Implementing organizational ambidexterity using the balanced scorecard in Puebla City’s hotel industry, Mexico

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Abstract
Purpose – This paper investigates the effectiveness of the Ambidextrous Scorecard (ASC) in facilitating the integration of organizational ambidexterity in four-star Puebla City hotels for managing exploitation and exploration activities. It proposes an integrated approach to ambidexterity and introduces the ASC as a tool explicitly targeting hotels’ challenges and opportunities.
Design/methodology/approach – The study analyzes survey data from 41 hotels (85.42% response rate). Our methodology involves a literature review, the Delphi technique for questionnaire validation, and data collection through Google Forms. Statistical tests confirm the reliability and validity of the approach for assessing the effective integration of exploitation and exploration activities.
Findings – The paper highlights how the ASC promotes an integrated approach to managing both activities. By incorporating exploitation activities (cost reduction, strategic alliances), and facilitating exploration activities (process innovation, new market attraction), the ASC empowers hotels to streamline operations, develop novel offerings, and achieve enhanced operational efficiency and innovation.
Research limitations/implications – We acknowledge limitations due to its specific focus on the hotel industry in Puebla City, suggesting that the results may not be universally applicable. We recommended that further investigation be conducted into the application of the Ambidextrous Scorecard (ASC) across different sectors and regions to enhance understanding of organizational ambidexterity. Exploring the impact of integrating exploitation and exploration activities across corporate areas could offer valuable insights for implementing the ASC in diverse business settings.
Practical implications – The paper indicates that hotels can achieve ambidexterity by integrating exploitation and exploration activities using the Balanced Scorecard. This approach enhances competitiveness, allowing hotels to anticipate and respond to market trends quickly. It highlights the significance of considering ambidexterity across all organizational areas to ensure sustained adaptability and performance in dynamic environments.
Originality/value – This paper introduces the concept of integrated ambidexterity and the ASC as a novel tool for managing the balance between innovation and efficiency. The ASC transcends the hotel industry, potentially benefiting various service sectors by facilitating a more integrated approach to organizational performance.
Keywords Organizational ambidexterity, Balanced scorecard, Exploitation, Exploration, Strategic management, Efficiency, Innovation, Hotel industry
Paper type Research paper
1. Introduction

The hospitality industry is a significant contributor to economic growth on a global scale, creating employment opportunities and income. To flourish in this dynamic environment, hotels require ambidexterity, which is the capacity to balance innovation and efficiency. It is essential in destinations such as Puebla City, renowned for its rich cultural heritage and rapidly growing tourism industry. Tourism represents a significant pillar of the Mexican economy, contributing a notable 8.5% to the nation’s gross domestic product (GDP) in 2022 ([Instituto Nacional de Estadística y Geografía, [INEGI], 2023]). The accommodation sector led the way within tourism, accounting for 20.6% of its contribution. Notably, hotel occupancy rates increased by 15.5% in 2022 compared to the previous year, reaching 56.8% ([Sistema Nacional de la Información Estadística del Sector Turismo de México, 2023]).

In addition to its economic contribution, tourism also generates substantial employment opportunities. In 2022, tourism activities in Mexico created 2.8 million occupied remunerated jobs, representing 7.1% of the national workforce. At the national level, tourism was the fourth-largest contributor to GDP, following manufacturing (22.6%), commerce (20.6%), and real estate and rental services (8.9%), surpassing the construction sector (6.4%). Regarding international comparisons, Mexico’s tourism GDP outperforms Spain’s (6.4% in 2021) and the Netherlands (3.7%). However, it falls short of Portugal (8.9%) ([INEGI, 2023]).

Puebla City, a vibrant cultural destination in Mexico, attracts tourists and fuels local and regional economic growth. Its hotel industry plays a vital role through monetary contributions and investment, and in conserving cultural and natural heritage. However, as Martínez-Ros and Orfila-Sintes (2009) point out, innovation is crucial for success in this competitive industry. As Gibson and Birkinshaw (2004) defined, organizational ambidexterity allows hotels to balance exploring new opportunities with efficiently managing existing ones. It requires alignment and adaptability across departments, emphasizing the challenge of innovating while maintaining a solid core business.

Several studies ([Raisch et al., 2009; O'Reilly and Tushman, 2013; Junni et al., 2013]) highlight the importance of ambidexterity in the hotel industry. This ability allows hotels to adapt to technological advancements, competition, and changing customer preferences. By embracing ambidexterity, hotels can innovate (creating new services) while maintaining efficiency (refining operations). However, balancing exploration and exploitation activities within ambidexterity can be challenging ([Tang, 2014; Cao et al., 2009]). This is particularly true in the hotel industry, where more integration of innovations is needed ([Orfila-Sintes and Mattasen, 2009]). Moreover, research on how hotels can develop ambidexterity is scarce, with most studies focusing on sectors like technology and product development. It underlines the need for further exploration of ambidexterity in the hospitality industry.

We propose the Balanced Scorecard (BSC) as a practical solution to address the challenges of ambidexterity in hotels. The BSC integrates financial and non-financial measures, promoting a holistic view that balances exploration and exploitation activities. It can ease adaptation, innovation, and strategic clarity within the organization ([Sayeb et al., 2021]). The BSC fosters communication and goal alignment across organizational levels, which is crucial for managing a dynamic environment and achieving high performance.

By merging the BSC with ambidexterity, hotels can better balance exploiting existing resources and exploring new opportunities. As Kaplan and Norton (2016) mention, innovation driven by ambidexterity is critical to creating lasting value and differentiation in a competitive market. Kopia et al. (2017) further highlight the importance of performance measurement and analysis, especially for innovation initiatives.

The BSC can be adapted to assess factors crucial for ambidexterity, such as innovation strategies, customer needs, and employee creativity ([Lo and Kam, 2021; Adams et al., 2006; Crossan and Apaydin, 2010]). It includes incorporating Key Performance Indicators (KPIs) specific to innovation. By encompassing financial and non-financial measures, this

AJB
integrated approach helps hotels balance exploration and exploitation activities, ultimately enhancing performance and value creation (Venkatraman et al., 2007; Noordin et al., 2015). Given the challenges of ambidexterity, merging the BSC with this concept offers a promising strategy for hotels to improve adaptability and efficiency.

2. Literature review
2.1 Understanding organizational ambidexterity
The dynamic business environment of rapid change necessitates continuous organizational adaptation (Cummings and Worley, 2014). Organizational ambidexterity, a concept introduced by Duncan (1976), offers a strategic approach to this challenge. It emphasizes achieving a balance between exploration (seeking new opportunities and adapting to change) and exploitation (refining and leveraging existing capabilities) (March, 1991; Levinthal and March, 1993). This ability to be both innovative and efficient is crucial for long-term success (Tushman and O'Reilly, 1996).

Striking a balance between exploration and exploitation is a significant challenge but offers substantial benefits. Ambidextrous organizations can adapt to environmental shifts while maintaining operational efficiency, leading to superior performance (Gibson and Birkinshaw, 2004; Raisch and Birkinshaw, 2008). This concept is particularly relevant for the hotel industry, where adaptability and innovation are essential for success.

2.1.1 Approaches to integrate organizational ambidexterity. As highlighted earlier, organizational ambidexterity emphasizes balancing exploration and exploitation activities (March, 1991). Numerous studies have addressed the inherent tensions and strategies for managing this balance. Here, we explore three fundamental approaches that organizations can leverage to integrate exploration and exploitation activities structurally and strategically.

1) Structural Ambidexterity (Spatial Separation): This approach involves creating separate organizational units for exploration and exploitation activities (Volberda, 1999; Taródy, 2016). It allows for specialization and avoids resource conflicts (García et al., 2016; Simsek et al., 2009).

2) Contextual Ambidexterity (Temporal Separation): This approach fosters employee behaviors that balance exploration and exploitation based on situational demands (Gibson and Birkinshaw, 2004; García et al., 2016). Employees with flexibility and self-management can adapt to changing needs (Kang and Snell, 2009).

3) Sequential Ambidexterity (Synthesis): Organizations can alternate between exploration and exploitation through cycles (García et al., 2016; Simsek et al., 2009). This process allows for adaptation and reconfiguration based on the environment through temporary decentralization (Puranam et al., 2006).

The choice of a specific approach depends on the organization’s context, capabilities, and strategic direction (Levinthal and March, 1993). In a rapidly changing market, agility and continuous innovation are crucial for ensuring long-term success (Tushman and O'Reilly, 1996). Organizations focused on growth may prioritize exploration, while those seeking to consolidate market position might prioritize exploitation. Regardless of the approach, effectively managing the balance between exploration and exploitation is essential for sustained success (Gibson and Birkinshaw, 2004).

2.2 How the balanced scorecard drives organizational ambidexterity
The Balanced Scorecard (BSC), created by Kaplan and Norton (1992), is a vital tool in organizational management. It extends beyond traditional financial metrics to provide a
comprehensive view, integrating financial and non-financial indicators (Hoque, 2014; Tapinos et al., 2011). This multifaceted approach fosters organizational flexibility, adaptability, and ambidexterity. The BSC aligns with immediate and long-term objectives by balancing current resources with pursuing new opportunities. Its four perspectives – customers, internal processes, learning and growth, and financial – enable organizations to navigate evolving landscapes and respond to diverse stakeholders’ needs (Kaplan and Norton, 1992).

While implementing the BSC may vary by organizational maturity, its core value lies in linking strategy with action and adapting to dynamic environments (Kaplan and Norton, 2016). This strategic and performance-focused approach is crucial for nurturing ambidexterity. The BSC's structured framework with varied perspectives facilitates aligning goals at different levels, an essential aspect of turning ambidexterity into strategies. This process supports focusing on both immediate efficiency and long-term innovation. By translating strategic vision into operational actions, the BSC fosters agility, adaptability, and a focus on strategic goals, ultimately promoting organizational ambidexterity (Kaplan and Norton, 1996a). This translation of vision into action is crucial for ambidexterity because it ensures that strategic goals related to exploration (seeking new opportunities) and exploitation (optimizing existing operations) are translated into concrete steps and initiatives. The BSC's framework helps monitor progress and adjust as needed, fostering a dynamic balance between these two forces.

In this context, Kaplan and Norton’s BSC emerges as a practical tool for aligning innovation and efficiency. As highlighted by Lo and Kam (2021), the BSC’s role extends beyond setting innovation metrics. Its diverse perspectives offer a nuanced approach to balancing exploitation and exploration. The financial perspective focuses on current efficiency, whereas the learning and growth aspect fosters future capability development. This distinction within the BSC aids in managing the dynamic between exploitation and exploration, offering a structured approach to nurture ambidexterity effectively.

Figure 1 demonstrates the interaction between organizational ambidexterity and the BSC, showing Kaplan and Norton’s value creation model (2016). This model emphasizes balancing innovation (exploration) with efficient operations (exploitation). In the BSC framework, innovation revolves around anticipating and meeting future customer needs, related to ambidexterity’s exploration, which involves experimenting and creating new products and services (He and Wong, 2004; March, 1991). Similarly, the BSC’s operational process focuses on delivering value through existing offerings, aligning with exploitation activities, and prioritizing efficiency in current processes (Venkatraman et al., 2007; March, 1991).

**Figure 1.** Relationship of organizational ambidexterity with the generic value chain model of the internal process.
Integrating organizational ambidexterity with the BSC’s internal perspective offers a unified approach to managing innovation and efficiency. This constructive collaboration, highlighted by Venkatraman et al. (2007), suggests the BSC’s compatibility with organizational ambidexterity, making it a valuable addition to organizational structure and strategy. In Puebla City’s dynamic hotel industry, this integration is especially pertinent. Hotels must innovate to meet evolving customer expectations (Kaplan and Norton, 2014) while maintaining profitable operations (Venkatraman et al., 2007). This example highlights the need for ambidexterity in any industry facing constant change.

Endorsed by Duncan (1976), Lubatkin et al. (2006), and Lo and Kam (2021), this approach provides a theoretical framework guiding the balance between innovation and efficiency, preparing organizations across various industries to navigate current and future challenges.

3. Methodology
We researched the integration of organizational ambidexterity into the BCS, evaluating the existing theories and exploring relationships between variables (Creswell, 2014). It involved a non-experimental, cross-sectional design, observing variables in their natural state at a single point in time (Hernández-Sampieri and Torres, 2018). Given the under-researched nature of ambidextrous organizations in hotels, we also incorporated an exploratory approach to expand knowledge and offer new insights (Leavy, 2017). The research process itself followed a seven-stage structure illustrated in Figure 2.

To explore ambidextrous organizations in the hotel industry, we focused on four-star hotels in Puebla City. These hotels make up a sizable portion (24.74%) of the city’s tourism market, according to the Secretaría de Turismo Municipal de Puebla, offering a balanced view of quality and accessibility. We selected a sample size equal to the entire population of four-star hotels that met specific criteria, including location, active tourism registration, and respondent position. This approach resulted in a 14.58% refusal rate, with seven out of forty-eight eligible hotels not participating.

3.1 Building the measurement tool
We chose a survey for data collection due to its effectiveness in cross-sectional studies like this one. Surveys numerically describe a population through a representative sample, aligning with our quantitative approach (Creswell and Creswell, 2018). This method helped us focus on a specific point in time and justified its suitability for our research goals. We followed some steps by Creswell and Creswell (2018) for building the survey instrument, ensuring the instrument’s effectiveness and reliability. These steps will be detailed below (see Figure 3).

3.1.1 Content of the survey. The survey instrument comprised three sections. The first section obtained informed consent, explaining the research purpose and data usage for academic purposes only. The second section collected respondent and hotel demographics to

Figure 2.
Research stages
characterize the sample. Finally, the third section explored organizational ambidexterity through a BSC lens. This section used multiple-choice questions focused on financial, customer, internal processes, and learning and growth, divided into exploitation and exploration dimensions (24 questions). Sociodemographic data (11 questions) helped characterize the sample and inform subsequent analysis.

3.1.2 Operationalization of variables. As Hernández-Sampieri and Torres (2018) noted, operationalizing variables involves conceptually and operationally defining them. Our measurement tool followed a logical sequence. We identified the four critical perspectives of the BCS: financial, customer, internal processes, and learning and growth. We then incorporated the exploitation and exploration dimensions of organizational ambidexterity. Next, we present the theoretical definitions of these variables.

Financial. It is assessed by evaluating factors crucial for value creation and shareholder return (Kaplan and Norton, 1992, 2016). It involves monitoring financial indicators like revenue, costs, profitability, and cash flow to determine strategic impact on economic outcomes. It facilitates identifying critical elements for financial success and setting specific goals for achievement.

Customer Satisfaction. It targets customer needs regarding time, quality, performance, service, and cost. It requires identifying and addressing factors that affect customer satisfaction and loyalty. Conducting market research, segmenting appropriately, and setting clear customer satisfaction metrics are essential for monitoring and improving service quality (Kaplan and Norton, 1992, 2000).

Internal Process. It aims to identify critical processes that the organization must optimize to deliver its value proposition and meet the financial performance expectations of shareholders. It also involves an internal examination of the organization to identify and improve critical processes in efficiently and cost-effectively delivering high-quality products and services (Kaplan and Norton, 1992, 1996b).

Learning and Growth. It optimizes processes to deliver the value proposition and meet shareholders’ financial expectations (Kaplan and Norton, 1992, 1996b). It involves evaluating internal operations to identify and improve efficiency and cost-effectiveness in delivering high-quality products and services.

Table 1 clarifies the meanings of ambidexterity to operationalize the exploitation and exploration dimensions of ambidexterity through different interpretations. Table 2 details all study variables’ operational definitions and measurement strategies, including indicators, definitions, and corresponding survey questions. These questions directly align with the survey and form the foundation for our proposed ‘Ambidextrous Scorecard.’

3.1.3 Naming and survey application strategy. We titled the survey “Questionnaire to Analyze Organizational Ambidexterity in Hotels of Puebla City” (CAAOH-CPUE in Spanish). Google Forms’ user-friendly interface and easy email distribution made it the ideal platform. Participants completed the survey independently using Google Forms, ensuring confidentiality, and minimizing response bias (Hernández-Sampieri and Torres, 2018).

3.1.4 Validity of the survey. To validate the survey’s content, we employed the Delphi Technique, which builds consensus among experts (López-Gómez, 2018). We assembled a panel of seven experts (from Colombia, Mexico, and Spain) with experience in hospitality, tourism, business management, continuous improvement, economics, and research. Their
feedback pinpointed areas of agreement/disagreement, validating the content and suggesting improvements for clarity (syntax, terminology, and grammar). We incorporated this feedback to ensure clarity and accuracy, affirming the survey’s consistency with theory and suitability for the pilot test and the final data collection.

3.1.5 Pilot testing. A pilot test involving 20 hotel managers/executives in Puebla City yielded 11 responses (55% response rate). This feedback ensured data quality and survey validity/reliability before full-scale data collection. To assess the survey’s internal consistency (item congruence), we calculated Cronbach’s Alpha using SPSS®. All four dimensions of the BCS (Financial, Customer, Internal Processes, and Learning and Growth) exhibited acceptable levels of reliability, with Cronbach’s alpha values ranging from 0.701 to 0.768 (Table 3). According to Nunnally (1978), alpha values above 0.70 are considered satisfactory for exploratory research like ours (Shrestha, 2021; Tuapanta et al., 2017; Kline, 2015). It suggests that the measures used to assess each dimension are internally consistent and reliable.

Construct validity was assessed by comparing variable score correlations in the correlation matrix (see Table 3) to the diagonal values of Cronbach’s alpha coefficients. Lower correlations than diagonal values indicate that the questionnaire items effectively measured the intended constructs. It means that survey items capture unique aspects of each dimension, rather than simply measuring the same underlying construct.

The mean and standard deviation values presented in Table 3 provide insight into the average emphasis placed on each BSC dimension and the range of perspectives among respondents. It allows for a more nuanced understanding of central tendencies and variability within each dimension, essential for a stronger analysis of BSC relationships.

We assessed sample adequacy for individual variables and the overall model for factor analysis using the Kaiser-Meyer-Olkin (KMO) test (Kaiser and Rice, 1974). This test employs a specific mathematical formula to evaluate the proportion of variance in the data that underlying factors can explain. In the factor analysis, a high KMO value indicates that most of the variance is due to common factors shared by the variables, making the data suitable for this technique (Shrestha, 2021). The KMO value obtained in our study was 0.784 (see Table 3).

<table>
<thead>
<tr>
<th>Author</th>
<th>Dimensions</th>
<th>Exploration</th>
</tr>
</thead>
<tbody>
<tr>
<td>March (1991)</td>
<td>Refinement, efficiency, and</td>
<td>Experimentation, discovery, risk-</td>
</tr>
<tr>
<td></td>
<td>productivity</td>
<td>taking, innovation, and agility</td>
</tr>
<tr>
<td>Tushman and O’Reilly (1996)</td>
<td>Incremental innovations and</td>
<td>Discontinuous innovation,</td>
</tr>
<tr>
<td></td>
<td>efficiency</td>
<td>experimentation, and improvisation</td>
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<tr>
<td>O’Reilly and Tushman (2004)</td>
<td>Incremental innovations</td>
<td>Radical innovations</td>
</tr>
<tr>
<td>He and Wong (2004)</td>
<td>Cost efficiency and incremental innovation</td>
<td>Flexibility and new asset development</td>
</tr>
<tr>
<td>Gibson and Birkinshaw (2004)</td>
<td>Alignment</td>
<td>Adaptability</td>
</tr>
<tr>
<td>Atuahene-Gima (2005)</td>
<td>Incremental innovations</td>
<td>Innovations, radical ideas</td>
</tr>
<tr>
<td>Raisch and Birkinshaw (2008)</td>
<td>Efficiency and alignment</td>
<td>Adapting to change</td>
</tr>
<tr>
<td>Andriopoulos and Lewis (2009)</td>
<td>Incremental innovations</td>
<td>Radical innovations</td>
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<tr>
<td>Simsek (2009)</td>
<td>Refinement</td>
<td>Experimentation</td>
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<tr>
<td>O’Reilly and Tushman (2013)</td>
<td>Efficiency, control, and</td>
<td>Flexibility, autonomy, and</td>
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<td></td>
<td>incremental improvement</td>
<td>experimentation</td>
</tr>
<tr>
<td>Frederick (2015)</td>
<td>Sustained innovation</td>
<td>Disruptive innovation</td>
</tr>
<tr>
<td>Bedford et al. (2019)</td>
<td>Refine and extend existing</td>
<td>Generate new knowledge, skills, and processes</td>
</tr>
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<td></td>
<td>knowledge, skills, and processes</td>
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Note(s): Prepared by the authors

Table 1. Definition of exploitation and exploration
<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Indicators</th>
<th>Operational definition</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Exploitation</td>
<td>Profit Generation</td>
<td>Ability to generate economic benefits above operating costs (Kaplan and Norton, 1992)</td>
<td>1.1.1. Have the prices of the products or services offered by the hotel increased or decreased?</td>
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<tr>
<td></td>
<td></td>
<td>Cost Reduction</td>
<td>Decrease costs to produce or supply goods or services without sacrificing quality or customer satisfaction (Ittner et al., 2003)</td>
<td>1.1.2. What percentage of the hotel's products or services prices have changed?</td>
</tr>
<tr>
<td></td>
<td>Exploration</td>
<td>Diversification of Income Sources</td>
<td>According to Kaplan and Norton (1992), it aims to enhance an organization's revenue by developing new products or services, exploring new markets, and improving participation in existing markets</td>
<td>1.1.3. Have the hotel operating costs increased or decreased?</td>
</tr>
<tr>
<td></td>
<td>Customer</td>
<td>Exploitation</td>
<td>Implementing improvements and adjustments to existing products or services aims to enhance their value to the customer and improve customer satisfaction (Kaplan and Norton, 1992)</td>
<td>1.1.4. What percentage has the hotel's operating costs changed by?</td>
</tr>
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<td></td>
<td></td>
<td>Improvement of the Current Product or Service Offering</td>
<td>Research and analysis are needed to understand customers' needs, expectations, and preferences, and to offer products and services that meet their demands (Kaplan and Norton, 1992)</td>
<td>1.1.5. How much did the hotel allocate from its annual budget to update or improve the knowledge of its employees?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of Customer Needs</td>
<td>It identifies and selects new customer groups with needs or preferences different from the current market (Amit and Zott, 2001)</td>
<td>1.2.1. Are any of the financial resources designated for innovation projects?</td>
</tr>
<tr>
<td></td>
<td>Exploration</td>
<td>Attracting New Market Segments</td>
<td></td>
<td>1.2.2. Does the hotel have employees dedicated solely to innovation projects?</td>
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<td></td>
<td></td>
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<td>1.2.3. What percentage of the annual budget was allocated to fund innovation projects last year?</td>
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<td>1.2.4. What percentage of the annual budget is allocated to the selected innovation projects?</td>
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(continued)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Indicators</th>
<th>Operational definition</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process</td>
<td>Exploitation</td>
<td>Establishing Strategic Alliances</td>
<td>It involves two or more organizations working together to achieve common goals by combining resources, capabilities, and knowledge (Amit and Zott, 2001)</td>
<td>3.1.1. Has the hotel established any agreements or strategic alliances with other sector companies or suppliers?</td>
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<td></td>
<td></td>
<td>Quality Service Delivery</td>
<td>Parasuraman et al. (1988) believe that providing a service that meets or exceeds customer expectations is crucial</td>
<td>3.1.2. What are the objectives behind establishing agreements or strategic alliances with other companies and suppliers in the sector?</td>
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<td></td>
<td></td>
<td>Environment Analysis</td>
<td>Identifying and evaluating external factors that can impact an organization’s performance (Porter, 1980)</td>
<td>3.1.3. What strategies or actions does the hotel implement to provide high-quality services?</td>
</tr>
<tr>
<td>Exploration</td>
<td>Process, Product, or Service Innovation</td>
<td></td>
<td>Introduction of new, different, or significantly improved processes, products, or services in the organization or the market in general (Damanpour, 1991; Schumpeter, 1934)</td>
<td>3.2.1 What recent technologies have the hotel acquired to improve its processes and operations?</td>
</tr>
<tr>
<td>Learning</td>
<td>Exploitation</td>
<td>Utilizing the Existing Knowledge and Skills of Employees</td>
<td>Leverage the knowledge and skills of existing employees and apply them effectively to improve the company’s processes and products/services (Jerez-Gómez et al., 2005)</td>
<td>3.2.2 What strategies does the hotel use to encourage the search for new and innovative ideas to enhance the products or services offered to customers?</td>
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<tr>
<td></td>
<td></td>
<td>Employee Training</td>
<td>Provide employees with the necessary skills, knowledge, and attitudes to perform efficiently and effectively (Noe, 2016)</td>
<td>4.1.2. Have the hotel employees received training?</td>
</tr>
<tr>
<td></td>
<td>Exploration</td>
<td>Development of New Knowledge and Skills</td>
<td>The process by which an organization acquires new skills or knowledge to improve its performance and competitiveness (Nonaka and Takeuchi, 1995)</td>
<td>4.1.3. How many hours of training did the employees receive in the last year?</td>
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<td>4.1.4. What training topics have the hotel employees received in the last year?</td>
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<td>4.2.1. Have the employees gained new knowledge or skills in areas without prior experience?</td>
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<td></td>
<td></td>
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<td>4.2.2. What strategies does the hotel use to motivate employees to acquire new knowledge or skills?</td>
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**Source(s):** Prepared by the authors
Table 4), which falls within the range considered ‘medium adequacy’ according to Shrestha (2021). A moderate amount of variance is attributable to common factors, justifying factor analysis with this sample.

Data analysis ensured result quality through multiple steps. Using SPSS®, we organized responses into a coded matrix with variables as columns and participants as rows. Descriptive statistics provided detailed information on each variable, aligning with our focus on numerical ambidexterity measurement. To explore the relationships between variables, we used Pearson’s correlation test to assess their linear strength and direction (Betanzos and López, 2017). It aligns with Field’s (2013) perspective on quantitative methods for identifying patterns and relationships. Finally, variables were classified based on the BSC framework (financial, customers, internal processes, and learning and growth) (Kaplan and Norton, 1992). This framework and exploration-exploitation distinction (March, 1991) facilitated a detailed examination of these critical elements’ interactions within Puebla City hotels.

4. Results

Our literature review explored organizational ambidexterity, emphasizing its dual focus: seeking new markets while optimizing existing ones (Venkatraman et al., 2007) and integrating incremental and radical innovations (Andriopoulos and Lewis, 2009). The results section aligns with the proposed ‘Ambidextrous Scorecard’ variables.

4.1 Exploitation activities

Exploitation activities prioritize efficiency and refinement of existing processes, leveraging established resources and capabilities. This approach fosters incremental innovations (Venkatraman et al., 2007; March, 1991).

4.1.1 Profit generation. We found that 88.9% of hotels increased product and service prices. For instance, room rates ranged from USD 57.88 to USD 78.01 (Table 5). Despite seasonal variations, occupancy rates, and external factors, the average monthly revenue was USD 5,445.27. We calculated it considering the number of rooms and the average rates reported by hotels.

<table>
<thead>
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<th>Table 3. Reliability and correlation analysis of the BSC dimensions</th>
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<tbody>
<tr>
<td>Cronbach’s alpha</td>
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<tr>
<td>------------------</td>
</tr>
<tr>
<td>Financial</td>
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<tr>
<td>Customer</td>
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<tr>
<td>Internal process</td>
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<tr>
<td>Learning and growth</td>
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Source(s): Prepared by the authors

<table>
<thead>
<tr>
<th>Table 4. KMO and Barlett’s test</th>
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<tbody>
<tr>
<td>Kaiser-Meyer-Olkin measure of sampling adequacy</td>
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<tr>
<td>Barlett’s Test of Sphericity</td>
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<tr>
<td>Degrees of Freedom</td>
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<td>Significant Value</td>
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</tbody>
</table>

Note(s): SPSS® results
4.1.2 *Cost reduction.* Revenue increases often lead to higher operating costs, and our study reflects this trend, with 90.9% of hotels experiencing cost increases (Table 6). Half saw costs rise between 11 and 15%, while 40% faced increases exceeding 20%. The remaining hotels achieved cost reductions, ranging from 16% to 20%. The pandemic’s impact on operations and service delivery likely drove these cost increases. The hotels needed to adapt by adjusting operations, implementing brand-new technologies, and training staff. These investments, crucial for survival in a changing landscape, explain the cost hikes for most establishments.

4.1.3 *Enhancement of current product or service offerings.* Our study highlights the importance of continuous product and service improvement for revenue growth. Nearly half (45.5%) of the hotels introduced two enhancements, and another quarter (27.3%) implemented three. Quality improvement was the primary focus for 35.7% of these enhancements, followed by feature upgrades (21.4%). All the hotels making improvements addressed their distribution channels. Among those implementing more extensive changes (two or more enhancements), 45.5% prioritized quality, features, warranties, and after-sales service. Hotels introducing three or four improvements emphasized quality and feature upgrades (27.3 and 18.2%, respectively).

4.1.4 *Identification of customer needs.* Organizations have many techniques to learn about their customers, but using a mix often gives a better understanding. We found that while traditional methods like satisfaction surveys (29.2%) and market studies (25%) remain dominant in customer insights (Figure 4), only 8.3% leverage digital tools like cookies. This underutilization is surprising, given the valuable data these technologies offer about customer behavior.

4.1.5 *Establishing strategic alliances.* Our study revealed that 72.7% of hotels formed strategic alliances, with 42.9% pursuing specific goals. These goals primarily focused on new product/service development (37.5%), followed by marketing diversification (25%) and knowledge/technology transfer (18.8%). Further, 100% of hotels had one alliance goal, and 40% had two new product/service development goals. Diversifying marketing was a priority for 30% of alliances with two goals. Hotels are forming three-goal alliances targeting new company creation, brand-new product/service development, and knowledge/technology transfer.

4.1.6 *Environment analysis.* Concerning the methods hotels use to understand their competition, social media and online content analysis (21.2%) are the most used (Figure 5).

<table>
<thead>
<tr>
<th>Price range (USD)</th>
<th>Percentage of hotels (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $17.46</td>
<td>9.10</td>
</tr>
<tr>
<td>$37.70 - $57.83</td>
<td>36.40</td>
</tr>
<tr>
<td>$57.88 - $78.01</td>
<td>54.50</td>
</tr>
</tbody>
</table>

**Source(s):** Authors’ analysis of collected data

<table>
<thead>
<tr>
<th>Change in costs</th>
<th>11–15%</th>
<th>16–20%</th>
<th>More than 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased</td>
<td>50</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Decreased</td>
<td>0.0</td>
<td>100</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Source(s):** Authors’ analysis of collected data

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Table 5. Average hotel rates in Puebla City

Table 6. Cost behavior
Market studies (21.2%) are equally important, while trade reports and public relations contribute 12.1% to the competitor analysis.

4.1.7 Quality service delivery. We found that hotels prioritize various numbers of quality service strategies (Figure 6). The most common approaches involve six (36.4%) or four strategies (27.3%). Maintaining top-condition facilities and equipment (22.4%) and investing in staff expertise and professionalism (20.4%) are the most emphasized elements. It highlights the importance of blending well-maintained infrastructure with a well-trained workforce to deliver services that meet customer expectations.

4.1.8 Utilizing the existing knowledge and skills of employees. Figure 7 indicates that hotels leverage their staff’s current knowledge and skills in several ways. 34.8% of the hotels use them to enhance their current product or service offerings. In comparison, 26.1% engage in collaborative work, suggesting a multidisciplinary approach to the hotel processes.

**Source(s):** Authors’ analysis of collected data
4.1.9 Employee training. Training and competence stand out for four-star hotels aiming for high service standards. The findings indicate that 80% of hotel employees received training last year. Training topics (Figure 8) included 30.8% on customer service, 23.1% on digital tools, and 15.4% on project management and continuous improvement. On average, staff underwent 83 h or 3.5 days of training over the year.

It concludes the analysis of exploitation activities. The following section discusses exploration activities vital for achieving organizational ambidexterity.

4.2 Exploration activities
Exploration activities encourage experimentation, innovation, and flexibility within organizations (He and Wong, 2004). This approach prioritizes seeking new opportunities and allocating resources to spark creativity and develop novel products, services, processes, or capabilities (Junni et al., 2013).

4.2.1 Diversification of income sources. Our study revealed that 80% of hotels invest in innovative projects, often independent of their current operations (half of those have dedicated teams). Investment levels vary: 62.5% allocate 5–10% of their annual budget, 25% allocate 11–15%, and 12.5% invest over 20%. These investments typically fund two projects (50%) or three (33%). Significantly, 23.1% of these projects target process innovation, which means streamlining operations for efficiency (Keeley et al., 2013).

4.2.2 Attracting new market segments. About 45.5% of hotels use three strategies to find and attract new customer segments, while 18.2% use just one. Figure 9 shows the variety of strategic actions by the hotels. They range from traditional methods like environment analysis and target audience analysis, 20.6% each, to more modern tactics, such as enhancing social media presence, with 14.7%.

4.2.3 Process, product, or service innovation. Exploration activities aim to capture new markets, sometimes through novel products or services (though only 8.8% of hotels currently do this). These activities encourage fresh ideas for developing or improving...
unique offerings. Hotels leverage various methods, with 36.4 and 27.3% employing two and four methods, respectively (Figure 10). The top approaches are prioritizing customer needs (32.1%) and studying competitors (21.4%). We think fostering teamwork (21.4%) is crucial for sparking innovation and generating innovative ideas for enhanced products and services.

4.2.4 Development of new knowledge and skills. Our study found that 90% of hotels successfully fostered a culture of continuous learning among their staff, and they implemented various strategies to achieve this. Promotions (27.3%) emerged as the top motivator for skill development. We found that personal growth opportunities (22.7%) resonated more with employees than financial rewards (18.2%).

The following section introduces our ‘Ambidextrous Scorecard,’ which integrates organizational ambidexterity with the BSC. This tool helps map exploitation and exploration activities to specific processes, resources, and skills.

4.3 Ambidextrous scorecard proposal for hotels of Puebla

Our research on hotel ambidexterity led to the development of the Ambidextrous Scorecard (ASC) presented in Table 7. This flexible template offers 13 strategic goals and 28 performance indicators to guide hotel management. It integrates exploitation and exploration activities for sustainable growth in a dynamic market. The ASC utilizes a balanced perspective for goal setting and performance measurement, providing a holistic business view. This tool supports informed decision-making and fosters a continuous improvement culture.
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Strategic objectives</th>
<th>Strategic indicators (SI)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial (F)</td>
<td>Exploitation F1. Profit Generation</td>
<td>SI1. Price Variation Indicator</td>
<td>Tracks price changes of the products or services over a specific period, showing how effective the pricing strategy is.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI2. Percentage Price Change</td>
<td>Determines the percentage change in prices, assessing its effect on the revenue and profitability.</td>
</tr>
<tr>
<td></td>
<td>F2. Cost Reduction</td>
<td>SI3. Operational Cost Variation Indicator</td>
<td>Tracks rise or fall in the operational costs within a set period, aiding in gauging cost control success.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI4. Operational Cost Change Percentage</td>
<td>Shows the precise percentage shift in operational costs, reflecting cost-cutting strategies' effect on profit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI5. Annual Training Budget Percentage</td>
<td>Reveals the share of the yearly budget spent on enhancing employee skills, impacting efficiency and customer happiness.</td>
</tr>
<tr>
<td>Exploration</td>
<td>F3. Diversification of Income Sources</td>
<td>SI6. Innovation Budget Share</td>
<td>Indicates the annual budget portion for innovation projects, showing investment in new offerings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI7. Funding for Innovation</td>
<td>Checks if the organization sets aside specific funds for innovation, signaling its commitment to growing through innovative ideas.</td>
</tr>
<tr>
<td>Customer (C)</td>
<td>Exploitation C1. Improvement of the Current Product or Service Offering</td>
<td>SI8. Product/Service Enhancement Rate</td>
<td>Tracks enhancements to offerings, showing value boosts for customers.</td>
</tr>
<tr>
<td></td>
<td>C2. Identification of Customer Needs</td>
<td>SI10. Customer Research Method Index</td>
<td>Tracks the frequency of methods like satisfaction surveys or market trend analysis to understand customers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI11. Effectiveness of Market Research Tools</td>
<td>Evaluates the success of tools used to pinpoint customer needs, focusing on their impact on refining or creating products and services.</td>
</tr>
<tr>
<td>Exploration</td>
<td>C3. Attracting New Market Segments</td>
<td>SI12. New Customer Segment Acquisition Rate</td>
<td>Assesses the success of efforts to find and attract new customer groups, indicating market growth.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI13. Variety in Market Strategies</td>
<td>Measures the breadth and innovation of tactics to engage new segments, highlighting the organization's flexibility and creativity.</td>
</tr>
</tbody>
</table>

Table 7. Ambidextrous scorecard for the hotels of Puebla (continued)
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Strategic objectives</th>
<th>Strategic indicators (SI)</th>
<th>Description</th>
</tr>
</thead>
</table>
SI15. Alliance Goal Achievement   | Tallies new alliances with companies or suppliers within a set period  
Evaluate the success of partnerships in reaching shared objectives, highlighting their benefit to the organization |                                                                                                                                                                                                 |
SI17. Service Quality Strategy Implementation Rate  | Measures how customers view service quality, reflecting their satisfaction and whether the service meets their expectations  
Evaluate how often and effectively the organization applies strategies to ensure quality service |                                                                                                                                                                                                 |
| IP3. Environment Analysis    |                          | SI18. Competitive Intelligence Usage Rate  
SI19. Effectiveness of Competitor Data  
SI20. Tech Innovation Count  
SI21. Innovation Effort Score | Measures how often the organization uses tools to understand competitors, showing its focus on competitive analysis  
Review how competitor insights shape the organization’s strategies and offerings  
Shows how many innovative technologies the organization has adopted to boost its operations  
Measures the quantity and success of efforts to spark ideas that improve offerings |                                                                                                                                                                                                 |
SI23. Innovation Contribution Score  
SI25. Training Coverage Rate  | Tracks how employee expertise improves processes and offerings  
Measures employee skills’ role in driving company innovations  
Shows what fraction of the staff underwent training recently, highlighting the company’s focus on enhancing employee skills  
Reflects the average number of training hours per staff member, indicating the extent of training activities |                                                                                                                                                                                                 |
| Learning and growth (LG)     | Exploitation LG1. Utilizing the Existing Knowledge and Skills | SI26. Training Intensity Score  | Tracks how employee expertise improves processes and offerings  
Measures employee skills’ role in driving company innovations  
Shows what fraction of the staff underwent training recently, highlighting the company’s focus on enhancing employee skills  
Reflects the average number of training hours per staff member, indicating the extent of training activities |                                                                                                                                                                                                 |
| Exploration                  | LG3. Development of New Knowledge and Skills | SI27. Employee Upskilling Rate  
SI28. Motivation Strategy Impact | Displays the percentage of employees who gained new skills, highlighting the effectiveness of learning programs  
Measures the success of strategies in motivating staff to learn new skills, showing the company’s focus on personnel development and innovation |                                                                                                                                                                                                 |

Source(s): Authors’ analysis of collected data
5. Discussion
Continuous improvement in products and services is critical for organizations because it can increase their revenues. Experts in organizational ambidexterity, like Bedford et al. (2019) and Frederick (2015), view these enhancements as incremental innovations that refine operations and enhance customer value. O’Reilly and Tushman (2004) define “architectural innovations” as new technological advances or processes changing part of the business. Our study found that hotels that upgrade often target product/service quality and features. While luxury is a factor, Angamarca et al. (2020) emphasize broader quality enhancements, encompassing staff, service delivery, and tangible elements. As defined by Keeley et al. (2013), feature improvements involve changes to service aspects like staff interactions, physical updates, and customer service. Upgrading can raise operational costs (O’Reilly and Tushman, 2004), leading some hotels to increase prices to maintain profitability (Keeley et al., 2013). Thus, continuous hotel improvement requires careful consideration of costs, prices, and overall competitiveness.

Identifying customer needs and analyzing competitors is crucial for hotel improvements, achieved through surveys and market studies. However, digital technologies like the Internet of Things (Infante-Moro et al., 2020) can enhance data collection, improve security, and support strategic decision-making. This study also focused on strategic alliances for new offerings, broader marketing reach, and knowledge/technology sharing. These partnerships, as noted by Diaz (2018), can boost competitiveness by providing access to new resources. Hotels’ interest in alliances reflects their aim to strengthen infrastructure, knowledge, technology, and R&D, ultimately leading to cost savings, increased revenue, and improved services (Castellanos et al., 2020).

Hotels leverage their infrastructure and skilled staff to address customer needs informed by data-driven strategies. Understanding competitor offerings allows them to focus on maintaining or exceeding service quality. By capitalizing on staff expertise and teamwork, hotels can continuously enhance their services. This multidisciplinary approach, as Castellanos et al. (2020) point out, strengthens hotel operations.

Hotels investing in brand-new technologies typically explore ideas beyond their usual scope, assigning dedicated teams to these projects while other parts of the organization maintain daily operations. This dual-focus strategy, structural ambidexterity, balances innovation and routine tasks (Garcia et al., 2016; Simsek et al., 2009). Even without specific innovation teams, hotels can still balance innovative and routine work, adhering to sequential and contextual ambidexterity models. Moreover, hotels can engage in brand-new innovations without dedicated staff, highlighting their versatility in innovation strategies.

Innovation projects aim to improve processes and enhance operational efficiency (Keeley et al., 2013). These projects involve exploration activities focused on developing new revenue streams and optimizing operations, thereby supporting the innovation of operational and organizational methods. Such exploratory efforts open new business opportunities by targeting market segments outside the hotel’s current scope (Venkatraman et al., 2007; Raisch and Birkinshaw, 2008). To reach these new markets, hotels employ various tactics, from traditional market and audience analysis to modern approaches like boosting social media presence. While not all the hotels engage in these activities, exploring involves seeking innovative ideas to improve or introduce unique products and services.

Effective teamwork is crucial for generating innovative ideas and products. Hotels must invest in employee development (He and Wong, 2004; Benner and Tushman, 2003; Tushman and O’Reilly, 1996). It often involves initiatives that equip staff with new skills, sometimes in brand-new areas. Our study found that hotels implemented various strategies to encourage continuous learning. Promotions were a popular tactic to motivate employees to gain new skills. However, personal growth, regarding self-fulfillment, emerged as a leading strategy,
outperforming financial incentives. It suggests that employees value self-fulfillment and intrinsic rewards more than salary increases.

The hotels implemented several improvements: developing new offerings, attracting new customers, and enhancing staff skills. These efforts also improved internal processes (Infante-Moro et al., 2020). Technology plays a crucial role in the hotel industry in terms of competitiveness and adapting to change. This is evident in the hotels' adoption of recent technologies, likely in response to challenges posed by the COVID-19 pandemic.

Existing models of ambidexterity often manage exploration and exploitation into distinct units or focus on building employee skills, suggesting these activities often happen independently. The Ambidextrous Scorecard (ASC) proposes a different approach: integrated or holistic ambidexterity. The ASC aims to merge exploration and exploitation activities throughout the organization, making ambidexterity a core part of daily operations, not a separate function. The integrated ambidexterity approach balances both activities, requiring an organizational structure that fosters collaboration across departments, teams, and company areas. It also demands processes and practices encouraging communication, coordination, and learning across different units.

The ASC responds to the challenge of managing exploitation and exploration activities in organizations. It is a vital tool for strategic integration, weaving organizational ambidexterity into the business structure. Providing a comprehensive management view, the ASC is essential for successfully embedding integrated ambidexterity in organizations. It presents critical factors for the complete management of ambidexterity in hotels, centered on exploitation and exploration activities, thus allowing for oversight and effective handling of these activities and resolving their inherent conflict.

The ASC is a practical tool for strategic management in hotels. It balances exploitation and exploration across the business, ensuring sustainability and adaptability in a fluctuating market. Its various perspectives provide a comprehensive, synergistic approach to setting goals and measuring hotel performance, using key indicators for each one. The ASC offers a broader, more balanced view of the business and promotes informed, strategic decision-making and the development of an organizational culture dedicated to continuous improvement.

6. Conclusions
This study explored how combining organizational ambidexterity with the BSC can benefit four-star hotels in Puebla City, Mexico. Our findings demonstrate that this approach enhances the hotel's operational efficiency (exploitation) and innovation (exploration). Furthermore, our study highlights the importance of ambidexterity for hotels. It contributes to academic discussions by proposing a BSC customized for Puebla City's unique challenges. It sheds light on how tailored and integrated management strategies can boost competitiveness and adaptability in dynamic and culturally diverse markets.

Our findings indicate that organizational ambidexterity is a critical factor for four-star hotels in Puebla City and highlight the benefits of adopting an integrated ambidexterity approach. This method aims to blend exploitation and exploration within the organization, enhanced using the Ambidextrous Scorecard (ASC). The ASC is a practical strategic management tool, offering a comprehensive view for making informed decisions and promoting innovation alongside operational efficiency, highlighting its value in Puebla's vibrant hotel scene.

We found strong alignment with previous studies urging the integration of ambidexterity into organizational structures and strategies. However, our research further emphasizes the ASC as a vital tool for achieving this integrated management. We demonstrate how combining various activities under this framework provides a novel perspective on how
hotel organizations can boost their performance and adaptability in a constantly evolving market with increasingly complex challenges.

The practical implications of our findings suggest that hotels adopting an ambidextrous approach, effectively integrating exploitation and exploration activities into the ASC, can position themselves more competitively as they anticipate trends and respond agilely to market requirements. Theoretically, this study reinforces the notion that adaptability and efficiency are complementary in the hotel context and that it is essential to consider ambidexterity holistically.

While this study has made significant contributions, we must note its limitations. We have thoroughly explored the hotel industry in Puebla City. However, our conclusions may not apply universally to other contexts or regions. This situation emphasizes the need for a cautious interpretation of our results, keeping the specific context in mind. We recommend further studies on how different sectors or regions use the ASC to achieve organizational ambidexterity. It is also worth investigating how digitalization, sustainability, and changing consumer preferences affect the hotel industry’s adaptability and efficiency. Such research could offer more insights and enrich our study’s findings.

Future research could be gained from examining the ASC’s application and effectiveness across different sectors and regions to validate and broaden our understanding of organizational ambidexterity. It would also be insightful to see how adopting the holistic ambidexterity approach we propose, which blends exploitation and exploration activities across all the organizational areas, impacts adaptability and efficiency in different settings. Such studies would not only enrich the findings of this research but also provide practical guidance for implementing the ASC, maximizing its potential to promote true holistic ambidexterity in diverse business environments.

References


Further reading


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