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Navigating the digital age: how Colombian tourism SMEs leverage digitalisation for strategic planning and decision-making

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Abstract: This study explores the impact of digitalisation on strategic planning and decision-making in Colombian tourism small and medium enterprises (SMEs). It highlights how digital tools can transform these businesses and enhance performance. Using a qualitative approach with in-depth interviews and quantitative data analysis, the research identified key factors affecting digitalisation, including company age, sales, employee skills, financial resources, and existing strategies. The findings show that digitalisation significantly improves strategic planning, operational efficiency, and customer engagement, with SMEs utilising customer relationship management (CRM) systems, data analytics, and social media. However, challenges like technology integration, data security, infrastructure, and financial constraints were noted, particularly for resource-limited SMEs. The study categorised SMEs by digital maturity, showing that advanced adopters achieved better market reach and efficiency, while less mature SMEs struggled with investing and managing digital tools. The study underscores the need for tailored support and scalable digital solutions to help Colombian tourism SMEs achieve sustainable growth and competitiveness.

Keywords: digitalisation; strategic planning; decision-making; tourism SMEs; Colombia; operational efficiency; customer engagement; data analytics; business performance; sustainable growth.

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1 Introduction

Colombia's tourism industry, predominantly driven by small and medium enterprises (SMEs), is vital to the nation's economy. These enterprises contribute significantly to local development and showcase the country's cultural and natural assets. However, the rapid digital transformation in the global tourism landscape poses unique challenges for Colombian SMEs, many lacking the resources and capabilities to adapt effectively. This study investigates how digitalisation influences the strategic planning and decision-making processes of these businesses, with a focus on uncovering actionable insights that can enhance their resilience and competitiveness.

Digitalisation, encompassing technologies such as the Internet of Things (IoT), data analytics, and customer relationship management (CRM) tools, is reshaping the tourism sector worldwide (OECD, 2022). While existing research has explored its impact on various industries, relatively few studies have examined its specific role in enhancing strategic decision-making for tourism SMEs. Despite the potential benefits of digital tools, Colombian tourism SMEs face substantial barriers to effective integration, including financial constraints, limited managerial expertise, and inadequate infrastructure (OECD, 2022). Addressing these challenges is essential for fostering innovation and improving key performance indicators (KPIs) such as customer engagement, operational efficiency, and sales growth.

The World Economic Forum's Travel and Tourism Development Index highlights Colombia's strengths, including its price competitiveness, abundant natural resources, and ICT readiness (WEF, 2024). However, these advantages still need to be utilised, hindered by the dominance of family-run SMEs with low productivity and limited governance capabilities (OECD, 2019). Existing research suggests that business model innovation, often driven by digital tools like social media and data analytics, can significantly enhance business performance (Bouwman et al., 2018). However, gaps persist in understanding how SMEs navigate digital transformation, particularly in the context of human and organisational factors.

This research seeks to address the following key questions:

- 1 What challenges and opportunities do SMEs face when integrating digitalisation into strategic planning and decision-making to enhance business performance?
- 2 What is the current state of strategic planning and decision-making practices among Colombian tourism SMEs, and how does this impact their business performance?
- 3 What barriers or limitations hinder SMEs from adopting and utilising digital resources effectively to improve sales growth and financial performance?
- 4 What potential benefits can arise for SMEs in terms of sales growth, marketing communication, customer journey optimisation, and brand awareness through the effective utilisation of digital tools such as data analytics and social media?

Employing a mixed-methods approach, this study integrates qualitative and quantitative methodologies to explore these questions comprehensively. The research draws on the Technology-Environment-Organisation (TEO) framework and the Resource-Based View (RBV) theory to offer a multidimensional understanding of the digital transformation landscape for Colombian tourism SMEs.

Qualitative methods include:

- *Semi-structured interviews*: Involving nine tourism operators across major Colombian regions to gain insights into their experiences, challenges, and best practices.
- *Content analysis*: Examining industry reports, academic literature, and case studies to contextualise findings.

Quantitative methods include:

- *Collaborative case studies*: Investigating performance metrics of tourism SMEs to link company data with digitalisation practices.
- *Data analysis*: Review secondary data from government statistics and industry reports to identify trends and patterns in digital adoption and its impact on business performance.

By addressing these dimensions, this study aims to develop a comprehensive framework or model for integrating digital tools into the strategic processes of Colombian tourism SMEs. The ultimate goal is to provide actionable recommendations that empower these enterprises to achieve sustainable growth and competitiveness in an increasingly digital world.

This paper examines the literature on digitalisation in SMEs, explicitly focusing on tourism, to identify critical gaps and theoretical frameworks that inform the study.

2 Setting the stage: contextualising digitalisation in Colombian tourism SMEs

The literature highlights the transformative potential of digital tools in enhancing strategic decision-making, particularly in SMEs. However, studies on the Colombian tourism sector still need to be available.

This research explicitly examines Travel Agencies and Tour Operators as they coordinate many services and stakeholders to create the tourism experience for visitors. Travel Operator Agencies plan, organise, and customise client trips, provide advice, manage bookings and payments, offer assistance during travel, and resolve issues. They serve as intermediaries between clients and other travel providers, aiming to ensure a seamless experience tailored to each client's needs. Thus, strategic planning of such a complex system is crucial for efficiency, leveraging digital tools for planning and operations.

Focusing on community-based tourism (CBT), this model connects tourist service operators with local providers, ensuring economic benefits remain within communities. Stakeholders work together to offer a unique experience, connecting tourists with destinations and locals and empowering communities economically. In Colombia, CBT trends aim to recover the economic baseline of territories previously controlled by illicit groups.

The 2016 peace agreement with FARC significantly impacted tourism in Colombia, especially CBT. The United Nations Tourism Office highlights CBT's role in reducing territorial inequalities and boosting local economic development in strategic destinations (UN Tourism, 2022). This thesis examines CBT operators, noting that many tourism SMEs in this segment have developed with digital technologies since the Peace Treaty of 2016. The peace process catalysed a fast-growing, digitally born tourism sub-sector focused on social and CBT, promoting inclusion, livelihoods, and safeguarding natural and cultural heritage (Forero and Patiño, 2018).

In Colombia, CBT is linked to sustainable tourism that impacts sensitive communities, driving the recovery of territories from illicit activities by increasing visitors to national parks and villages (Forero and Patiño, 2018). CBT is crucial for this investigation as a digitally born sub-sector due to its economic and social impact and reliance on digitalisation for growth.

2.1 Critical trends in the Colombian tourism sector

According to Colombia's Sectorial Tourism Plan 2022–2026, the OECD, the World Tourism Organisation, and other studies, the pandemic has reshaped tourist demand and supply (Bravo et al., 2022). Key trends include:

- From the demand perspective:
 - Emphasis on outdoor activities, nature-based, and rural tourism.
 - Increased interest in long-stay travel and remote work possibilities.

- Heightened concerns about hygiene and destination healthcare quality.
- Potential travel restrictions and sustainability concerns influence travel decisions.
- From the supply perspective:
 - Health-related concerns require clear communication and biosecurity measures.
 - Digitalisation supports sales growth and aligns with tourism marketing trends.
 - Limited marketing resources, a widening digital gap, workforce loss, and increased entrepreneurship.
 - Sustainability concerns emphasise resource efficiency and pollution reduction.

The OECD (2022) emphasises strengthening tourism governance for recovery, advocating for coordinated government and private sector responses. Integrated tourism policy approaches are crucial for supporting recovery, fostering collaboration, and building resilience. Governments play a key role in creating strategic international alliances, promoting regional development, cultural exchange, and sports tourism, which enhance global tourism demand and enrich travel experiences (OECD, 2022).

Tourism's complexity requires robust cooperation among government entities, especially during crises like the pandemic. Many countries have formed tourism taskforces and advisory groups, formalising long-term structures for strategic direction and national action plans. Platforms like the OECD Global Forum on Tourism Statistics and the World Travel and Tourism Council's Tourism Recovery Taskforce support global tourism recovery and transformation cooperation. The European Commission's Transition Pathway for Tourism outlines actions to enhance the sector's green and digital transition (OECD, 2022).

As it recovers, the tourism sector faces challenges like workforce shortages and investment renewal. Restoring consumer confidence and ensuring safe travel experiences are crucial for a resilient recovery. The pandemic exposed weaknesses in tourism models, prompting a focus on sustainability, digital solutions, and data-sharing practices. Improved coordination between actors is essential for robust recovery and future growth (OECD, 2022).

Many tourism businesses remain fragile, facing challenges such as limited cash reserves, increased debt, labour shortages, and operational uncertainty (OECD, 2022). In Colombia, these issues are exacerbated by inflation, infrastructure lag, and security concerns (Bravo et al., 2022). While 2022 showed a strong recovery, sustained improvement in business cash flows is needed. The rising cost-of-living crisis and expensive transportation costs pressure domestic tourism budgets, making the future outlook uncertain.

Tourism businesses will require continued support for the green and digital transition. As travel certainty returns, adopting digital and sustainable practices will be imperative, especially for SMEs, which will need further governmental support (OECD, 2022).

Gana et al. (2016) highlight that the internet has democratised opportunities for tourism businesses, enabling SMEs in CBT to reach a wider audience. Digitalisation is crucial for CBT businesses, though technology adoption could be faster. Tourism managers now recognise the strategic importance of online communication and sales channels.

Inversini et al. (2015) note a gap in the literature on ICT adoption by tourism firms in developing economies, particularly those focusing on CBT. While existing literature addresses ICT adoption in tourism, research is needed in this context (Gana et al., 2016). This study seeks to address this gap using a case study approach with a socio-technical lens.

2.2 *Colombia's tourism roadmap: examining sectorial plans from 2014 to 2026*

The current administration's Digital Transformation and Innovation strategy, outlined in the 2022–2026 Sectorial Plan, emphasises the incorporation of Information and Communication Technologies (ICTs) within enterprises. The Ministry of Commerce, Industry, and Tourism (MINCIT) has launched a comprehensive Inclusion and Digital Transformation Program for Colombia's tourism sector to modernise and enhance the competitiveness of SMEs. Key components include developing a digital transformation framework aligned with current digital and AI standards in collaboration with leading digital authorities (Bravo et al., 2022).

The program promotes digital literacy in the tourism sector through partnerships with the Ministry of National Education, the National Learning Service (SENA), the Ministry of Science, Technology, and Innovation, and other relevant authorities. This collaboration aims to equip SMEs with essential digital skills, enabling effective use of ICTs. By adopting technologies like data analytics, the IoT, blockchain, AI, augmented reality, and big data, MINCIT seeks to reduce the digital divide and enhance the inclusivity and accessibility of tourist destinations, boosting SMEs' operational capabilities and creating a more competitive tourism industry.

However, these benefits mainly reach metropolitan cities like Bogota and Medellin (CONPES, 2023). Despite efforts to push digital transformation in Colombia, targets in the sectorial plans need more precise definitions and specific success indicators per region or program. There must be a clear roadmap on how tourism operators can access program resources and financing for their digital needs.

The plan aims to promote innovative technologies for tourism planning and management. However, implementation needs to be more straightforward. Analysis of platforms like Colombia Productiva, ProColombia, and Innpulsa shows that support programs are open calls for IT projects but need a specific approach to solutions benefiting tourism operators' strategic planning needs.

ICT solutions supported by startups primarily focus on B2C travel solutions, country promotion initiatives, and adding value to tourism-related production chains. However, these 'TravelTech startups' fail to address comprehensive business management platforms for tourism operators.

Digital transformation in tourism gained substantial momentum during the COVID-19 pandemic, highlighting the need for alignment in the conceptualisation of digital transformation among tourism stakeholders. Establishing such alignment and direction is crucial for maximising the benefits of digital advancements and ensuring the sustainable growth of the tourism sector.

2.3 *Organisational structure of tourism operators*

A structure is an organised framework that pursues specific visions, missions, goals, and purposes through a formal arrangement. It involves coordinating activities to achieve

well-defined objectives by dividing levels and functions and establishing a hierarchy of authority and responsibility. An organisational chart is a tool through which management plans, directs, coordinates, and controls business activities to achieve profitability, ideally meeting the organisation's current and future needs (Önday, 2017).

The design of an organisation significantly impacts its performance (Doty et al., 1993, as cited in Burton and Obel, 2018). Therefore, understanding the appropriate design for a specific organisation is crucial. An organisational chart should evolve to ensure the company's structure aligns with its purpose. However, many managers still need to adhere to hierarchical, bureaucratic approaches despite today's environment demanding different responses. Önday (2017) suggests viewing organisations as natural systems, advocating for a bottom-up approach. This shift is especially relevant in the tourism industry, where companies have had to revise their structures in response to the pandemic.

Reshaping organisational structures has become critical for businesses striving to survive the COVID-19 pandemic. While 'digitally born' enterprises understand the significance of digital tools, they often lack clarity on how digitalisation should integrate into their business models (Bouwman et al., 2018). Their efforts remain reactive rather than strategic.

To stay competitive, SMEs must become fast-learning entities, connecting with their environment to capture trends and valuable information (Burton and Obel, 2018). This capability enables them to perceive opportunities and make informed decisions. Every employee plays a crucial role in SMEs, often taking on multiple responsibilities, making a continuous learning mindset essential for success.

Tourism operators exemplify this due to their complex operations and numerous stakeholders. Internal and external information flows are crucial for making operational and strategic decisions.

Van de Ven et al. (2013) note that much remains to be discovered about organisational design. Burton and Obel (2018) emphasise adaptability, requiring flexible structures and decision-making processes. The evolution of ICT significantly influences organisational capacity to meet information processing demands (Haußmann et al., 2012, as cited in Burton and Obel, 2018).

Many managers are redesigning their companies as learning organisations focusing on communication and collaboration, continuous experimentation, and improvement. Digital tools can enhance process efficiency and decision-making (Burton and Obel, 2018).

Redefining the organisational structure of a tourism operator should integrate digitalisation as a core function. Van de Ven et al. (2013) suggest an iterative process to learn from experience and feedback. Managers can redefine their organisations as flexible teams, integrating digitalisation to enhance performance and information flows. Common uses for digitalisation include finance and marketing, financial software, dynamic Excel tables, and social media applications, which can provide valuable data for decision-makers with a clear digitalisation strategy.

Digitalisation should be integral if the organisational structure is meant to support the strategy. SMEs need a clear definition of digitalisation and how to incorporate it into their business backbone (DANE, 2022). The organisational structure could become an obstacle to digitalisation (Burton and Obel, 2018).

Technology can accelerate progress but needs to be more sufficient on its own. Organisations must realign their strategies, determining what should remain unchanged,

what can be optimised, what should be eliminated, and what needs enhancement through technology (Hernández et al., 2021).

2.4 *Planning and strategic decision-making in Colombian SMEs*

In the dynamic landscape of Colombian business, the ability of small and medium-sized enterprises (SMEs) to navigate strategic decisions and effectively generate value is crucial. Despite government support and educational initiatives, many SMEs need help to sustain operations amidst changing market demands. Empirical management practices, limited administrative knowledge, and a lack of strategic direction contribute to high business failure rates (CONPES, 2023).

Strategic planning and decision-making are critical for the sustainability and growth of Colombia's SMEs. Despite the importance of digital transformation, many SMEs need help to adopt and integrate technological tools. At the "Digital Transformation: Advancing Competitiveness of Local SMEs in Colombia" event, survey data revealed significant gaps in technological adoption, especially among smaller enterprises (CIPE and CDEG, 2023).

Three studies provide insights into the strategic planning and decision-making in Colombian SMEs. The first, by Parra Hernández et al. (2018), uses a case study methodology to investigate the relationship between strategy and value creation in service-providing SMEs. The findings reveal critical aspects of strategic planning, including stakeholder involvement, strategic process components, and organisational resources and capabilities. Companies engage varying stakeholders in the strategic process, conduct comprehensive situational analyses, and utilise methodologies and tools for strategic formulation. Human talent, financial resources, and corporate reputation are primary strategic assets, although technological resources and R&D are not prioritised.

A study by Moreno-Gómez and Lafuente (2020) uses cluster analysis to examine performance differences among Colombian family businesses (FBs). The study shows an average competitiveness level of 5.347 (out of 10), with strengths in product innovation, robust networks, and weaknesses in technology use and online presence.

A survey by CIPE, in cooperation with the Ministry of Industry and Commerce of Colombia and Innpulsa, shows that Colombian SMEs find digitalising operations challenging but see significant opportunities. Indicators of intermediate digital transformation include process automation, e-commerce activities, IoT applications, and digital platforms for various processes (CNC et al., 2024).

Gómez Bermúdez et al. (2020) highlight a lack of strategic planning in SMEs, evident in the absence of human talent management systems, poor use of technological resources, and a lack of marketing plans. The study concludes that inadequate implementation of strategic planning and digital technologies hinders SME competitiveness.

In conclusion, the strategic planning landscape for Colombian SMEs is characterised by variability and prevalent challenges. While some firms effectively leverage their human capital and networks, many need more administrative knowledge, consistent planning practices, and digital technology adoption. Addressing these challenges through structured strategic planning, digital transformation initiatives, and effective stakeholder involvement can pave the way for more resilient and dynamic SMEs capable of thriving in an evolving market landscape.

2.5 Digital adoption by Colombian SMEs and travel agencies

This section explores the digital adoption landscape for Colombian SMEs, focusing on travel agencies. It analyses digitalisation within the tourism sector using data from the Colombian National Administrative Department of Statistics (DANE) and the Department Nacional de Planeación (DNP).

The 2020 “Survey of Information and Communication Technologies in Companies” (ENTIC Empresas) by DANE reveals low digital adoption among Colombian SMEs across various sectors. Barriers include:

- *Limited financial resources*: High investment costs in digital solutions and infrastructure.
- *Inadequate broadband connectivity*: Uneven internet access across Colombia.
- *Weak digital culture*: Resistance to change due to a lack of emphasis on digital transformation.
- *Cybersecurity concerns*: Security risks deter some SMEs from adopting digital tools (DANE, 2020; DNP, 2019).

The Colombian Chamber of Electronic Commerce also reports low usage rates of web services and e-commerce platforms among SMEs (Cámara Colombiana de Comercio Electrónico, 2023).

However, travel agencies exhibit a higher usage rate of digital tools than other sectors. The survey focused on 88 travel agencies with at least 40 employees and an annual income of approximately 3 billion Colombian Pesos. Key findings include:

- *Software and technology usage*: 73% use software, technological solutions, or certifications.
- *Data analytics and AI*: 18.2% use data analytics, and 11.4% use AI.
- *In-House IT Management*: 34.1% have an in-house ICT department; others rely on outsourced services or cite cost/lack of skills.
- *Equipment usage*: Desktops/laptops (89.3%), smartphones (78%), and payment terminals (70.5%).
- *Digital solutions*: 75% invest in custom-made applications/software.
- *Cybersecurity concerns*: 48.9% rely on free applications with potential security issues.
- *Internet speed*: Limited access to high-speed internet (DANE, 2020).

Travel agencies primarily use websites and social media to showcase services. Essential digital marketing practices include:

- *Website usage*: Over 95% have websites, but only 50% offer personalised products and online purchasing.
- *Social media marketing*: Heavy use of platforms like Facebook, Instagram, and WhatsApp for traffic and brand awareness.
- *SEO and SEM*: Less investment compared to social media efforts.

Digital government websites help with accounting, tax payments, and other financial activities, with 76% of travel agencies noting time and cost savings (DANE, 2020).

Despite challenges, Colombian SMEs in the tourism sector, particularly travel agencies, show higher adoption of digital tools than other sectors. However, improvements are needed in data security, internet speed, and advanced digital marketing strategies. Further investment in digital infrastructure, skills development, and data security is crucial to fully empower Colombian travel agencies to leverage digitalisation and thrive in the competitive tourism landscape.

Further research on smaller travel agencies and their digital adoption practices would provide a more comprehensive understanding of the sector. This section has highlighted challenges and opportunities for Colombian SMEs, particularly travel agencies, in the digital adoption landscape. Continued investment in infrastructure, skills development, and data security measures is essential for their growth and competitiveness.

The review underscores the need for research that integrates digital tools into the strategic management practices of Colombian tourism SMEs, aligning with the study's aim to explore how digitalisation enhances strategic decision-making.

Given the limited understanding of how Colombian tourism SMEs navigate digital transformation, this study employs a mixed-methods approach to provide depth and breadth in addressing these gaps.

3 Methodology

To address the gaps identified in the literature, this study employs a mixed-methods approach, incorporating qualitative and quantitative methods to examine the role of digitalisation in enhancing strategic decision-making for Colombian tourism SMEs.

3.1 Research design and approach

An inductive qualitative research design with an exploratory nature was adopted (Flick, 2009). This approach facilitates in-depth exploration and understanding of a scarcely researched topic through 'what' questions, defining key concepts, identifying characteristics, and developing grounded theories (Flick, 2009).

The study incorporates a comparative case study approach to analyse nine tourism SMEs under the Technology-Organisation-Environment (TEO) framework (Teece et al., 1990). This analysis aims to identify factors influencing the adoption of digitalisation in strategic planning and decision-making. The Resource-Based View (RBV) theory (Barney et al., 2001) assesses internal competencies and resources. A comparative VRIO analysis (Barney, 1995) seeks to identify patterns between the 'best cases' and the sustainable competitive resources needed for effective digitalisation.

To assess the impact of digitalisation on the performance and business models of the sample, the study collects qualitative and quantitative data. Qualitative data includes company leaders' perceptions and feelings about digitalisation (Flick, 2009). Quantitative data includes financial performance, historical sales figures, and digitalisation investments. This combined approach provides a nuanced understanding of digitalisation's challenges and opportunities and its impact on key performance indicators (KPIs).

This study employed a systematic approach combining qualitative and quantitative techniques to ensure a robust and transparent data analysis process. The steps are detailed as follows:

1 Data collection and organisation

- *Interviews*: Data was gathered through semi-structured interviews with nine tourism SMEs representing diverse regions in Colombia. The interviews were recorded, transcribed verbatim, and anonymised to protect the identity of respondents.

To ensure the reliability and comprehensiveness of the findings, the study adhered to the principle of data saturation during the qualitative data collection process. Saturation was achieved when no new themes, patterns, or insights emerged from the interviews with the nine selected tourism SMEs. This point was determined by iterative analysis during the data collection phase, where responses from participants began to overlap significantly in their content and contributions.

By reaching data saturation, the research team ensured that the qualitative data adequately captured the full range of experiences, challenges, and practices related to digitalisation in strategic planning and decision-making within Colombian tourism SMEs. This approach reinforced the depth of the insights and reduced the likelihood of missing significant perspectives.

- *Secondary data*: Industry reports, government statistics, and company performance metrics were compiled for triangulation.

2 Qualitative coding and theme development

- *Initial coding*: Transcripts were reviewed line-by-line to identify recurring ideas and patterns using a grounded theory approach. Key phrases were highlighted and assigned descriptive codes, such as ‘digital adoption barriers’, ‘strategic planning practices’, and “customer engagement strategies”.
- *Axial coding*: Codes were grouped into categories based on relationships and shared meanings. For instance, ‘financial constraints’ and ‘infrastructure limitations’ were clustered under “Barriers to Digitalisation”.
- *Theme development*: Categories were synthesised into overarching themes reflecting the core research objectives. For example, the theme “Digitalisation as a Catalyst for Business Growth” emerged from categories related to sales growth and operational efficiency.

As part of the data analysis process, particular attention was given to identifying data redundancy to ensure the reliability of the findings. Data redundancy refers to the recurrence of similar codes, themes, and patterns across multiple interview transcripts. During the coding phase, recurring themes such as ‘barriers to digitalisation’, ‘strategic planning gaps’, and “opportunities for growth through digital tools” emerged consistently across interviews, indicating that the data was robust and representative of the participants’ shared experiences.

The identification of data redundancy not only reinforced the validity of the emerging themes but also highlighted the coherence and reliability of the findings. This approach ensured that the analysis was not overly reliant on outlier responses, instead capturing the broader trends and insights relevant to the research questions. By confirming data redundancy, the study validated the robustness of the Dataset and its alignment with the research objectives.

3 Validation and reliability

- *Triangulation*: Interview insights were compared with secondary data to confirm consistency and validity.
- *Peer review*: The coding framework and thematic analysis were reviewed by two independent researchers to minimise bias. Discrepancies were resolved through consensus.
- *Member checking*: Summaries of themes were shared with selected interviewees to verify accuracy and resonance with their experiences.

4 Quantitative data integration

- Quantitative data collected from the SMEs, including sales growth and customer metrics, was analysed using descriptive statistics. These findings complemented the qualitative themes, providing a holistic understanding of digitalisation's impact.

Acknowledging that many companies lack systematic planning and KPI monitoring, some participants expressed confidentiality concerns regarding financial information. As a result, sharing this data was optional. Companies voluntarily share information through reports, documentation, or interviews. Due to confidentiality, specific data is not directly included in the study, but the conclusions and insights derived from it are presented.

Semi-structured interviews were the primary data collection method, using both Likert scale and open-ended questions (Flick, 2009). This design aimed to comprehensively understand participants' experiences and perspectives on digitalisation.

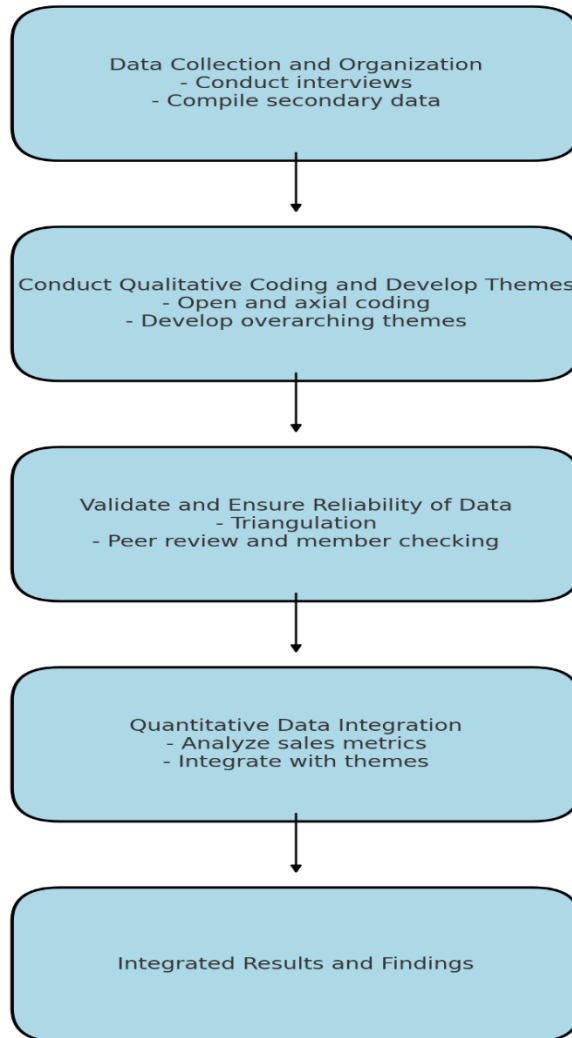
Financial and marketing data from companies supported the study's quantitative element, providing insights into internal dynamics, strategic plans, objectives, and results. Additionally, statistics from Colombia's National Department of Statistics (DANE) were gathered to understand the current dynamics of the Colombian tourism sector and its digital transformation. Financial data from seven out of nine companies was collected via text documents or verbally (see Figure 1).

A literature review identified vital themes and gaps in research on digital technology adoption by tourism SMEs. Based on this review, a theoretical framework was developed to guide interview questions, focusing on the Colombian tourism sector from a TEO and RBV perspective. The framework aimed to identify factors influencing technology adoption, the benefits and challenges of digital technology use, and the impact on business performance.

The quantitative data includes company sales records, profitability levels, number of employees, digital investments, and statistics from the Colombian tourism industry based on DANE reports. This data provides insights into company performance indicators and

Colombia's readiness to transition to a digital economy. Additional data on SME digitalisation and OECD reports on digital adoption in Colombia were used to understand external limitations impacting SMEs' digital adoption.

Figure 1 Data analysis framework (see online version for colours)



Source: Authors' construction

Aligned with other studies examining the impact of digitalisation on business models (Bouwman et al., 2018), a case study approach was used, utilising in-depth semi-structured interviews with owners and top managers from tourism organisations in nine representative locations across Colombia. These leaders play a crucial role in planning

and strategic decision-making, making them primary sources for understanding the impact of digitalisation on their organisations.

An organisational and leader ‘persona’ was developed to identify suitable companies and leader profiles. This profile and the research proposal were shared with the Colombian Association for Sustainable Tourism (ACOTUR). With their support, potential participants matching the profile were identified and agreed to participate.

Purposive sampling was employed to select managers or owners participants, as their insights are critical for understanding organisational leadership dynamics (Flick, 2009). The sample includes both established companies and newer enterprises where digitalisation has been a critical driver for development and growth.

Convenience sampling, involving selecting readily accessible participants (Flick, 2009), facilitated data collection within a limited timeframe. The final sample for interviews and case studies includes managers or owner-managers from tourism operator agencies practicing CBT. A pilot study with three participants helped refine the interview protocol, ensuring clarity and understandability for research participants (Christou et al., 2023).

The Good Scientific Practice Guidelines and the Data Protection Handbook of FH JOANNEUM conducted this study. These frameworks ensure compliance with ethical and legal standards for research involving human participants and the handling of sensitive data.

The research design and methodology were reviewed to confirm their alignment with the principles of ethical responsibility, including transparency, respect for participants’ rights, and data confidentiality.

In line with these guidelines:

- Participants were provided with a detailed information sheet outlining the study’s purpose, methods, and their rights, including voluntary participation and the ability to withdraw at any time without repercussions.
- Informed written and verbal consent was obtained from all participants before the interviews.
- The study adhered to the data protection standards outlined in the Data Protection Handbook, ensuring that all collected data was anonymised during transcription, securely stored, and used exclusively for this research.
- Measures were implemented to minimise risks and safeguard participant confidentiality, including restricted access to identifiable information and compliance with GDPR and Austrian data protection regulations.

These steps reflect the researchers’ commitment to upholding the highest standards of ethical practice, ensuring the study’s reliability and integrity while protecting participants’ rights and privacy.

Table 1 provides a profile of the participating firms and respondents, including region, city, type of enterprise, size, year of establishment, respondent code, and respondent role.

Table 1 Profile of participating firms and respondents

No.	Region-City	Type of enterprise	No. of employees	Year of establishment	Respondent code	Respondent role
1	Valle del Cauca-Cali	Tour operator and Hotel “La Huerta”	11–50	2013	R1	Founder and General Manager
2	Magdalena-Santa Marta	Tour operator “Brand Colombia STMC”	11–50	2019	R2	General Manager
3	Guaviare-San Jose del Guaviare	Tour operator “Geoturs del Guaviare”	1–10	2015	R3	Co-Founder and ICTs Manager
4	Antioquia-Medellin	Tour Operator “Palenque Tours”	11–50	2014	R4	Founder and General Manager
5	San Andres Islands- San Andres	Tour Operator “Paradis de Colors”	1–10	2016	R5	Founder and General Manager
6	Bolivar-Cartagena	Tour Operator “Alternative Travel”	1–10	2007	R6	Founder and General Manager
7	Quindío – Armenia	Tour Operator “Eje Mágico”	1–10	2021	R7	Founder and General Manager
8	Choco – Quibdó	Tour Operator “Saguecor”	1–10	2017	R8	Founder and General Manager
9	Cundinamarca-Bogotá	Tour Operator “Sneva Travel”	11–50	2012	R9	General Manager and shareholder

Source: Created by the authors

3.2 Secondary data analysis

Secondary data analysis is crucial to this research, providing a broader context and supplementary insights to the primary data collected through interviews and questionnaires. This section outlines the process and findings of the secondary data analysis, examining existing quantitative and qualitative data from various reputable sources. Reports and literature related to the digitalisation of SMEs, datasets, and reports on the digitalisation levels of Colombian SMEs and Tourism agencies were analysed, alongside OECD reports on digital transformation in Colombia, to understand the environmental limitations impacting SMEs’ digital adoption and strategic planning.

Market data from Statista was used to understand tourism market dynamics in digitalisation, the leading players, and their influence on SMEs. Data collection involved extracting relevant statistics from DANE reports, OECD publications, Statista market reports, and academic journal articles on digitalisation and SMEs. Financial and operational data were obtained directly from the participating SMEs through structured

data requests, with the data collection period spanning from September 2023 to June 2024. To ensure reliability, sources were cross-verified, and discrepancies were addressed. Secondary data sources for this study include:

- *DANE reports*: Statistical data from the National Administrative Department of Statistics (DANE) of Colombia covering the tourism industry, economic performance, and labour market statistics.
- *OECD reports*: Reports from the Organisation for Economic Cooperation and Development (OECD) on digital transformation in tourism, tourism trends, and Colombia's digital economy readiness.
- *Government publications*: Reports from Colombian government agencies on digitalisation policies, initiatives, and the digital economy.
- *Industry reports*: Insights from industry associations, consultancy firms, and market research organisations on digitalisation among SMEs in Colombia and globally.
- *Academic journals and articles*: Peer-reviewed articles and studies on the challenges and opportunities in digitalisation, particularly for SMEs and the tourism industry.
- *Participants' data*: Financial, operational, and marketing data provided voluntarily by the SMEs.

3.3 Interviews and case studies

Semi-structured interviews were conducted to capture individual respondent meanings, opinions, and emotions while maintaining a consistent structure for data comparison (Christou et al., 2023). Most interviews took place online between October 2023 and June 2024; two were conducted in person, and one via a Google Forms questionnaire with additional feedback through WhatsApp. All interviews were conducted in Spanish and translated with the help of Google Translate and DeepL, with authors correcting ambiguities and contextual notes for clarity (Christou et al., 2023).

Following an inductive research approach, data collection and analysis proceeded iteratively until saturation was reached with the ninth interview, retaining data from all nine interviews with owners or managers of tourism-related businesses (Flick, 2009).

Each interview lasted between 45 min and 1 h and 15 min and was recorded using Microsoft Teams for transcription. Researchers also noted nonverbal aspects (Christou et al., 2023). The authors primarily corrected translations to address ambiguities and ensure accuracy. Priority was given to parts reflecting answers to the study's research questions.

Before each interview, participants were briefed on the study's purpose, informed that the interview would be recorded, and gave verbal and written consent to use recorded data (Allmark 2002, as cited in Flick, 2009). Confidential financial information was assured complete confidentiality.

Participants were selected using a Persona methodology, focusing on business owners, shareholders, founders, or general managers of tourism operations companies interested in sustainability and social impact, with some literacy in digital tools. Selection criteria also included leadership roles, tourism experience, participation in tourism networks, digital tool usage, location in selected regions, and at least five years of operation.

The interview guide included 28 questions divided into eight sections linked to the analysis categories and research questions: Introduction, Digitalisation, Resources and Capabilities, Internal and External Influences, Strategic Approach, Marketing Approach and Capabilities, Performance Indicators and Digitalisation Impact, Risks and Opportunities.

The tool functioned as both an interview guide and a questionnaire with open-ended and Likert scale-type questions, allowing interviewees to elaborate on their responses. The study includes company names but not contact information, which has been redacted in the transcripts.

To enhance the rigor and transparency of this study, systematic measures throughout the data collection and analysis processes were implemented. First, data saturation was ensured during the qualitative phase, whereby interviews were conducted until no new insights or themes emerged, guaranteeing comprehensive coverage of the research topic. This approach minimises the likelihood of missing critical perspectives and ensures the findings represent the broader population of Colombian tourism SMEs.

Second, data redundancy during coding to validate recurring patterns and themes across multiple data sources was emphasised. Identifying overlapping insights reinforced the reliability of the Dataset, ensuring that outliers or isolated responses did not unduly influence findings.

Finally, validation strategies such as triangulation, peer review, and member checking were employed further to enhance the reliability and trustworthiness of the results. Triangulation involved cross-referencing findings from interviews, secondary data, and performance metrics to confirm consistency and robustness. Peer review ensured that the coding framework and thematic analysis were independently verified, while member checking allowed participants to validate the accuracy of interpreted themes.

Together, these methodological enhancements ensure that the study's findings are rigorous and transparent and contribute meaningfully to understanding digitalisation and strategic decision-making in Colombian tourism SMEs.

3.3.1 Reflexivity and researchers' bias

In qualitative research, the role of the researcher as an active participant in the data collection and analysis process is crucial. Recognising the potential for subjectivity, several steps to enhance reflexivity and minimise bias throughout this study were taken.

First, the research team maintained a reflexive journal during the data collection and analysis phases. This journal documented observations, reflections, and decisions made during the research process, allowing for continuous self-awareness of potential biases.

Second, peer debriefing sessions discussed coding frameworks, thematic interpretations, and emerging findings. These sessions ensured that the coding and theme development process was not unduly influenced by individual assumptions but reflected a consensus among the research team.

Third, triangulation was employed by comparing data from multiple sources, including interviews, secondary reports, and company performance metrics. This approach reduced reliance on a single source and validated the findings through cross-verification.

Finally, member checking was used to validate the interpretations with selected participants. Summaries of key themes were shared with participants to confirm that the researchers' interpretations accurately represented their experiences and perspectives.

By explicitly acknowledging the researchers' role and employing these strategies, the study maintains transparency and enhances the credibility and reliability of its findings.

4 Results and analysis

This section presents the findings derived from the qualitative and quantitative analysis of the literature and the data supplied by the companies, attempting to address the research problem on the impact of digitalisation in tourism SMEs of Colombia and develop insights on how digitalisation can be integrated into strategic management practices to create resilient businesses.

The qualitative analysis of the interviews and the analysis of the quantitative sales and company indicators enabled the construction of Table 2 with findings that relate to sales performance, which for all companies is the critical indicator of value creation, with four drivers or categories that relate to the digitalisation impact on company performance.

Table 2 Findings on SMEs

<i>Categories</i>	<i>Findings</i>							
Company Age (in Years)	5	12	10	11	28	9	8	12
Sales (In Billion COP)	1–5	Over 5	Over 5	1–5	<1	1–5	<1	1–5
Personnel skill level or availability	High	High	Medium-High	Middle	Low	Very High	Low	Medium
Financial muscle	Strong	Strong	Strong	Middle	Low	Low	Low	Medium
Straightforward Strategic Approach and digitalisation as Strategy Enabler	High	High	High	Very High	Low	Very High	Low	Medium

Source: Created by the authors

A comprehensive analysis compared five key categories: Company Age (in Years), Sales (In Billion COP) with ranges less than 1 billion COP, from 1 to 5 billion, or over 5 billion; Personnel Skill Level, Financial Muscle, and Clear Strategic Approach and Digitalisation as a Strategy Enabler.

The analysis revealed that company age does not solely determine sales performance. Companies with a high strategic approach, substantial financial resources, and skilled personnel outperform peers. Younger companies (less than 10 years) have accelerated growth when combining these factors, even without solid financial muscle. Conversely, companies with lower availability in these categories need to perform better. Interviews indicated that digitalisation significantly impacts strategic planning by providing data and insights through tools like Excel Dynamic Tables, Google Sheets, Looker, PowerBi, Google Analytics, and CRM systems. These tools help formulate sales strategies connected to social media for lead attraction and customer engagement.

Companies measuring returns on digitalisation investments, particularly those more digitally advanced, assess operational efficiency, sales growth, and brand positioning as critical indicators of success. The study classifies SMEs into four levels based on digital transformation stages:

- 1 *Starters*: SMEs with fewer than five employees and sales below 1 billion COP, with a flexible structure and fundamental digital presence, struggle to decide on digitalisation priorities.
- 2 *Level 1*: Companies with over five employees and income from 1 to 5 billion COP, focusing on innovation and growth through digital tools, process documentation, and systematic strategic planning.
- 3 *Level 2*: Firms with over 10 employees and incomes over 5 billion COP possess a strategic competitive edge and moderate digitalisation but face integration challenges.
- 4 *Level 3*: Agile companies prioritising customer-centricity and sustainability, with advanced digital platforms and strong financial support, seeking international expansion and exponential growth.

Key themes from the Mayring analysis of nine SMEs include:

- *Awareness and integration of digitalisation*: Senior management recognises digitalisation's importance, using digital tools for marketing, operational efficiency, and strategic planning, though integration levels vary.
- *Strategic planning approaches*: Companies employ diverse strategic methods, benefiting from continuous learning and adaptation, but need more sophisticated tools and digitally literate teams.
- *Internal and external influences*: Internal challenges include sourcing skilled personnel and integrating digital tools. External challenges involve regulatory changes, economic fluctuations, and industry competition.
- *Benefits and opportunities*: Digitalisation has increased sales, improved customer service, and enhanced operational efficiency, with measures in place for data privacy and security.
- *Digital pains of SMEs*: SMEs need digital solutions to integrate tourism services seamlessly. Local solutions need more efficiency, and foreign solutions often include unnecessary features, leading to high costs and integration difficulties. Smaller SMEs require affordable, scalable digital management solutions.

Digitalisation presents both challenges and opportunities for Colombian tourism SMEs. Financial constraints, lack of expertise, and resistance to change are significant barriers, but effective digital technology can enhance strategic planning, operational efficiency, and market competitiveness. Companies navigating these challenges successfully will likely see improved performance and a stronger market position.

These findings illustrate that digital tools significantly contribute to the strategic planning processes of Colombian SMEs, validating the study's thesis on the transformative role of digitalisation in strategic decision-making.

5 Discussion

This section presents the study's findings and discusses their implications in light of the employed methodologies. The discussion leverages the Technology-Organisation-

Environment (TOE) framework (Teece et al., 1990) to elucidate the challenges and opportunities faced by Colombian tourism SMEs in their digital adoption journey. Furthermore, the chapter addresses the research questions by drawing upon relevant theories and concepts related to the impact of digitalisation on strategic planning and decision-making within these businesses.

5.1 Secondary data analysis: challenges and opportunities of digitalisation for SMEs

Secondary data analysis, including academic research, industry reports, and governmental publications, provides valuable insights into the digital adoption landscape for tourism SMEs (Flick, 2019). Information and communication technologies (ICTs) have revolutionised marketing, enabling innovative business models, enhanced customer understanding, and targeted marketing strategies (UNWTO and ITC, 2019). Social media platforms like YouTube, TikTok, Instagram, and Facebook are now primary sources of travel inspiration (Statista, 2024). Digital channels like WhatsApp and social media reviews amplify word-of-mouth marketing, offering cost-effective solutions for SMEs to improve customer experience and reputation (Mangold and Faulds, 2009). However, a lack of clear digital strategies often leads to reactive rather than strategic use of these tools (Constantinides et al., 2018).

The ENTIC Companies Survey highlights the low digitalisation rate among Colombian SMEs, with high costs, resource limitations, and insufficient broadband connectivity as critical barriers. Despite using software and analytics tools, travel agencies face affordability and digital skill gaps. Social media and websites remain the primary marketing channels, emphasising the need for robust digital governance (DANE, 2020). Challenges from a TOE Framework Perspective include:

- *Technological challenges*: Disparities in technological infrastructure, integration issues with digital tools, data security concerns, and difficulty accessing reliable internet infrastructure, particularly in rural areas (DANE, 2023; Dutta and Lanvin, 2023; MinTic, 2023; OECD Publishing, 2019).
- *Organisational challenges*: Lack of internal digital expertise, high initial technology investment costs, and maintaining a consistent digital strategy over time (OECD, 2023; OECD Publishing, 2019; OECD, 2022). This underscores the need for government support programs.
- *Environmental challenges*: Economic policies, competitive pressures, and evolving consumer preferences necessitate constant adaptation (Dutta and Lanvin, 2023). Recent VAT policy changes and the loss of crucial discount airlines have negatively impacted domestic tourism arrivals and occupancy rates (Murcia, 2024).

Identified opportunities include:

- *Enhanced strategic planning*: Digital tools like CRM systems and data analytics platforms can improve strategic planning capabilities (Bouwman et al., 2018).
- *Operational efficiency*: Digitalisation can streamline operations through automation and software system integration, reducing costs and improving efficiency (Digital Development Observatory, n.d.; OECD, 2022).

- *Market reach and customer engagement:* Digital tools offer SMEs opportunities to expand market reach, personalise customer engagement, and enhance brand loyalty and satisfaction (Statista, 2024).

Secondary data analysis shows a correlation between strategic competency and business performance among SMEs. Companies that enhance their competitive advantages, including digital capabilities, demonstrate improved financial outcomes, increased competitiveness, and stronger customer relationships (Gana et al., 2016; CNC et al., 2024; Statista, 2024; UNWTO and ADB, 2021).

Despite the benefits, significant barriers hinder SMEs' digital adoption. Financial constraints, inadequate technological infrastructure, resistance to change, and complexities in tool usability are typical (Constantinides et al., 2018). Secondary data analysis confirms these findings, highlighting the substantial opportunities digitalisation offers alongside the significant challenges in strategic planning, operational efficiency, and customer engagement (DANE, 2020). Further research is needed to identify effective strategies for overcoming these challenges and fostering successful digital adoption within Colombian tourism SMEs.

5.2 Discussion of interviews and case studies results

After analysing qualitative and quantitative data and conducting a literature review, this study addresses critical questions regarding the challenges and opportunities of digitalisation for SMEs in enhancing strategic planning and decision-making for business performance. The research explores technological, organisational, and environmental challenges SMEs face as their capabilities and resources are crucial in adopting digitalisation.

Technologically, integrating digital tools proves difficult, but ensuring data security and dealing with infrastructure and connectivity issues are ongoing concerns. Organisationally, limited expertise in managing digital tools, high initial investment costs, and the lack of a consistent digital strategy pose significant hurdles. Environmentally, economic policies and competitive pressures affect SMEs differently across regions, influencing their digitalisation strategies.

Despite these challenges, digitalisation offers substantial advantages, including enhanced strategic planning capabilities, operational efficiency through automation, broader market reach, improved customer engagement, and data-driven decision-making impact positively on sales performance, brand awareness, customer communication strategies, and sales channel diversification. It is essential to highlight that SMEs at 'Starters' and 'Level 1' (Ariza, 2024) do not have a straightforward customer journey but create buyer profiles or personas and harness customer feedback and reviews in digital platforms to improve services and develop innovations; while companies in more advanced levels have a straightforward customer journey's by channel developed employing more sophisticated data analytics in combination with feedback and expertise, as they tend to be more experienced and have more resources.

However, barriers such as financial constraints, technological expertise shortages, resistance to change, inadequate infrastructure, and usability issues must be addressed for SMEs to harness these benefits fully. The study also underscores the impact of varying levels of digital maturity on SME performance, emphasising the need for tailored governmental support and strategic planning to mitigate disparities among regions.

Moreover, it highlights specific digital tools and their practical applications. It demonstrates how SMEs can leverage technology to enhance sales growth, marketing communication, customer journey management, and brand awareness, achieving sustainable growth and competitiveness.

5.3 *Comparison of research methods results*

The research employed the following methods:

- *Case studies*: Examined selected tourism companies' performance and strategic planning data.
- *Interviews*: Conducted semi-structured interviews with company representatives to gain qualitative insights into digital adoption and strategic planning.
- *Quantitative data analysis*: Analysed datasets and statistical reports from sources such as DANE and MINTIC.
- *Literature review*: Reviewed existing research on SME digitalisation, its impact on tourism, and relevant organisational and ICT theories. The literature review iterated over time, incorporating data from late 2023 and 2024 to support the study's findings.

Comparison of research methods:

- Effectiveness:
 - *Case studies*: Provided comprehensive, context-rich insights into individual companies' digitalisation journeys.
 - *Interviews*: Offered valuable qualitative data, capturing personal experiences and perspectives.
 - *Quantitative data analysis*: Identified broader trends and patterns, providing a macro-level understanding.
 - *Literature review*: Established a theoretical framework and context, significantly enhanced by recent data.
- Efficiency:
 - *Case studies*: Required substantial time and effort but provided deep insights.
 - *Interviews*: Time-consuming but yielded rich information.
 - *Quantitative data analysis*: Efficient in processing existing datasets, though data cleaning and validation were necessary.
 - *Literature review*: Relatively efficient but required extensive reading and synthesis. Iteration added complexity but improved quality.
- Accuracy:
 - *Case studies*: High accuracy in specific company contexts, though not broadly generalisable.

- *Interviews*: Provided accurate reflections of interviewees' perspectives but subject to personal biases.
- *Quantitative data analysis*: High accuracy in identifying trends, dependent on dataset quality.
- *Literature review*: Provided accurate theoretical background, reliant on source credibility. Recent data improved accuracy.
- *Applicability*:
 - *Case studies*: Highly applicable to specific companies, with insights for similar organisations.
 - *Interviews*: Applicable to the interviewees' contexts, offering practical implications for similar stakeholders.
 - *Quantitative data analysis*: Broad applicability to the tourism sector in Colombia, offering generalisable insights.
 - *Literature review*: Applicability depends on the relevance and scope of the reviewed literature. Updated literature ensures contemporary relevance.

The comparison highlights the complementary strengths and weaknesses of the research methods. Case studies and interviews provided deep, qualitative insights but required significant effort. Quantitative data analysis offered a broader perspective on macro-level trends but faced data accuracy challenges. The literature review, enhanced by recent data, established a robust theoretical framework. Each method uniquely contributed to understanding SME digitalisation, and their combined use provided a holistic view. Future studies should integrate these methods to enhance the depth and breadth of their findings.

5.4 *Answers to the research questions*

Following the qualitative and quantitative data analysis and a literature review, this section addresses the challenges and opportunities associated with digitalisation for Colombian tourism SMEs in strategic planning and decision-making to enhance business performance.

Research Question 1: Challenges and Opportunities of Digitalisation

This question explores the complexities of adopting digital tools within SMEs' strategic management processes through the TOE Framework (Baker, 2012, as cited in Ariza, 2024). The analysis identified challenges across three categories: technological, organisational, and environmental:

- *Technological challenges*:
 - *Integration*: SMEs need help integrating various digital tools into a cohesive strategy (Bouwman et al., 2018).
 - *Data security*: Ensuring secure systems to protect customer information is complex and costly.

- *Infrastructure*: Access to high-speed internet, especially outside major cities, is challenging.
- Organisational challenges:
 - *Limited expertise*: A lack of in-house expertise leads to adopting reactive rather than strategic digital tools (Bouwman et al., 2018).
 - *Investment costs*: The initial and ongoing costs of digital tools can be significant barriers.
 - *Consistency*: Maintaining a consistent digital strategy is difficult without a strategic plan.
- Environmental challenges:
 - *Economic and tax policies*: Inflationary policies and security challenges impact tourism growth.
 - *Competitive pressure*: SMEs face increased competition and must adapt to changing consumer preferences.
 - *Government support*: While some local support exists, rural areas need more governance in tourism policy.

Despite the challenges, digitalisation offers significant opportunities:

- *Enhanced strategic planning*: Tools like Power BI and CRM systems provide valuable insights for strategic planning.
- *Operational efficiency*: Automation and integration can streamline operations and improve efficiency.
- *Market reach*: Digital tools expand market reach and enhance customer engagement.
- *Data-driven decisions*: Analysing large amounts of data enables more accurate decisions.
- *Customisation*: Digital tools allow for more personalised services, improving customer satisfaction.

The need for tailored government policies for tourism in remote locations emerged as a critical theme. Regional disparities complicate SMEs' challenges, impacting their ability to integrate and benefit from digitalisation fully.

Research Question 2: State-of-the-Art in Strategic Planning and Decision Making

The state-of-the-art in strategic planning is linked to the level of digitalisation. Some SMEs have sophisticated digital strategies, while others are still early in adoption. More digitally mature companies use data analytics for strategic decision-making, while others rely on traditional methods and need help to extract actionable insights from data.

Research Question 3: Barriers to Adopting Digital Resources

Barriers include financial constraints, inadequate technological infrastructure, and resistance to change. Initial costs can impact financial performance, but investments in

CRM tools and social media ads can increase sales leads and customer awareness. Time and organisational culture also limit the full implementation of digital tools.

Research Question 4: Opportunities from Effective Digital Tool Use

Digital tools improve customer understanding, create detailed personas, and support benchmarking and trend identification. Data dashboards provide comprehensive operational overviews, enhancing decision-making. Effective social media and online marketing use boosts brand visibility and customer engagement.

Overview of Digital Tools and Their Best Use Cases is the following:

- Workload Management and Data Analysis/Visualisation:
 - Power BI, CLICK-UP, SIIGO, Google Suite, MEGA servers, Google Analytics, TREELO, Google Services, Excel, Looker Data Studio.
 - *Best use cases:* Historical data maintenance, marketing, web platforms, accounting, decision-making, and managing digital projects.
- Design, Reservations Management and CRM:
 - Canva, ChatGPT, HubSpot CRM, TOOGO CRM, Bing Creator, Bokun, WordPress.
 - *Best use cases:* Enhancing digital presence, process automation, customer engagement, personalised services, marketing, client management, and operational efficiency.

By addressing digitalisation challenges and strategically implementing digital tools, Colombian tourism SMEs can enhance strategic planning and decision-making, improving business performance and gaining a competitive edge in the evolving tourism landscape.

The discussion highlights the alignment between theoretical frameworks and empirical findings, reaffirming that digitalisation is a critical enabler of strategic decision-making and operational efficiency in Colombian tourism SMEs.

6 Conclusion

Digitalisation has reshaped strategic planning and decision-making for Colombian tourism SMEs, yielding varied outcomes based on digital maturity, resources, and strategy. Enhanced strategic planning has emerged through tools like CRM systems, data analytics, and business intelligence software, enabling data-driven decisions and better market insights (UNWTO and ITC, 2019). Automation and digital integration have improved operational efficiency, streamlining reservations, customer management, and financial processes (OECD, 2022). Additionally, digital communication tools and social media have expanded market reach and customer engagement, boosting brand awareness, loyalty, and sales (Statista, 2024).

Challenges include complex technological integration, data security concerns, and infrastructure issues, especially in rural areas (Constantinides et al., 2018; DANE, 2020; DANE, 2023). Limited expertise and misconceptions about digitalisation's strategic role

hinder adoption (OECD Publishing, 2019). Financial constraints, including high initial and ongoing costs, also limit technology access for SMEs (DANE, 2020).

Despite these challenges, digitalisation offers substantial opportunities: data-driven decision-making, service customisation, and scalable, cost-effective digital solutions. These opportunities can improve business performance, sales, customer service, and operational efficiency, driving sustainable growth and competitiveness (Bouwman et al., 2018; UNWTO and ADB, 2021).

Future research should explore digitalisation's long-term effects on performance, focusing on how digital maturity influences scalability and sustainability. Studies should identify effective digital strategies for customer engagement and sales growth, comparing regions and tourism sub-sectors. Examining the role of emerging technologies like AI and machine learning in operational efficiency and strategic decision-making is also crucial.

The study acknowledges several limitations: reliance on secondary data may introduce biases, and the sample size was limited to tour operator SMEs with less than 18 billion COP in sales. The findings need to be more generalisable due to the specific sample. The cross-sectional nature of the data limits conclusions about long-term trends and causality.

Qualitative data from interviews also have limitations. Subjectivity may influence interpretations, and the sample was limited to specific locations, potentially introducing selection bias. Detailed company profiles were not presented due to confidentiality concerns, so segmentation charts were used instead. Sensitive data was redacted to protect anonymity, and alternative data collection methods were used due to time constraints and connectivity issues.

Ongoing research is needed to stay current with digital technology developments and their impacts on tourism. Future studies should include a diverse range of companies and use updated data sources to understand digitalisation's influence comprehensively.

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