirnov (K-S) value is 0.070, while the Exact. Sig. (2-tailed) value is 0.100. These results indicate that the regression equation model is normally distributed because the Exact. Sig. (2-tailed) value is greater than the alpha value of 0.05.

Table 4
Results of Normality Test of Structure I

	Unstandardized Residual
N	300
Kolmogorov-Smirnov Z	0,070
Exact.Sig.(2-tailed)	0,100

Source: Own elaboration.

Table 5 shows that the Kolmogorov-Smirnov (K-S) value is 0.077, while the Exact. Sig. (2-tailed) The value is 0.053. These results indicate that the regression equation model is

normally distributed because the Exact. Sig. (2-tailed) The value is greater than the alpha value of 0.05.

Table 5.
Results of Structural Normality Test II

	Unstandardized Residual
N	1300
Kolmogorov-Smirnov Z	0,077
Exact.Sig.(2-tailed)	0,053

Source: Own elaboration.

Multicollinearity Test

Table 6 shows the tolerance and VIF values of the financial management, materialism, socioeconomic status, and time prosperity variables. The tolerance value for each variable is close to 1, and the VIF value is less than 10, which means that the regression equation model is free from multicollinearity.

Table 6
Results of Multicollinearity Test of Structure I

Independent Variables	Tolerance	VIF	Description
Financial Management (X_1)	.719	1.390	Free from Multicollinearity
Materialism (X_2)	.657	1.523	Free from Multicollinearity
Socioeconomic Status (X_3)	.751	1.331	Free from Multicollinearity
Time Prosperity (X_4)	.770	1.299	Free from Multicollinearity

Source: Own elaboration.

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Table 7
Results of Multicollinearity Test of Structure II

Independent variable	Tolerance	VIF	Information
Impulse Buying	1.000	1.000	Free from Multicollinearity

Source: Own elaboration.

Table 7 shows that the tolerance and VIF values of the impulsive purchasing variable are close to 1 and less than 10, which means the regression equation model is free from multicollinearity.

Heteroscedasticity Test

Table 8 shows that the significance value of the financial management variable is 0.224, the materialism variable is 0.854, the socioeconomic status variable is 0.309, and the time prosperity variable is 0.470. This value is greater than 0.05, meaning there is no influence between the independent variables on the absolute residual, so the model created does not contain symptoms of heteroscedasticity, or the data is free of heteroscedasticity.

Table 8
Results of Heteroscedasticity Test of Structure I

Independent variable	t-statistic	Sig.	information
Financial Management	-1.219	.224	Free of Heteroscedasticity
Materialism	-.184	.854	Free of Heteroscedasticity
Socioeconomic status	1.020	.309	Free of Heteroscedasticity
Time prosperity	-.723	.470	Free of Heteroscedasticity

Source: Own elaboration.

Table 9
Results of the Heteroscedasticity Test of Structure II

Independent variable	T statistics	Sig	Information
Impulse Buying	-1.410	.160	Free of Heteroscedasticity

Source: Own elaboration.

In Table 9, the significance value of the impulsive buying variable is 0.160. This value is greater than 0.05, meaning there is no influence between the independent variables on the absolute residual. Thus, the model created does not contain symptoms of heteroscedasticity, and the data is free from heteroscedasticity elements.

DISCUSSION

The influence of financial management on impulsive buying
The research analysis results show that financial management positively and significantly affects impulsive buying. This means that the better and more well-organized the financial management of Generation Z teenagers in consuming fashion products through online facilities, the more it will impact reducing unplanned purchasing behavior or impulsive buying. Good financial management and always being careful in making expenses can at least reduce the occurrence of impulsive buying decisions.

Every individual has the urge to buy impulsively; it only depends on their ability to manage emotions and finances. Financial management in this study is supported by indicators of comparing prices, making payments on time, making written records of expenses, and adjusting to the budget when shopping, which can reduce the occurrence of impulsive buying.

The financial management of Generation Z teenagers in Bali when making purchasing decisions for fashion products online is quite rational. Their financial management is exceptionally well managed, as they look for price comparisons with similar products before purchasing. These teenagers also make efforts to pay bills on time. Their financial management has written records of all expenses made. Based on the results of open interviews and FGDs, it was stated that Generation Z teenagers in Bali try to manage the costs according to their budget so that impulsive decisions can be suppressed.

The findings of this study are very relevant to Locke's goal-setting theory, developed in 1968. Individual consumer behavior is determined by managing multiple conflicting goals within

oneself. The goals are to be achieved through a series of stages of internal and external stimuli and personal emotional drives.

The drive of various stimuli, motivations, and emotions ultimately leads to the decision to achieve goals. The financial management of well-managed teenagers can influence the goals achieved in making decisions to buy fashion products online. Goals can also be achieved if influenced by the impulsive nature of consumers when making purchasing decisions. A person's decision-making can be influenced by several factors, including environmental influences and social influences related to personal characteristics that can arouse emotions to encourage the formation of impulsive purchases (Owusu et al., 2023; Ayuningtyas & Irawan, 2021; Ningtyas & Vania, 2022; She et al., 2021).

The findings of this study support several previous studies that Generation Z teenagers, when making online fashion product purchases, are influenced by better self-control in managing their financial management (Oktaviana & Irawan, 2024; Lučić et al., 2021; Singh & Malik, 2022; Tahir et al., 2021). Good financial management can impact impulsive purchasing decisions. This finding also reveals that Balinese teenagers' financial management in making online fashion product purchasing decisions negatively and significantly affects impulsive buying.

The influence of materialism on impulsive buying.
The research findings show that materialism positively and significantly affects impulsive buying. This means that the better the materialism condition of Generation Z teenagers in Bali is in buying fashion products online, the stronger the impulse to make impulsive purchases. Materialistic behavior is also formed psychologically in each individual, who is oriented toward material ownership. Ownership of certain materials becomes a stimulus to make impulsive purchases.

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Materialism in Goal Theory is also one of the stimuli that helps teenagers achieve their goals. This finding is also quite relevant to the implementation of goal-setting theory. The indicators of materialism that support the implementation of Goal-setting theory are ownership of products that are not yet owned, liking luxury, ownership of unique products, admiration for others, and happiness.

Materialism is related to the ownership of products that have not yet been owned, meaning there is a strong urge to own fashion products that have not been owned immediately. This is a strong motivation for Generation Z teenagers, especially with the emotions they have when making impulsive purchases. Liking luxury among teenagers has become a trend today, with a high consumption pattern of fashion products, and it is a motivator for impulsive buying.

The sense of pride in having a unique product that amazes others is a strong indicator that makes teenagers make impulsive purchases. Admiration for others using expensive fashion products encourages impulsive purchases when they directly find the costly product. The extraordinary happiness individuals feel by having many fashion products also enables them to have more, which may motivate impulsive purchases.

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Materialistic behavior has an impact on consumers, companies, and economic development. High materialistic behavior encourages individuals to make high expenditures and positively impacts economic development (Jalees et al., 2024; Ningtyas & Vania, 2022; Mukhtar et al., 2021). In line with previous research (Özdemir, 2022; Lučić et al., 2021; Pupelis & Šeinauskienė, 2023), which states that materialistic behavior can influence impulsive purchases. Individual materialism tends to demand a relatively higher standard of living, making it very possible for impulsive purchases to occur.

The influence of socioeconomic status on impulse buying
Socioeconomic status has a positive and significant effect on impulsive purchasing decisions, meaning that the more established or higher the socioeconomic status of Generation Z teenagers, the greater their ability or opportunity to make impulsive purchases. Teenagers with high socioeconomic status are generally considered to come from wealthy people with high pocket money, so they have a high potential for impulsive purchases (Tantawi, 2024; Tarka et al., 2022).

Social status in this study refers to three supporting indicators. Socioeconomic status, with the indicator of high education that is owned, makes teenagers more confident in their status in society, so sometimes excessive self-confidence arises and unknowingly impacts impulsive purchases. This statement is based on the results of interviews and FGDs conducted with research respondents.

Stability in work that is getting better or higher has a high effect on meeting the needs of fashion products online and a higher chance of impulsive purchases. Generation Z teenagers, in their impulsive purchases, are also driven by the conditions of social status related to the status of their parents' residence. Their parents' residence status, which is considered increasingly prestigious, allows them to be a higher driver of impulsive purchases.

This is because teenagers' self-confidence is getting higher, so they have an orientation to immediately satisfy their satisfaction and enjoy the attention of many people (Zhao et al., 2025; Ugbomhe & Adomokhai, 2021; Zhao et al., 2022). This situation unconsciously influences the occurrence of impulsive buying. Thus, a person's socioeconomic status can have a positive and significant impact on impulsive buying and compulsive buying (Xiao et al., 2023; Owusu et al., 2023; Ahmadova & Nabiyeva, 2024)

The influence of Time affluence on Impulsive buying
This study found that time affluence has a positive and insignificant effect on impulsive purchases. This finding indicates that hypothesis four in this study is rejected. Time affluence owned by Generation Z teenagers in fulfilling their fashion product needs online does not affect impulsive purchases. Time affluence refers to having enough time for teenagers to explore fashion products online. Having little time to shop for fashion products online does not necessarily positively affect impulsive purchases.

Meanwhile, findings that differ from the results of this study (Liu et al., 2022; Burchardt & Ickler, 2021; Tröger et al., 2021) revealed that someone with low time affluence can make

impulsive and compulsive purchases. Time affluence is formed by six leading indicators, namely a rushed life, having much free time, enough time for what is needed, being able to live a relaxed life, enough time for essential things, and not enough time in a day, apparently has no impact on impulsive purchases.

Teenagers who have high time affluence are considered to have much time, and those who have low time affluence will experience rushed situations in their lives that do not have a significant influence on forming impulsive buying behavior. The prosperity of time ownership indicates that there is enough time to explore products online, but it has not been able to encourage the creation of impulsive buying. Having enough time for things that must be done, such as online purchasing fashion products, is also an important indicator of impulsive buying.

Teenagers need to live a relaxed life when exploring fashion products. Enough time is required to choose fashion products, which is also required for online purchases. The indicator of not having enough time in a day owned by Generation Z teenagers also does not significantly influence impulsive buying behavior. This finding indicates that it is not enough for teenagers to have high or low time affluence to create impulsive buying behavior (Zhao et al., 2025; Duarte Recalde et al., 2025)

The influence of impulsive buying on compulsive buying
The findings of this study indicate that impulsive buying has a positive and significant effect on compulsive buying. The findings suggest that the stronger the impulse to buy, the stronger the impulse to buy compulsively in Generation Z teenagers in Bali who make fashion product purchases through online purchases. These findings also strongly support the implementation of the goal-setting theory. Clear stages are needed to achieve consumer goals. Goal setting theory can be implemented in Generation Z teenagers' impulsive and compulsive buying decisions when purchasing fashion products online.

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Generation Z teenagers in Bali who purchase fashion products online are impulsive buyers because they make direct purchases without thinking beforehand. They immediately buy the product they need when they see or find it. These three indicators are strong enough to form the emergence of compulsive buying. Compulsive buying is related to adolescents' emotional situation when they cannot always control the strong urge to purchase (Huang et al., 2025; Cho et al., 2025; Kong et al., 2025).

Observing the behavior of Generation Z consumers in the online world, who tend to be consumptive, it is possible to create impulsive and compulsive purchases. Online shopping has become an acceptable addiction in society (Lim et al., 2025; Shamim & Azam, 2025).

This study's findings align with those of Duan's (2025) research, which revealed that impulsive buying plays a role in the online purchasing environment. This finding also aligns with those of Husnain et al. (2025), who stated that shopping to improve mood is likely to cause compulsive buying.

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Shopping for fashionable products for Balinese Generation Z teenagers online enhances mood and fulfills hedonic needs, which can drive compulsive buying. Indicators of teenagers making compulsive purchases are that they purchase products they cannot afford, they buy without thinking about what they buy, and their purchases are only to refresh their minds, or they buy because they are driven by anxiety.

THEORETICAL AND MANAGERIAL IMPLICATIONS

Goal-setting theory was first introduced by Locke in 1968 and has been developed to date. It is used in various organizational problems and issues. This study shows that goal-setting theory is crucial in discussing consumer behavior when purchasing fashion products online among Generation Z teenagers in Bali. According to goal-setting theory, individuals have several goals, choose goals, and are motivated to achieve goals that are influenced by many factors.

This study reveals that Generation Z teenagers in achieving the goal of having fashion products online and achieving comfort goals are also influenced by their financial management factors, materialism character, socioeconomic status, time affluence, impulsive buying, and compulsive buying. Thus, this study can enrich the implementation of goal-setting theory on the behavior of purchasing fashion products online in Generation Z.

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Teenagers need to pay attention to good expense recording management. For example, making detailed spending records continuously. There is a need for emotional control to suppress excessive happiness if you have certain fashion items, such as trying to be calmer. Impulsive and compulsive purchases impact financial conditions, so teenagers need to pay attention to the stability of their jobs. Teenagers must pay attention to the time adequacy when choosing online fashion products.

CONCLUSIONS AND LIMITATIONS

The financial management variable negatively and significantly affects impulsive buying behavior among Generation Z. This suggests that individuals with better financial management are less likely to engage in impulsive purchases when shopping for fashion products online. While Generation Z participants in the study displayed strong financial habits, such as paying bills on time, their financial management does not necessarily translate into an increased tendency for impulsive buying.

Materialism, on the other hand, has a positive and significant effect on impulsive buying behavior. This means that the stronger Generation Z's materialistic traits, the more likely they will make impulsive online fashion purchases. Similarly, socioeconomic status also positively and significantly impacts impulsive buying, indicating that higher socioeconomic status can boost self-confidence, thereby increasing the likelihood of unplanned purchases.

Interestingly, time affluence does not appear to significantly affect impulsive buying behavior. While having more time to shop online could logically increase impulsive purchases, this study found no significant impact, suggesting that Generation Z might exercise caution even when they have ample time to browse.

Furthermore, impulsive buying behavior is found to have a positive and significant effect on compulsive buying. This implies that impulsive purchases among Generation Z are more likely to lead to compulsive buying tendencies, where emotional attachment to fashion products exacerbates unplanned purchasing decisions.

This study is limited by its focus solely on Generation Z, and the findings may not apply to other generational cohorts, although similar behaviors may exist across different age groups. Additionally, the research is constrained to online purchases of fashion products, and further studies could explore impulsive and compulsive buying in other product categories and offline settings.

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Nintendo and the Blue Ocean Strategy: Designing the Four Actions Matrix

Nintendo y la estrategia del océano azul: diseño de la matriz de cuatro acciones

Adan Jacinto Flores Flores
Universidad Autónoma de Tamaulipas (Mexico)
ajflores@docentes.uat.edu.mx
https://orcid.org/0000-0002-5853-0245

ABSTRACT

The purpose of this article is to analyze the strategies adopted by Nintendo within the framework of the four-action matrix of the BOS (i.e., eliminate, reduce, increase, and create). Documentary research was implemented by scrutinizing the scientific bases of information accessible in electronic media (e.g., Web of Science and Scopus). For each of the four actions of the matrix, the following factors were identified: 1. eliminate the expensive face-to-face conferences; 2. reduce the graphic power of the video game console, the budgets, and the deadlines in the development of video games; 3. increase: the brand extension; and 4. create: nostalgic feeling. This study provides lessons and teachings to be considered by organizational strategists when designing strategies that leverage distinctive characteristics into competitive advantages that satisfy both established objectives and customer desires and expectations. Furthermore, the work can be a reference framework in subsequent empirical research.

Keywords: blue ocean strategy, Nintendo, video game industry, competitiveness.

JEL code: M10

RESUMEN

El presente artículo tiene como objetivo analizar las estrategias adoptadas por Nintendo en el marco de la matriz de cuatro acciones de la EOA (i.e. eliminar, reducir, incrementar, y crear). Se implementó una investigación documental a partir del escrutinio de las bases científicas de información accesibles en los medios electrónicos (e.g., Web of Science y Scopus). Para cada una de las cuatro acciones de la matriz, se identificaron los siguientes factores: 1. eliminar: las costosas conferencias presenciales; 2. reducir: la potencia grafica de la videoconsola, los presupuestos, y los plazos en el desarrollo de videojuegos; 3. incrementar: la extensión de marca; y 4. crear: el sentimiento nostálgico. Este estudio brinda lecciones y enseñanzas a considerar por los estrategas organizacionales al momento de diseñar las estrategias que potencialicen las características distintivas en ventajas competitivas que satisfagan, tanto los objetivos establecidos, como los deseos y expectativas de los clientes. Asimismo, el trabajo efectuado puede ser utilizado de encuadre referencial en subsecuentes investigaciones empíricas.

Palabras claves: estrategia océano azul, Nintendo, industria de los videojuegos, competitividad.

Código JEL: M10

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INTRODUCTION

Nintendo is a Japanese company with over 130 years of history, founded in 1889. In its early years, the company focused on producing the traditional *Hanafuda* playing cards, which are deeply representative of Japanese culture (Fils-Aimé, 2022; Nintendo, 2024c). 'Nintendo' has a special meaning; it translates to 'leave luck to heaven (Inoue, 2010). With the growing popularity of video games in the 1970s and the geographic expansion of arcades, the company decided to actively enter the home video game industry with the release of the *Color TV-Game*, its first home console aimed at satisfying the emerging market for digital home entertainment (Harris, 2014).

According to Ryan (2011), a turning point in Nintendo's corporate history was manufacturing its first major commercial success in arcade machines: *Donkey Kong*. Initially, this game was intended to feature *Popeye the Sailor*; however, after failing to secure the license for the character, Nintendo decided to create its original cast of characters. Among them was the one that would become not only the symbol and mascot of Nintendo but also of the video game industry itself: *Super Mario*.

Much of Nintendo's presence and influence in the electronic entertainment sector can be understood as the natural result of the strong emotional connection between Nintendo and its fans. This loyalty, cultivated over the years, is one of Nintendo's main competitive advantages and is the outcome of maintaining the quality of its most popular and commercially successful franchises *(e.g., Super Mario Bros, The Legend of Zelda, Animal Crossing, Pokémon, etc.),* while also capitalizing on the nostalgic element of those who grew up with a Nintendo console. Given Nintendo's unique managerial style in navigating the industry and its status as a leading figure within it (e.g., The Nintendo DS handheld video game console revolutionized the entertainment experience with its innovative dual screen.), the company becomes a natural candidate for analyzing strategic decisions through the lens of Blue Ocean Strategy (BOS).

BOS is the set of measures and actions taken by organizational leaders aimed at achieving the established objectives by creating or identifying new areas of opportunity that have been overlooked by competitors (i.e., blue ocean) while simultaneously distancing themselves as much as possible from highly competitive and overexploited markets that present very similar ways of doing things (i.e., red ocean) (Kim & Mauborgne, 2015; Kim & Mauborgne, 2017).

Cutting the ties and navigating toward a blue ocean requires a multidisciplinary commitment, with innovation serving as the cornerstone for creating value to retain current customers and attract new consumers, thereby expanding the brand's base of fans and followers (Chirinos, 2022; Čirjevskis, 2017). Hence, it is essential that the BOS implemented is both ingenious and novel to meet the expectations of the organization's stakeholders, both internal and external.

In this context, this academic work aims to evaluate the strategies adopted by Nintendo, considering the guidelines proposed in the BOS. Thus, strategists and decision-makers will have a reference framework to visualize better and understand the industry in which their organization operates and more efficiently direct the various organizational resources toward managing competitive advantages through formulating and implementing superior strategies. The work begins with a literature review and a detailed account of the documentary research. Subsequently, the results and their discussion are presented using the BOS's four-action matrix. Finally, the most relevant conclusions are summarized.

LITERATURE REVIEW

Blue Ocean Strategy

A traditional approach to viewing business strategies is through the metaphor of the "battlefield," the territory where the law of the strongest prevails (Lindič et al., 2012). Each market competitor interacts with others, aiming to eliminate them efficiently. (Cooke et al., 2019).

The level of corporate financial success achieved in financial statements is proportional to the failure reported by competitors (i.e., a zero-sum game) (Kim & Mauborgne, 2017; Susilowati et al., 2017). Immersed in a constant, relentless struggle until only one remains standing, cautious management always prioritizes resource optimization to gain competitive advantages by directing efforts toward devising economically viable strategies that keep them one step ahead of their rivals' plans" (Dvorak & Razova, 2018; Shi & Zailani, 2025). Scenarios characterized by intense competition or high business mortality rates are referred to as "red oceans (Kim & Mauborgne, 2015; Lauer, 2019; Vieira & Ferreira, 2018).

On the other hand, the concept of a "blue ocean" emerges, which, as its name suggests, is the opposite of the red ocean (Mohamud et al., 2024). By breaking the dogmas the industry considers unchangeable or too difficult to alter, the organization seeks to create blue oceans free of competition by offering its customers unparalleled products and services through internal innovation processes (Church, 2024).

MERCADOS *y Negocios*

The initial challenge in implementing a BOS lies in the courage to move away from what the industry considers "conventional" behaviors without falling into the temptation of making too many intuitive or hasty decisions that disregard the warnings of professional diagnostics (e.g., budgets, financial statements, trend analysis, internal and external audits, and others.) (Abdullah et al., 2024).

Distribution centers are an example. In response to the workforce shortage, they have used a BOS to hire and integrate people with disabilities instead of simply further mechanizing the internal processes involved in operational and administrative activities or increasing hourly wages to retain the current workforce and simultaneously attract new labor to the organization (Ellinger et al., 2020; Hoang et al., 2022; Leavy, 2018).

Madsen and Slåtten (2019) analyzed the BOS through four core characteristics that administrative terminology must meet to be assimilated: 1. Attractive and understandable labeling: The alluring allegory of a blue ocean full of opportunities and a red ocean teeming with belligerent sharks makes it easier to understand the complex interaction of all competitors within the same business market; 2. Performance improvement: Intrinsically, adopters of the new terminology expect this incorporation to boost performance tracking indicators by fostering communication and the exchange of ideas; 3. Interpretive space: There is enough room for managers to conclude, and 4. Universality: It is assimilable and applicable in any organization, environment, culture, country, economic sector, and others.

As indicated by Christodoulou and Langley (2019), organizational strategists can identify areas for improvement in the existing business model that governs a particular industry by thinking outside the box. It marks the beginning of a transformative process that allows the company to move toward a blue ocean, distinguishing itself from the competition by adopting a new way of doing things.

The goal is to reach a point where competition becomes increasingly irrelevant. Cirque du Soleil is a classic example of the BOS. This circus company made a radical decision to eliminate animal acts, supported by a cost-benefit analysis: breeding and caring for the animals was costly and of little interest to the audience. The appeal of seeing exotic beasts lost its purpose as more zoos were established around the world.

"Applying the Blue Ocean Strategy to make competition irrelevant is easier said than done" (Wee, 2017: 38). No one can guarantee a strategy's success. Therefore, by moving so far away from the conventional, organizations will, to some extent, make a leap of faith into unknown or underexplored territory (Mukira et al., 2024). Initially, markets and shareholders will experience great uncertainty, and industry experts will strongly criticize the direction taken (Alghamdi & Agag, 2024). Even the most loyal customers may be skeptical of the new

direction. The goal is not simply to attract new recurring consumers, but without losing the current loyal customer base (Porter, 2015; Rais, 2025).

A prime example is Bud Light's disastrous advertising campaign, which, attempting to appeal to a new demographic sector, caused its most loyal followers to feel deeply betrayed by the brand and react highly defiantly (Otis, 2023). As expected, competing breweries seized upon this misstep.

It is naive to think that simply copying the best practices of direct and indirect competitors will be enough to prevail over them (i.e., benchmarking) (Caldwell & Anderson, 2017). Differentiation *marketing* is essential to stand out in an oversaturated environment with demanding customers. However, strategic success also requires a meticulous and ongoing assessment of one's strengths and weaknesses and those of rivals (Christodoulou & Langley, 2019). To illustrate, it is worth recalling what happened with the video rental chain *Blockbuster* and how its hallmark, "physical rental," became obsolete in a short period in the Internet age (Raynor, 2016).

This led to its dramatic exit from the movie rental market in favor of *Redbox* and *Netflix* because it failed to recognize in time that its business model, which had made it so successful, was inevitably doomed in the long term. As the years went by, managing an inventory of classic films alongside the latest Hollywood blockbusters became increasingly impractical.

Regardless of its widespread acceptance and rapid dissemination, the BOS is not exempt from significant criticism, which helps strengthen it theoretically and empirically when addressed by the academic community. Among the harshest critiques of the approach proposed by BOS is its similarity, to a greater or lesser extent, with other established management terms found in previous literature: disruptive innovation, *value innovation*, differentiation, market niche, and others (Agnihotri, 2016). For some authors, BOS is merely a rebranding of existing concepts in the business lexicon, recycling old ideas and presenting them in a new package to the public (Benders & van Veen, 2001). What matters is ensuring that the new labeling is perceived as modern and innovative to accelerate its adoption and replace the old terminology in managerial conversations (i.e., the metaphor of old wine in new bottles) (Ortenblad, 2007).

Nintendo and the Blue Ocean Strategy
Before creating a blue ocean, Nintendo had to navigate a red ocean. Being involved in the video game industry, its first competitor to consider was SEGA, which openly declared a commercial war on Nintendo with its slogan in North America: *"Genesis does what Nintendo does not"* (Harris, 2014). A clever wordplay that told consumers that the Genesis console was superior to what Nintendo had to offer. This marked the beginning of the first major

console war, where gamers had to decide the best option for enjoying their video games, as purchasing both products was unaffordable for most of them.

The battle between Nintendo and SEGA ended abruptly with the entry of a new competitor into the market: PlayStation (Fils-Aimé, 2022). Ironically, the PlayStation brand was born when Nintendo betrayed a partnership with Sony to jointly create a CD-ROM peripheral for its *Super Nintendo Entertainment System* (SNES).

After this breakup, Sony continued the project independently and developed its device based on the peripheral. Nintendo had essentially opened the door for Sony to enter the video game industry. The sudden arrival of this strong competitor triggered the decline and eventual exit of SEGA as one of the major developers of home gaming consoles worldwide (Harris, 2014). The situation worsened for Nintendo when, shortly thereafter, Microsoft entered the digital entertainment stage with the Xbox, further fragmenting consumer preferences.

Nintendo's former president, Satoru Iwata, was the turning point in its decision to navigate toward a blue ocean. When Iwata took over the company, he realized that direct competition made no sense because, unlike PlayStation and Xbox, Nintendo did not have a multinational corporation backing it with financial resources or rescue it in unexpected and undesirable situations (Nintendo, 2024c).

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For example, one of the most significant corporate acquisitions in history occurred when Microsoft supported its Xbox division by purchasing Bethesda for $75 billion, gaining access to one of the most lucrative franchises in the video game industry: *Call of Duty* (Gallagher, 2023; Mochizuki, 2019; Needleman, 2024; Tilley, 2020). Nintendo could not afford such a luxury and would have to find its path to survive or face the same fate as SEGA.

Nintendo's situation was at a critical point. With each new generation, their consoles sold fewer units in the market and failed to meet shareholder expectations. As seen in Graph 1, the company's fortunes changed with the release of the Wii, which followed the BOS approach. However, between this success and the Nintendo Switch, the aberration known as the Wii U was a commercial failure and a significant setback for implementing the BOS doctrine.

Some factors that help explain the downfall of the Wii U include: 1. a lack of clarity about whether it was a new video game console or just a peripheral for the Wii, 2. marketing was overly focused on the family market, neglecting the teen and young adult demographic, and 3. exclusive games based on Nintendo's most popular franchises took too long to debut on the console (e.g., *Super Smash Bros. for Wii U* was released in late 2014, two years after the Wii U's launch). Nevertheless, the distinctive feature of the Wii U, its gameplay and interface

options, particularly the touchscreen "Gamepad" controller, was crucial in perfecting its successor and returning to the top of the market. The Wii U could be considered a prototype for the Nintendo Switch.

Graph 1
Nintendo software and home game consoles sold millions of units.
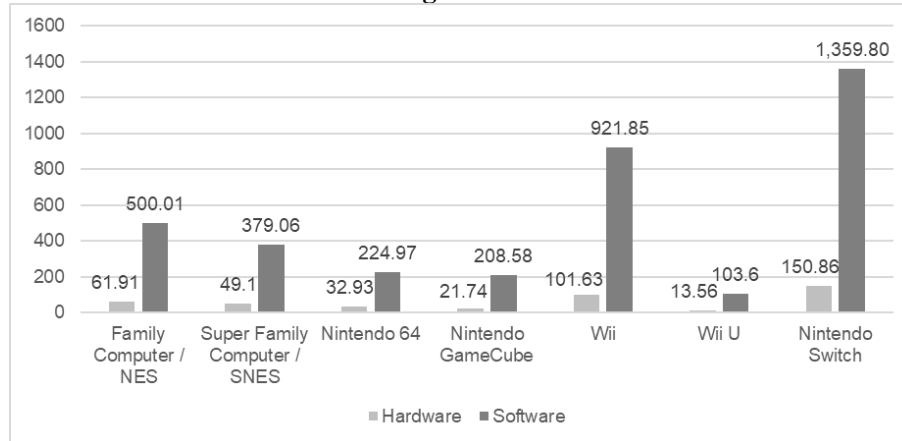
Source: Own elaboration (Nintendo, 2024a).

In addition to the previous factors, one of Nintendo's most significant strengths is its dominance in portable consoles (see Graph 2). Its first foray into the portable video game market was with the *Game & Watch* line, each device offering a simple game to pass the time. Nintendo's steadfast commitment to portability began in 1989 with the debut of the Game Boy, which set an industry precedent for several reasons: 1. it allowed for game swapping via small cartridges, 2. *software* designed for short gaming sessions (e.g., Tetris), 3. outstanding battery life from the four AA batteries required, and 4. an affordable retail price.

Nintendo's dominance remained unchallenged until the discontinuation of the Nintendo 3DS in 2020. Even when Sony launched the PlayStation Portable (PSP) in 2004 and the PlayStation Vita (PS Vita) in 2011, they failed to dethrone Nintendo in the portable market. Once again, while powerful processors characterized the competitors' consoles, the game catalog sold the consoles, not the other way around. The company combined the home and portable sectors to consolidate the Nintendo Switch by designing it as a hybrid console, meaning it could be enjoyed from the comfort of a television or portable (Mochizuki, 2018). With this versatility, Nintendo managed to distance itself from its rivals, who remained trapped in a red ocean.

Graph 2
Nintendo software and portable game consoles have sold in millions of units.

An intrinsic characteristic of the video game industry—and a real headache for strategists—is the high abundance and massive proliferation of substitute products (Fils-Aimé, 2022), whether they are electronic pastimes or not, classified in the literature as close and distant substitutes, respectively (see Figure 1).

Decision-makers must contend with any form of entertainment available to consumers that may distract them from the goods and services offered by the organization (Argyres et al., 2025). Therefore, it is essential to develop strategies with a creative and innovative approach to minimize the negative impact on the three main areas of organizational performance: financial, market, and operational.

Since it is impossible to cover all the hobbies one might wish to, the real competition ultimately lies in the fact that all those involved in the leisure sector, direct and indirect competitors, do their best with the resources available to capture a share of consumers' limited free time.

Figure 1
Substitute products of the video game industry
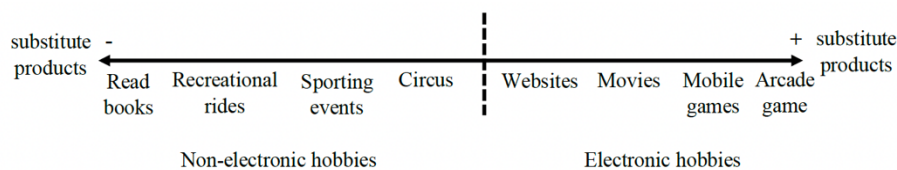
However, substitute products have the particularity of restricting the sudden entry of more competitors into the industry. Theoretically, a greater number, variety, and accessibility of these alternatives would create a higher barrier to entry, reducing the threat of new competitors (David & David, 2017).

Additionally, customer tastes and preferences are highly volatile over time, which presents an additional challenge for management (Mirghaderi et al., 2023). It is unwise to assume that any strategy will overcome the substantial barriers to entry into the video game market (Li et al., 2025).

Consequently, in a globalized world where everything is virtually a click away, strategies must be highly dynamic to quickly adapt to a changing reality (Porter, 2015; Yunus & Sijabat, 2021). Therefore, reconciling industrial peculiarities with business strengths is essential for creating a new blue ocean that allows for abandoning red oceans (see Figure 2).

Figure 2
Incubation of a new blue ocean

Video game industry

- Substitute products
- Dynamic industry
- High intensity of competition
- Consumer power

New blue ocean

Nintendo

- Intellectual properties
- Recognized brand
- Nostalgic effect
- Video game consoles
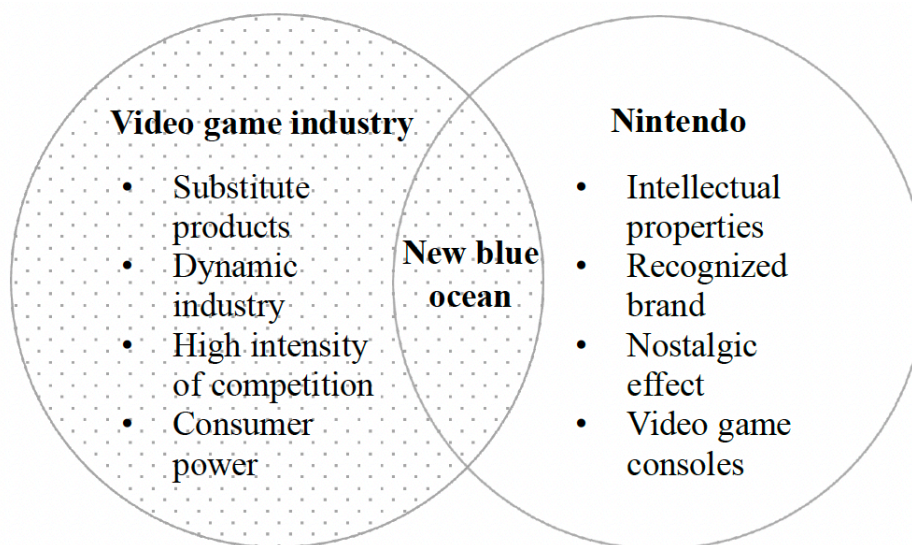
Source: Own elaboration (Fils-Aimé, 2022; Pilatti et al., 2024; Subramanian et al., 2011)

METHOD

Based on a review of scientific information available through electronic media, this study utilized the documentary research method to evaluate Nintendo's strategies, considering the guidelines outlined in the BOS. Understanding the distinctive characteristics that make each industry or economic sector unique and special is crucial for any executive.

Knowing the tangible and intangible rules in which competition will unfold will help maximize the number of successful strategic decisions made by management and, logically, minimize the mistakes caused by an incomplete vision of the general and specific environment. By framing the work within the corporate case of Nintendo, it is possible to

offer lessons and insights for strategists to consider when designing strategies that will define the roadmap for their respective organizations.

As observed in the theoretical framework, one of the strengths of the BOS is its multifaceted nature in effectively addressing various complex scenarios. This feature is capitalized on in the development of numerous research works: management of professional football teams (e.g., Pìlatti et al., 2024), creation of educational programs in schools and universities (e.g., Erekson & Williams, 2022), management in nonprofit public administration organizations (e.g., Magued, 2023), theory of administrative fashion (e.g., Madsen & Slåtten, 2019), recruitment and inclusion of employees with disabilities (e.g., Ellinger et al., 2020), health centers (e.g., Mourtzikou et al., 2019), to mention just a few examples. Therefore, it is imperative to leverage academic publications and other secondary sources of information primarily available on the internet through a selection process that allows for choosing the most significant studies in achieving the stated objective and, in this way, contributing to the expansion of scientific literature on BOS.

Using the method proposed by Bernal (2022) and Hernández and Mendoza (2023), a theoretical examination was conducted through five basic stages: 1. Review, a preliminary exploration of scientific information sources; 2. Detection, locating information sources aligned with the research topic; 3. Consultation, in-depth reading of the selected manuscripts; 4. Collection, extraction of the most relevant evidence for subsequent inquiry; and finally, 5. Integration involves combining the collected data for analysis and subsequent conclusions.

The literature review began with a preparatory check of the available academic documents to verify the existence of sufficient material to fulfill the proposed objective and continue with the present research. Therefore, sources such as *Web of Science, ScienceDirect*, EBSCO, CONRICyT, financial reports, interviews with Nintendo's creative staff, Google Scholar, *Clarivate Analytics*, Elsevier (*Scopus*), and journal articles were utilized. Next, detection was approached in two steps: first, by using key terms to facilitate the search (i.e., Nintendo, BOS, managerial strategies, and competitive advantages); second, by checking the references listed in the identified works. As a result of this detection, Table 1 summarizes the primary sources of information located during the documentary research.

Table 1
Main sources of information

Information	Main sources
Nintendo corporate history	Fils-Aimé (2022); Harris (2014), Inoue (2010), Nintendo (2024a), Nintendo (2024b), Nintendo (2024c), Rodríguez (2020), Ryan (2011), Subramanian et al. (2011)
BOS	Chirinos (2022), Kim & Mauborgne (2015); Kim & Mauborgne (2017); Mirghaderi et al. (2023); Pìlatti et al. (2024); Yunus (2021)
Competitive advantages	David & David (2017), Ortenblad (2007), Muhammad et al. (2017), Porter (1996), Porter, (1998), Porter (2015)

Source: Own elaboration.

Continuing with the consultation stage of the selected writings and reports, which were deemed the most representative and aligned with the research topic, a thorough review was carried out of the following elements: abstracts, general and specific objectives, methodology, figures and tables, results, conclusions, and bibliographic references. Then, during the evidence collection phase, extracts related to the strategies implemented by Nintendo and the BOS were separated and grouped into electronic information sheets.

94 Finally, the gathered notes were integrated by creating a word cloud, a force field analysis, and constructing the four actions matrix of the BOS. With the conclusions derived from the cited organizational tools, the aim is to help managers make continuous strategic decisions to create a more resilient organization and overcome the challenges of the video game industry.

RESULTS AND DISCUSSION

A word frequency analysis was conducted to detect the most used key terms in the reviewed literature. The twelve most frequently used words in the studies were used to create a word cloud, shown in Figure 3. As can be seen, the words "innovation" and "creativity" prominently stand out in the center of the cloud. Additionally, "brand value," "philosophy," "family-friendly," "strategy," "entertainment," "advertising," "management," "special," "organizational performance," and "organizational culture" are frequently used terms in the articles and works examined.

Figure 3
Word cloud of the most used words in the secondary information sources consulted.

organizational culture

philosophy   management   strategy

brand value   advertising

innovation   special

organizational performance   family-friendly

creativity

entertainment

Source: Own elaboration.

A highly valuable competitive advantage is the ability to create innovative ideas to expand the user base. Having talented personnel who constantly refresh the organization's intellectual capital is essential to remain relevant in the face of a consumer base that craves entertainment. As previously mentioned, one factor that explains Nintendo's industrial relevance is its portfolio of patents and trademarks, which fuel the electronic entertainment ecosystem. Expanding different and unique offerings will help enhance the brand value by promoting its commercial development potential, especially by directing administrative efforts toward meeting the demands of a family-oriented or teenage audience.

In addition to the usual financial indicators and statements used in business diagnostics, careful executives consider qualitative aspects of assessing the effectiveness of fully implemented strategies, avoiding making a premature judgment. Despite the administrative challenge of accurately quantifying intangible elements, a successful organization should not overlook this vital strategic asset in strengthening its competitive advantages. For example, decision-makers must monitor the progress of fulfilling the organizational vision and mission with analytical tools that complement accounting metrics (e.g., external and internal factor evaluation matrices).

By identifying and listing the main arguments from Nintendo's strategic environment, a force-field analysis was developed between the positive aspects that encourage breaking away from the *status quo* and promoting actions that lead to substantial organizational changes and the negative aspects that restrict such actions. Thus, it can be observed that the

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driving forces outweigh the opposing forces, tipping the balance in favor of managing a BOS (See Figure 4).

Among the driving forces, the organizational philosophy and culture stand out, being open to trying new things to safeguard the creative engine responsible for developing fresh ideas that will revolutionize the digital entertainment industry (e.g., inventing original intellectual property or establishing new gameplay mechanics in a video game). In other words, resistance to change at various hierarchical levels is minimized by maintaining a favorable attitude towards the unknown, while conversely, the assimilation of the proposed transformation that alters the norm is strengthened, thus facilitating the implementation of the BOS.

Figure 4

Force field analysis
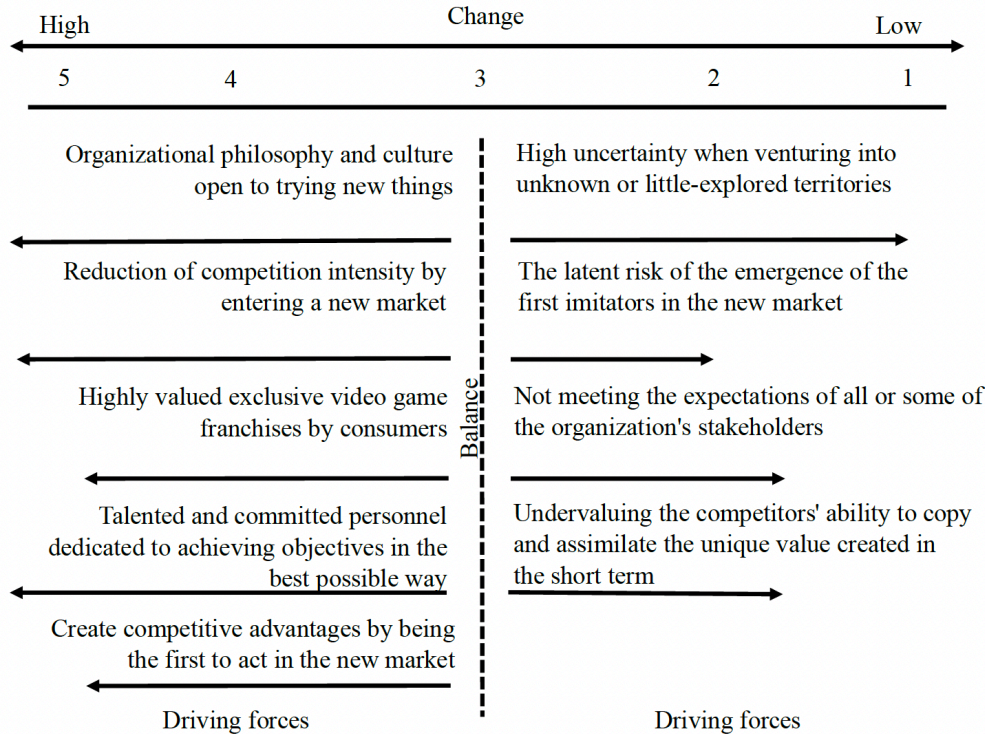
Source: Own elaboration (Fils-Aimé, 2022; Nintendo, 2024b; Nintendo, 2024c).

Based on the literature review, the Four Actions Framework was constructed to achieve the objective of this study (See Table 2). As its title suggests, the matrix consists of four actions: 1. Eliminate, removing anything superfluous; 2. Reduce, adjusting monetary and non-monetary resource requirements to strictly necessary levels; 3. Raise, reinforcing activities that create value for users; and 4. Create innovative ways to achieve organizational excellence through cutting-edge internal processes, disruptive advertising campaigns, novel products and services, and others. All these actions aim to make the organization more efficient and effective by aligning each managerial effort toward a unified strategic direction.

The goal is to identify the areas of opportunity that Nintendo must monitor closely to continue creating unique experiences that keep it as a leader in digital entertainment within an ever-evolving industry like video games. The actions listed in the matrix are detailed below:

Table 2
Nintendo's Four Actions Matrix

Eliminate	Increase
Eliminate everything superfluous that does not generate value for users	Reinforce activities that generate value for users
The expensive in-person conferences	Brand extension
Reduce	**Create**
Adjust the monetary and non-monetary resource requirements to strictly necessary levels	Innovate ways to achieve organizational excellence
Graphics power of the gaming console	Nostalgic feeling
Budgets and deadlines in video game development	

Source: Own elaboration (Kim & Mauborgne, 2015; Kim & Mauborgne, 2017).

Actions to eliminate
One of the main ways members and collaborators in the video game industry showcased their news to different markets was through their annual participation in the *Electronic Entertainment Expo* (E3). E3 was a trade show that brought together developers, manufacturers, distributors, and the specialized press in one place and then opened its doors to the public.

Typically, it involved a simple live conference. However, these evolved year by year into grand spectacles to exclusively announce with fanfare: a new IP (e.g., Animal Crossing at E3 2002), the highly anticipated return of a popular franchise (e.g., Metroid at E3 2009), the release of the most awaited titles (e.g., *The Legend of Zelda*: Twilight Princess at E3 2004), the unveiling of new consoles (e.g., Nintendo Wii at E3 2005), peripherals (e.g., Wii Fit at E3 2007), collaboration agreements (e.g., the deal with Ubisoft at E3 2012), and others. However, despite Nintendo having a physical space in the E3 auditorium to showcase its products and address questions from journalists and consumers, according to Nintendo (2024b), in 2013, the company decided not to hold a traditional conference and instead chose to broadcast its news through Nintendo Direct.

Nintendo Direct is a mostly pre-recorded digital event that began airing in 2011, primarily on the YouTube platform. These events quickly became an essential and reliable communication tool for the company for three main reasons: 1. Cost-efficiency: The costs of producing a video filmed in a studio are much lower than those of hosting a live event; 2. Greater control: Since it is a recorded broadcast to be released later on the internet, the company has more control over the script, timing, and pacing of the presentation, helping to prevent it from becoming tedious and avoiding potential issues with a live audience (e.g.,

technical difficulties); and 3. Anticipation: Announcing the date of the next broadcast generates conversation and debate about potential surprises among media outlets, *influencers, YouTubers*, and the broader gaming community, who help share the news through their social networks.

Nintendo Direct proved to be a wise decision by Nintendo to connect with a society immersed in smartphones. Another point in its favor is the imitation of this model by direct competitors, PlayStation and Xbox, who created their digital events (i.e., *State of Play and Xbox Game Showcase,* respectively). The last E3 event took place in 2019, and it has since been permanently canceled due to the global pandemic in 2020 and its failure to adapt to *streaming* technology.

Actions to Reduce

One of the major promotional arguments companies use to encourage the purchase of a new gaming console with each generational leap is the significant increase in the graphical power of electronic devices. This rise in technical specifications allowed designers to create visually more attractive video games with more ambitious content, free from past technological limitations.

However, *hardware* optimization raises manufacturing costs as it invariably requires higher-quality components. Nintendo took a 180° turn in its strategic approach by abandoning the race for graphic supremacy with the launch of the Wii in 2006, radically distancing itself from the market quadrant occupied by Sony (i.e., PlayStation 3) and Microsoft (i.e., Xbox 360), which were the offerings of its closest competitors (see Table 3).

When adding personal computers (PCs) to the equation, which by nature can have their components upgraded at any time (e.g., *motherboard*, hard drive, cooling systems, etc.), the battle to have the ultimate gaming console was a dead-end in the long run. By reducing graphical power, Nintendo strengthened its position as an industry leader in the video game sector. It increased its business competitiveness by selling consoles at a price higher than its unit cost.

Table 3
Computing capacity of game consoles in teraflops

Marca	Videoconsola (*teraflops*)*				
Nintendo	Nintendo 64	Game Cube	Wii	Wii U	Switch
	(.0002)	(.0094)	(.012)	(.352)	(1.024)
PlayStation	PlayStation	PlayStation 2	PlayStation 3	PlayStation 4	PlayStation 5
	(.0001)	(.0062)	(.3)	(1.84)	(10.28)
Xbox		Xbox	Xbox 360	Xbox ONE	Xbox Series X
		(.02)	(.24)	(1.23)	(12)

* The first model offered by each company was taken as a reference
Source: Own elaboration (Grandío, 2020)

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As the visual spectacle intensified with each generation of gaming consoles, it was logically expected that the time and costs required to create *software* capable of fully utilizing the technical capabilities of these electronic systems would increase exponentially. The desire to reach the graphical ceiling would eventually cause release deadlines to be significantly delayed. Similarly, it would propel the budgets involved in video game development to new heights. Programming a 2D game is not the same as programming a 3D one. The problem with graphical power is that it constantly needs to be fed.

Nintendo prioritizing creativity over hyperrealism in its games and focusing on the cost-benefit ratio in the manufacturing of its consoles gained three additional advantages in parallel: 1. Flexibility in setting deadlines: Development times become more flexible by reducing the visual requirements, which makes it possible always to have a surprise to announce by alleviating the waiting periods between game releases; 2. Risk reduction: Fewer units need to be sold to break even, and once the investment is recouped, the project becomes profitable by generating the anticipated profits; and 3. Perpetuity of exclusives: It allows the continued use of the exclusive games model (i.e., video games that can only be enjoyed on a single console brand), as major productions are forced to offer temporary exclusives to cover the high costs incurred. According to Xbox (2024), *Indiana Jones and the Great Circle* will be available first on Xbox and PC and later released on PlayStation 5.

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Actions to Increase

Nintendo's corporate image through the brand extension marketing strategy is one factor to increase. As a pioneering company in the video game industry, Nintendo is in a privileged position to introduce new products and services that help maintain and reignite the interest of its established fan base while simultaneously attracting additional users.

The challenge lies in increasing the market share percentage without losing the acquired customers. In addition to countless toys, clothing lines, TV cartoons, and various promotional merchandise, some of the most notable actions to expand corporate presence include the cinematic release of *Super Mario Bros. The Movie*, musical concerts of its iconic franchises, the Amiibo collectible figures, themed amusement parks at *Universal Studios*, and the opening in October 2024 of the Nintendo Museum commemorate the company's history (Nintendo, 2024b). This will lead to a virtuous cycle; having more high-quality products and services will increase the brand's commercial value, and this recognition will facilitate the release of more products and services.

Actions to Create

Over the years, Nintendo has been a part of the childhoods of thousands of people, forging a nostalgic connection with its player base. The children of yesterday are now parents who

wish to relive their childhood and share pleasant moments with their children. Being a central part of the memories of a time when life seemed simpler is a feeling that is hard for competitors to replicate, making consumers more than mere brand followers. Therefore, the nostalgic factor should be created to solidify itself as a competitive advantage, enhancing the sense of belonging among customers and turning them into unofficial ambassadors of the organization.

According to Flores and Álvarez (2019), nostalgia must meet four characteristics to be a successful element: 1. Endearing games – having a catalog of relevant intellectual properties that have stood the test of time (e.g., soundtracks, characters, artistic style, advertising, and others); 2. Reminiscence of the past – nurturing honest and sincere connections between the player and the company (e.g., receiving a Nintendo console as a Christmas gift); 3. Reviving emotions – cultivating the desire to continue enjoying the electronic pastime from childhood or youth (e.g., developing intergenerational games that appeal to players of all ages); and 4. Sharing stories – facilitating sharing of personal, emotional stories among users (e.g., the Wii U console had the *Miiverse* social network, allowing players to create original drawings and give and receive *feedback* from others worldwide).

Involving a full range of emotions and feelings from consumers, nostalgia cannot simply be bought in a department store to instantly create a special affection toward the brand and its products. Like a fine wine, it requires an aging process to enhance its attributes. This maturation involves years of careful tracking and analysis of demographic and socioeconomic data that comprise the customer profile (e.g., age, family structure, occupation). All of this will be reflected in a loyalty index that meets the parameters required by senior management and, at the same time, acts as a deterrent barrier to potential competitors.

CONCLUSIONS

Nintendo's atypical case is a good opportunity to analyze the decisive factors that must be monitored from the perspective of BOS. As observed throughout this work, the video game industry is highly competitive because countless substitute products try to capture consumers' attention. In a reality where internet access is at hand, the intensity of competition to gain a share of consumers' time is brutal. Spending money to acquire a video game is unnecessary, as there are hundreds of free mobile applications to pass the time. Standing out and remaining relevant is imperative, as imitators can appear unexpectedly. Building a name in this industry is becoming increasingly complex.

In this whirlwind scenario, the approach presented by the BOS stands out as it seeks to move away from senseless commercial wars by offering a proposal that deviates from the

conventional. However, being unique is not enough to succeed independently; success largely depends on how strategies are executed and followed through. Risk is inevitable, but Nintendo tries to minimize it by developing more flexible games. It is achieved when gameplay aspects precede graphic requirements in its exclusive franchises, thus creating timeless video games that transcend generations of players and enhance their competitive advantages.

Based on the development of the four-action matrix, the following future lines of research are proposed: 1. Identify the key elements of a digital conference to attract and retain virtual viewers throughout the entire broadcast and, once the conference concludes, induce it to be widely mentioned (e.g., word of mouth or through social media). 2. Qualitatively examine the technical specifications of video game consoles through customer perceptions. 3. Analyze the adverse effects of brand wear caused by systematic oversaturation for users and the alternatives that decision-makers should consider to avoid flooding the market with excess products and services. 4. Empirically compare the business model of exclusive intellectual properties across various entertainment sub-sectors (e.g., film, music, literature).

Few companies genuinely manage to win their fans' hearts as Nintendo does. With a few exceptions of minor games that can be downloaded on other electronic devices (e.g., smartphones), Nintendo's video games can only be enjoyed on Nintendo consoles, which strengthens the close relationship between the company and its followers.

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However, according to Batchelor (2024) and Nintendo (2024d), the Japanese company's most recent financial results show a significant decline in hardware sales (i.e., 4.72 million, down 31%) and software sales (i.e., 70.28 million, down 27.6%). This is a predictable scenario, as the Nintendo Switch has been competing in the market for over eight years, and it is normal to expect a drop in sales when a product is in the final stretch of its commercial life cycle. Therefore, it is essential to highlight that, while preparing this study, the successor to the Nintendo Switch was officially announced, which will be named the Nintendo Switch 2. Thus, everything suggests that Nintendo will maintain a continuity-focused approach to the strategy established with the original Nintendo Switch (e.g., backward compatibility of games between the two consoles has been confirmed). Hence, the challenge of creating a blue ocean continues today more than ever, given the relentless dynamism of the video game industry and the expectations surrounding how consumers will receive this successor.

Regarding the delimitations of the work conducted, it is essential to note that the results, derived from documentary research, were subject to the available literature in the databases consulted at the time. Another limitation pertains to the case study of Nintendo; the generalization of the findings may be restricted to organizations that share similar traits with the company. In addition, the video game industry is experiencing a rapid evolution of ideas

and technology. It justifies the proliferation of more studies focused on the BOS and the continued strengthening of this management topic.

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FINANCIAL AND ECONOMIC INDICATORS
EVA (Company and Shareholder Value Indicator)
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Juan Gaytán Cortés
Universidad de Guadalajara (México)
jgaytan@cucea.udg.mx
https://orcid.org/0000-0002-4388-0138

Economic Value Added (EVA) originates as a value-based measure of performance, comparing the profitability obtained by a company with the opportunity cost of capital used to support its tangible and intangible resources. EVA measures the actual creation of shareholder value by a company. In other words, it is not enough for a company to be profitable; it must also cover the opportunity cost of investing in its tangible and intangible resources.

Traditional performance measures based on conventional accounting information such as return on capital (ROE), return on investment (ROI), earnings per share (EPS or EPS), net operating profit after tax (NOPAT), etc., have been criticized due to their inability to incorporate the total cost of capital, as accounting assets and income are not a predictor of the value of the company and cannot be used to measure corporate performance, (Sharma & Kumar, 2010).

EVA has gained popularity around the world as an internal and external performance measure, as it measures organizational performance and aligns with the overall goal of creating or destroying value for investors through management actions.

Theoretical origin. The (EVA) is found in classic concepts of economics and finance, especially in the principle that a company only creates value when its profitability exceeds the opportunity cost of the resources used by the company and expected by investors.

a) Economic Value Added (EVA): Based on the Theory of Economic Surplus (Marx, 1959; Santarcángelo & Borroni, 2012). It measures the value generated by the company after covering the cost of capital.

b) Market Value Added (MVA): Assesses the company's ability to increase market value above the capital invested by shareholders.

Classic financial perspective. The first notion of EVA is based on the economic principle of "economic benefit". This concept was formulated by classical economists such as Alfred Marshall (1890) in The Principles of Economics, where he proposed the concept of residual income, stating that: "The true profit of a firm is what remains after deducting the opportunity cost of capital."

Modern financial perspective. In the 1960s, Fisher (1930), Modigliani, and Miller (1950) discussed the meaning of EVA defined between the net present value (NPV) and the firm's expected cash flow, discounted (Sri, 2019). VAS is related to the following theories:

1) Net Present Value (NPV) Theory: EVA can be viewed as a method for calculating net present value on an annual basis.
2) Weighted Average Cost of Capital (WACC): A cornerstone of EVA is recognizing WACC as the minimum rate a company must exceed to generate value.
3) Value-based management: EVA aligns with this trend that seeks to maximize value for shareholders, beyond traditional indicators such as net income or earnings per share.

In 1989, Joel Stern and G. Bennett Stewart III, (Stewart, 1991) of the U.S. consulting firm Stern Stewart & Co., based in New York, developed a methodology on value creation as a measure of the performance of companies and patented that product, calling it EVA (Economic Value Added) as a registered trademark, (Stewart, 1994). However, let us not forget that its foundations go back to ideas developed many years earlier.

Advantages of EVA:
- It considers the risk of the resources used; traditional indicators do not.
- Knowledge of the strategic business units that generate or destroy value.
- It is a better aid in assessing the actual financial performance of the company and for shareholders.
- It facilitates the evaluation of management by business unit, area, or center regardless of its activity or size.
- It helps make strategic decisions and allocate capital, aimed at generating future value in the organization.
- It promotes a culture of responsibility and efficiency in management, facilitating the establishment of monetary incentives for managers and workers.
- It facilitates the redesign of methods, techniques, and procedures to align them with value creation.

Disadvantages of EVA:
- It is static; the information used corresponds to a specific date.
- It has a quantitative approach.
- It requires accounting adjustments.

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EVA Calculation:

EVE = NOPAT - (Invested Capital x Cost of Capital)
   = NOPAT - (Total Assets x Cost of Capital)

Where:
- NOPAT (Net Operating Profit After Taxes) = Net operating profit after taxes.
- Invested Capital = All the financial resources used by the company (debt + equity).
- Cost of Capital = Minimum Rate of Return Demanded by Investors (WACC: Weighted Average Cost of Capital).

Interpretation of the EVA result
1) EVA > 0: The company is creating economic value. It generates profits exceeding the cost of capital.
2) EVA = 0: The company is in equilibrium. You are covering exactly the cost of capital.
3) EVA < 0: Value is being destroyed. The company does not generate enough profits to offset the cost of capital invested.

Residual Income (IR)
It is a measure of economic profit; it is the surplus after compensating the company's shareholders and all other providers of capital (Sternet et al., 1995). General formula for calculating residual income:

RI = NOPAT – (WACC x CI)

Where:
NOPAT Net Operating Income After Tax
WACC = Weighted Average Cost of Capital
CI = Capital Invested

Economic and financial indicators are valuable tools that enable organizations to make informed, timely decisions about their corporate and financial strategies.

Next, the evolution of key economic and financial indicators in the Mexican environment is described to facilitate informed decision-making related to personal and business strategies in an integrated manner.
1. National Consumer Price Index (INPC, Spanish)
2. The Price and Quotation Index of the Mexican Stock Exchange (IPC, Spanish)
3. Exchange rate
4. Equilibrium interbank interest rate (TIIE, Spanish)
5. CETES' rate of return

6. Investment units (UDIS, Spanish)

1. NATIONAL CONSUMER PRICE INDEX (INPC)

Born in 1995, it reflects changes in consumer prices, measuring the general increase in prices across the country. It is calculated on a fortnightly basis by the Bank of Mexico and INEGI (2021). INPC is published in the Official Gazette of the Federation on the 10th and 25th of each month. The reference period is the second half of July 2018.

Table 1
Accumulated inflation in the year (Base: 2nd. half of July 2018=100 with data provided by *Banco de México*)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	0.90	-0.09	0.38	1.70	0.53	0.09	0.48	0.86	0.59	0.76	0.89	0.29
February	1.15	0.09	0.82	2.29	0.91	0.06	0.90	1.50	1.43	1.24	0.99	0.56
March	1.43	0.51	0.97	2.92	1.24	0.44	0.85	2.34	2.43	1.51	1.28	0.88
April	1.24	0.25	0.65	3.04	0.90	0.50	-0.17	2.67	2.98	1.49	1.48	1.21
May	0.91	-0.26	0.20	2.92	0.73	0.21	0.22	2.88	3.17	1.27	1.29	
June	1.09	-0.09	0.31	3.18	1.12	0.27	0.76	3.43	4.04	1.37	1.68	
July	1.42	0.06	0.57	3.57	1.66	0.65	1.43	4.04	4.81	1.86	2.74	
August	1.73	0.27	0.86	4.08	2.26	0.63	1.82	4.24	5.54	2.42	2.75	
September	2.18	0.27	1.47	4.41	2.69	0.89	2.06	4.88	6.19	2.88	2.80	
October	2.74	1.16	2.09	5.06	3.22	1.44	2.68	5.76	6.79	3.27	3.37	
November	3.57	1.71	2.89	6.15	4.10	2.26	2.76	6.97	7.41	3.93	3.06	
December	4.08	2.13	3.36	6.77	4.83	2.83	3.15	7.35	7.82	4.66	4.21	

Source: Own elaboration (INEGI, 2025). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general

Graph 1
Inflation in Mexico (2014-2024 accumulated at the end of the year)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Series1	4,08	2,13	3,36	6,77	4,83	2,83	3,15	7,35	7,82	4,66	4,21	

Source: Own elaboration (INEGI, 2025). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general

Graph 2
Inflation in Mexico (accumulated January-April 2025)

Source: Own elaboration (INEGI, 2025). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general
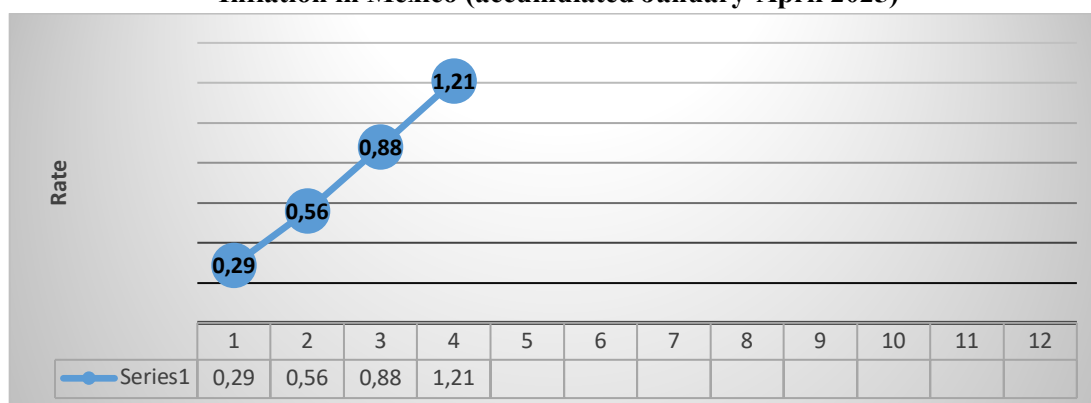
2. THE PRICE AND QUOTATION INDEX OF THE MEXICAN STOCK EXCHANGE (IPC)

Represents the change in the values traded on the Mexican Stock Exchange concerning the previous day to determine the percentage of rise or fall of the most representative shares of the companies listed therein.

Table 2
The Price and Quotation Index of the Mexican Stock Exchange
(Base: October 1978, 0.78=100)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	40,879	40,951	43,631	47,001	50,456	43,988	44,862	42,986	51,331	54,564	57,373	51,210
February	38,783	44,190	43,715	46,857	47,438	42,824	41,324	44,593	53,401	52,758	55,414	52,326
March	40,462	43,725	45,881	48,542	46,125	43,281	34,554	47,246	56,537	53,904	57,369	52,484
April	40,712	44,582	45,785	49,261	48,354	44,597	36,470	48,010	51,418	55,121	56,728	56,259
May	41,363	44,704	45,459	48,788	44,663	42,749	36,122	50,886	51,753	52,736	55,179	
June	42,737	45,054	45,966	49,857	47,663	43,161	37,716	50,290	47,524	53,526	52,440	
July	43,818	44,753	46,661	51,012	49,698	40,863	37,020	50,868	48,144	54,819	53,094	
August	45,628	43,722	47,541	51,210	49,548	42,623	36,841	53,305	44,919	53,021	51,986	
September	44,986	42,633	47,246	50,346	49,504	43,011	37,459	51,386	44,627	50,875	52,477	
October	45,028	44,543	48,009	48,626	43,943	43,337	36,988	51,310	49,922	49,062	50,661	
November	44,190	43,419	45,286	47,092	41,733	42,820	41,779	49,699	51,685	54,060	49,813	
December	43,146	42,998	45,643	49,354	41,640	43,541	44,067	53,272	48,464	57,386	49513	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es

Graph 3
The Price and Quotation Index of the Mexican Stock Exchange, 2014 - 2024
(Score at the end of each year)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2024
Series1	43.146	42.998	45.643	49.354	41.640	43.541	44.067	53.272	48.464	57.386	49.513	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es
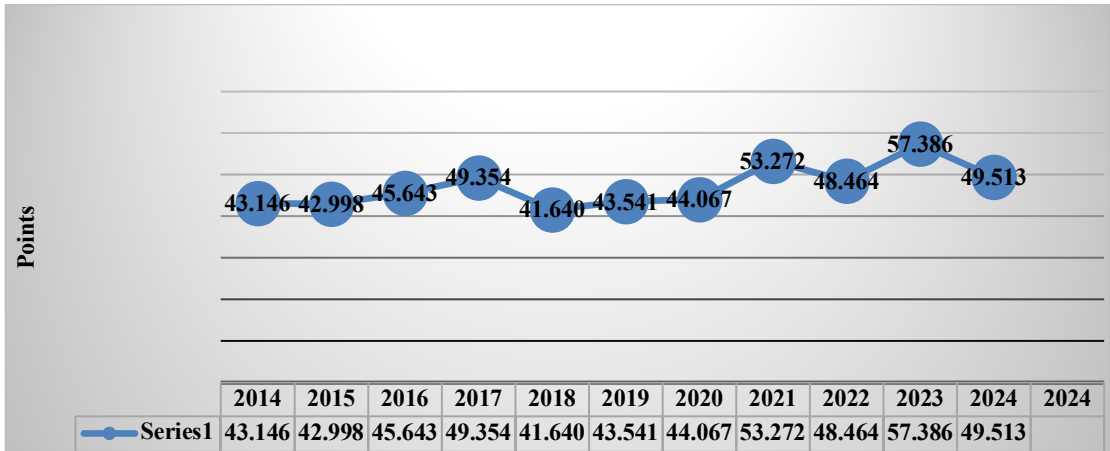
Graph 4
The Price and Quotation Index of the Mexican Stock Exchange, January-April 2025
(Score at the end of each month)

	1	2	3	4	5	6	7	8	9	10	11	12
Series1	51.210	52.326	52.484	56.259								

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es

3. EXCHANGE RATE

The value of the Mexican peso in relation to the dollar is calculated using the daily average of the five most important banks in the country, which reflects the spot price (cash) negotiated between banks. It is highly related to Inflation, the interest rate, and the Mexican Stock Exchange.

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Table 3
Exchange rate (National currency per US dollar, parity at the end of each period)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	13.37	14.69	18.45	21.02	18.62	19.04	18.91	20.22	20.74	18.79	17.16	20.61
February	13.30	14.92	18.17	19.83	18.65	19.26	19.78	20.94	20.65	18.40	17.06	20.51
March	13.08	15.15	17.40	18.81	18.33	19.38	23.48	20.44	19.99	18.11	16.53	20.44
April	13.14	15.22	19.40	19.11	18.86	19.01	23.93	20.18	20.57	18.07	17.09	19.61
May	12.87	15.36	18.45	18.51	19.75	19.64	22.18	19.92	19.69	17.56	17.01	
June	13.03	15.57	18.91	17.90	20.06	19.21	23.09	19.91	20.13	17.07	18.24	
July	13.06	16.21	18.86	17.69	18.55	19.99	22.20	19.85	20.34	16.73	18.59	
August	13.08	16.89	18.58	17.88	19.07	20.07	21.89	20.06	20.09	16.84	19.60	
September	13.45	17.01	19.50	18.13	18.90	19.68	22.14	20.56	20.09	17.62	19.64	
October	13.42	16.45	18.84	19.15	19.80	19.16	21.25	20.53	19.82	18.08	20.04	
November	13.72	16.55	20.55	18.58	20.41	19.61	20.14	21.45	19.40	17.14	20.32	
December	14.72	17.21	20.73	19.79	19.68	18.87	19.91	20.47	19.47	16.89	20.79	

NOTE: Exchange rate fixed by the Banco de México, used for settling obligations denominated in foreign currency. Quote at the end

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es
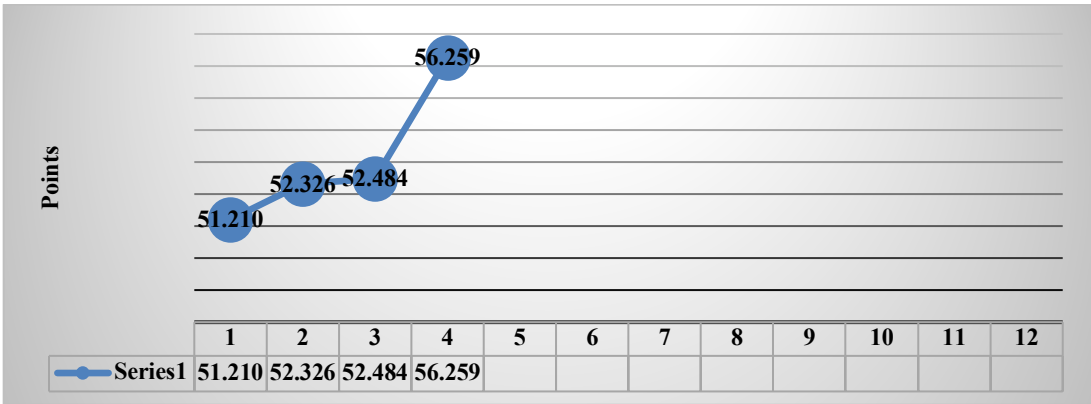
Graph 5
Exchange rate (National currency per US dollar, 2014-2024,
(FIX parity at the end of each year)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Series1	14,72	17,21	20,73	19,79	19,68	18,87	19,91	20,47	19,47	16,89	20,79	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es
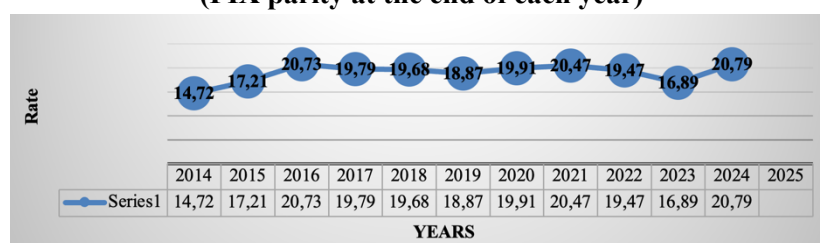
Graph 6
Exchange rate (National currency per US dollar, January-April 2025, FIX parity at the end of each month)

	1	2	3	4	5	6	7	8	9	10	11	12
Series1	20,61	20,51	20,44	19,61								

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es

4. EQUILIBRIUM INTERBANK INTEREST RATE (TIIE)

On March 23, 1995, the Bank of Mexico, to establish an interbank interest rate that better reflects market conditions, released the Interbank Equilibrium Interest Rate through the Official Gazette of the Federation.
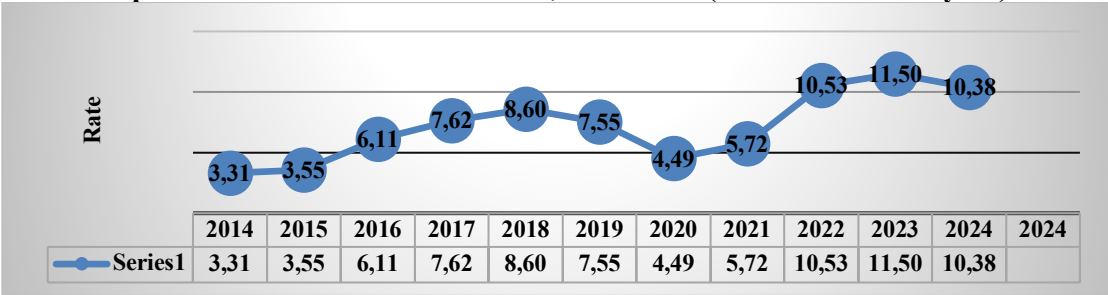
Table 4
Equilibrium interbank interest rate (28-day quote)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	3.78	3.29	3.56	6.15	7.66	8.59	7.50	4.47	5.72	10.82	11.50	10.28
February	3.79	3.29	4.05	6.61	7.83	8.54	7.29	4.36	6.02	11.27	11.50	9.88
March	3.81	3.30	4.07	6.68	7.85	8.51	6.74	4.28	6.33	11.43	11.44	9.74
April	3.80	3.30	4.07	6.89	7.85	8.50	6.25	4.28	6.73	11.54	11.25	9.28
May	3.79	3.30	4.10	7.15	7.86	8.51	5.74	4.29	7.01	11.51	11.24	
June	3.31	3.30	4.11	7.36	8.10	8.49	5.28	4.32	7.42	11.49	11.24	
July	3.31	3.31	4.59	7.38	8.11	8.47	5.19	4.52	8.04	11.51	11.25	
August	3.30	3.33	4.60	7.38	8.10	8.26	4.76	4.65	8.50	11.51	11.08	
September	3.29	3.33	4.67	7.38	8.12	8.04	4.55	4.75	8.89	11.50	11.08	
October	3.28	3.30	5.11	7.38	8.15	7.97	4.51	4.98	9.56	11.50	10.95	
November	3.31	3.32	5.57	7.39	8.34	7.78	4.48	5.13	10.00	11.50	10.74	
December	3.31	3.55	6.11	7.62	8.60	7.55	4.49	5.72	10.53	11.50	10.38	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es

Graph 7
Equilibrium interbank interest rate, 2014- 2024 (at the end of each year)

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es

Graph 8
Equilibrium interbank interest rate, January-April 2025 (28-day quote)

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es
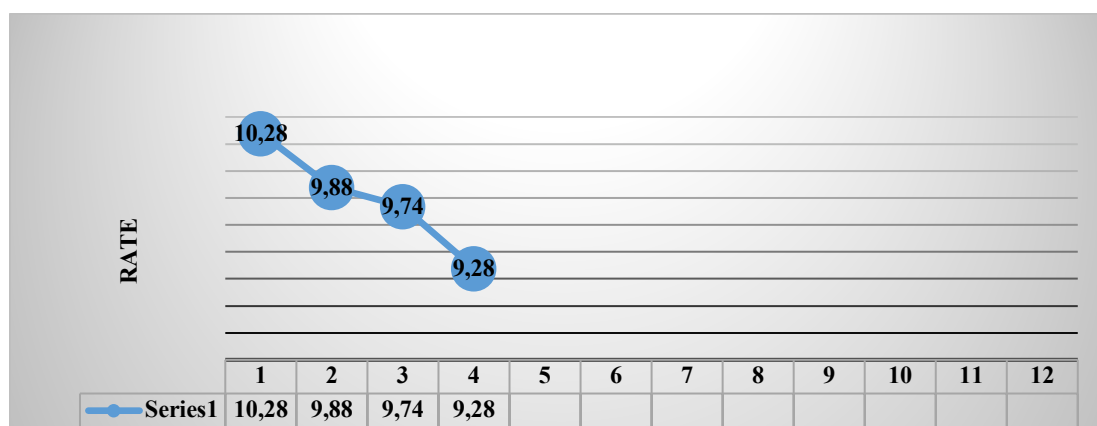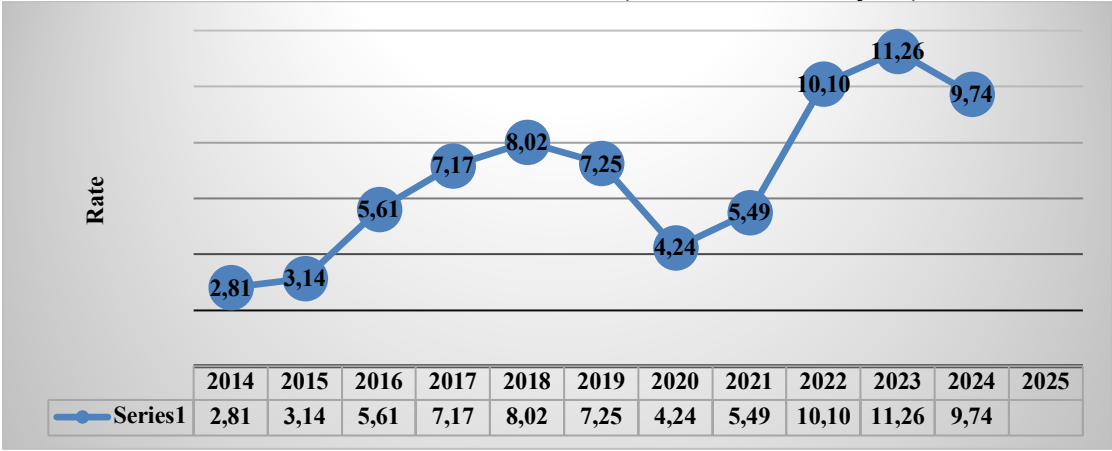
5. CETES RATE OF RETURN

Table 5
CETES rate of return (28-day)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2024
January	3.14	2.67	3.08	5.83	7.25	7.95	7.04	4.22	5.50	10.80	11.28	9.87
February	3.16	2.81	3.36	6.06	7.40	7.93	6.91	4.02	5.94	11.04	11.00	9.44
March	3.17	3.04	3.80	6.32	7.47	8.02	6.59	4.08	6.52	11.34	10.90	9.02
April	3.23	2.97	3.74	6.50	7.46	7.78	5.84	4.06	6.68	11.27	11.04	8.65
May	3.28	2.98	3.81	6.56	7.51	8.07	5.38	4.07	6.90	11.25	11.03	
June	3.02	2.96	3.81	6.82	7.64	8.18	4.85	4.03	7.56	11.02	10.88	
July	2.83	2.99	4.21	6.99	7.73	8.15	4.63	4.35	8.05	11.09	10.87	
August	2.77	3.04	4.24	6.94	7.73	7.87	4.50	4.49	8.35	11.07	10.65	
September	2.83	3.10	4.28	6.99	7.69	7.61	4.25	4.69	9.25	11.05	10.35	
October	2.90	3.02	4.69	7.03	7.69	7.62	4.22	4.93	9.00	11.26	10.20	
November	2.85	3.02	5.15	7.02	7.83	7.46	4.28	5.05	9.70	11.78	9.95	
December	2.81	3.14	5.61	7.17	8.02	7.25	4.24	5.49	10.10	11.26	9.74	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es

Graph 9
CETES rate of return 2014- 2024 (at the end of each year)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Series1	2,81	3,14	5,61	7,17	8,02	7,25	4,24	5,49	10,10	11,26	9,74	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es

Graph 10
CETES rate of return, January-April 2025 (at the end of each month)

	1	2	3	4	5	6	7	8	9	10	11	12
Series1	9,87	9,44	9,02	8,65								

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es
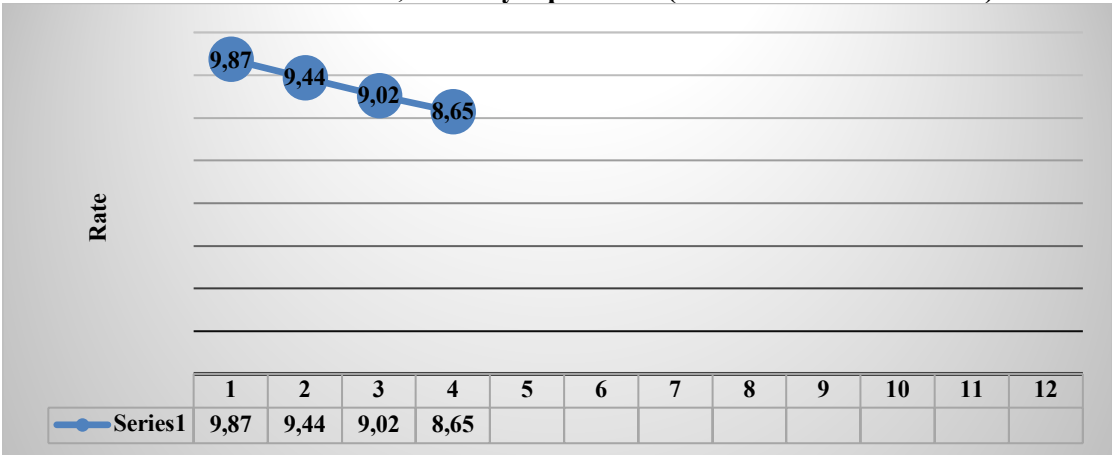
6. INVESTMENT UNITS (UDIS)

The UDI is a unit of account of constant real value to denominate credit titles. It does not apply to checks, commercial contracts, or other commercial transactions.
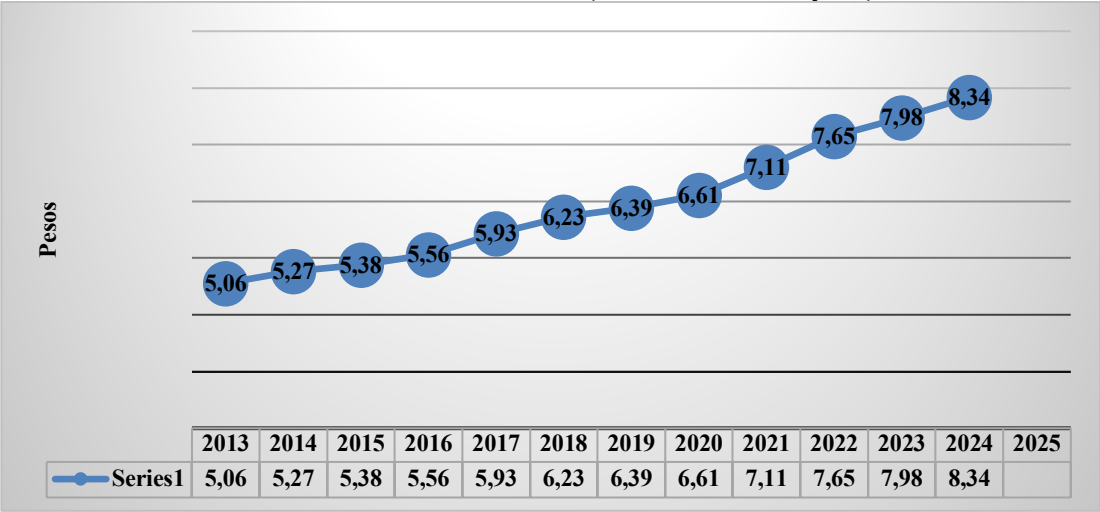
Table 6
Investment units (value concerning pesos)

Period	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	5.10	5.29	5.41	5.62	5.97	6.25	6.44	6.64	7.12	7.69	8.06	8.37
February	5.13	5.29	5.43	5.69	6.00	6.25	6.46	6.70	7.18	7.74	8.11	8.40
March	5.15	5.30	5.44	5.71	6.02	6.26	6.49	6.75	7.24	7.77	8.11	8.42
April	5.15	5.32	5.45	5.75	6.03	6.28	6.43	6.79	7.31	7.78	8.13	8.45
May	5.13	5.29	5.42	5.75	6.01	6.27	6.42	6.81	7.33	7.78	8.15	
June	5.13	5.28	5.42	5.75	6.01	6.26	6.44	6.83	7.36	7.77	8.13	
July	5.14	5.28	5.42	5.76	6.04	6.27	6.49	6.87	7.43	7.79	8.20	
August	5.16	5.29	5.44	5.79	6.07	6.29	6.52	6.90	7.47	7.83	8.25	
Sep.	5.18	5.31	5.45	5.82	6.11	6.29	6.55	6.92	7.53	7.87	8.25	
Oct.	5.20	5.33	5.49	5.84	6.13	6.31	6.57	6.97	7.57	7.90	8.26	
Nov.	5.23	5.36	5.53	5.89	6.17	6.35	6.60	7.04	7.62	7.94	8.32	
Dec.	5.27	5.38	5.56	5.93	6.23	6.39	6.61	7.11	7.65	7.98	8.34	

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CP150&locale=es

Graph 11
Investment units 2014-2024 (At the end of the year)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Series1	5,06	5,27	5,38	5,56	5,93	6,23	6,39	6,61	7,11	7,65	7,98	8,34	

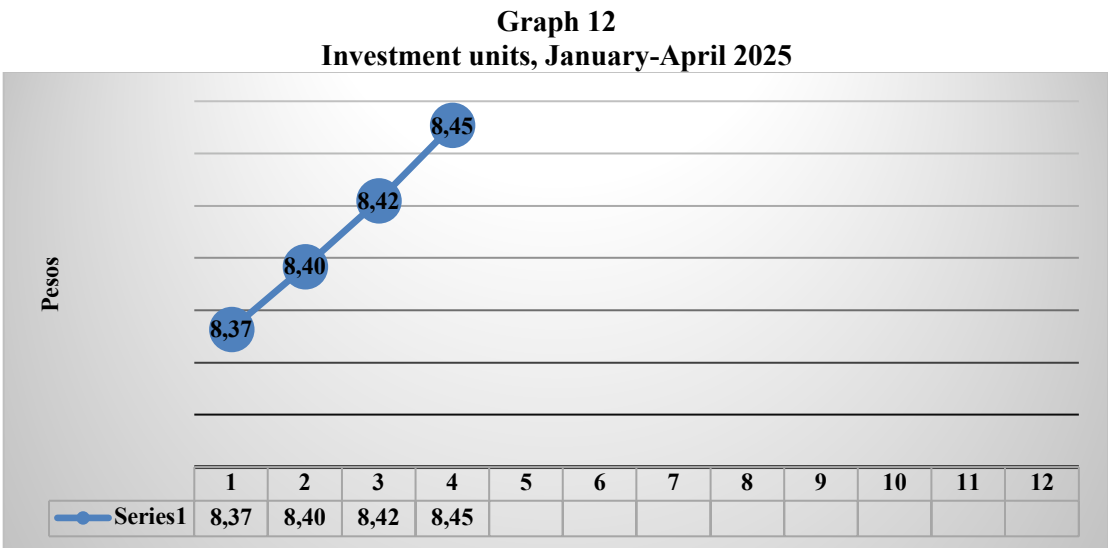Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CP150&locale=es

Graph 12
Investment units, January-April 2025

	1	2	3	4	5	6	7	8	9	10	11	12
Series1	8,37	8,40	8,42	8,45								

Source: Own elaboration (BANXICO, 2025).
https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCua
dro&idCuadro=CP150&locale=es

In conclusion, the system focuses on a measure that enables and facilitates various business decisions with a long-term perspective: current planning, investment evaluation, performance evaluation, executive compensation, and communication with investors.

The EVA combines classical economic theory and modern financial tools to offer an indicator that shows whether a company is truly creating value. Its strength lies in the fact that it forces organizations to consider the opportunity cost of all the capital they use, promoting more efficient and sustainable decisions.

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