How to achieve excellence in the new service development process: the role of innovative culture, market orientation and management support

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How to achieve excellence in the new service development process: the role of innovative culture, market orientation and management support

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ABSTRACT
Despite the importance of the new service development process for new service success, little is known about the drivers of new service development process excellence or how to execute this process while including all important stages and guaranteeing excellence in the execution of each stage. This study analyses the role of innovative culture, market orientation, and top management support as antecedents of new service development process excellence in hotels. The results obtained for a sample of 133 hotels provide useful insights into how to improve new service performance. Both innovative culture and market orientation have a positive impact on new service development process excellence, although top management support has the strongest effect. New service development process excellence benefits new service quality, which reinforces new service market performance. The robustness of our findings is tested considering innovation type (radical versus incremental services).

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JEL CODES
M31; O30; M14; L83; Z33

1. Introduction
Prior to the COVID-19 pandemic, innovation in tourism services was unequivocally recognized in the literature as an imperative need to ensure the long-term competitiveness of a strategic sector with multiplier effects on national economies (Faber & Gaubert, 2019). During this worldwide health crisis, tourism has been among the most affected sectors (UNWTO–World Tourism Organization, 2022), and scholars foresee a reduction in innovation investment in the tourism industry (Skare et al., 2021), although the role of innovation in addressing current and forthcoming challenges is still critical for tourism (Kim et al., 2021). The hotel industry represents a
critical activity in the tourism industry, as tourists staying at hotels are the main contributors to total tourist expenditure (INE–Instituto Nacional de Estadística, 2022). The growing sophistication of modern tourists, in a permanent search for new experiences (Mihajlović & Koncul, 2016); the increasing uncertainty and competitiveness of tourism markets (Kim et al., 2021); the multiple opportunities for service improvement afforded by new technologies (Vladimirov & Williams, 2018); and the inability to patent new service (NS) ideas (Alnawas & Hemsley-Brown, 2019) are some of the main reasons that reinforce the role of innovation an indispensable tool for hotels to provide unique services, deliver superior value, attract new customers, and reinforce their customer base loyalty and market performance.

However, the development of service innovations is risky, and many new services fail, which results in the loss of organizational resources, the erosion of the brand image and a negative effect on firms’ performance (O’Cass & Wetzels, 2018). For this reason, during the last three decades, the service innovation literature has striven to identify the critical NS success factors or the key variables for achieving NS success (Kitsios & Kamariotou, 2020; Kuester et al., 2013; Storey et al., 2016). Current research still suggests deeper analyses aiming at the recipe for innovation success (Santos-Vijande et al., 2021).

External factors such as government support or an innovative ecosystem do not guarantee innovation success or a higher innovation capability in most countries (Ortigueira-Sánchez et al., 2022), neither in the manufacturing sector (Sternberg & Arndt, 2001) nor in the service sector (Vladimirov & Williams, 2018). In fact, recent studies have pointed to in-house factors related to organizational capabilities (Liou et al., 2019; Santos-Vijande et al., 2021; Medina-Molina et al., 2022). Among these factors, it is widely acknowledged that the new service development process (NSDP), or how service innovations are developed in practice (Gustafsson et al., 2020), plays a major role in NS performance (Storey et al., 2016). Nevertheless, the study of the NSDP in tourism has been limited (Kitsios & Kamariotou, 2020), and despite the relevance of the NSDP for NS success, the innovation literature lacks empirical evidence on how to achieve NSDP excellence, which entails implementing the NSDP without omitting any planned stages and ensuring high-quality execution of each stage. In this respect, previous research underlines that guaranteeing NS success requires service firms (1) to develop a systematic or structured NSDP, i.e., to complete the implementation of a minimum set of pre-established tasks or stages during the NSDP (Menor & Roth, 2008; Khan et al., 2011), and (2) to achieve excellence in the execution of each NSDP stage considered (Khan et al., 2011; Storey et al., 2016; Kitsios & Kamariotou, 2020). Therefore, the concept of NSDP excellence is based on the premise that to achieve success, service firms must attain excellent execution of all stages considered during the NSDP (Kitsios & Kamariotou, 2020).

However, how to reinforce NSDP excellence, or how to guarantee that service firms complete a well-executed NSDP, remains an underexplored issue (Stevens & Dimitriadis, 2005). There is a paucity of knowledge about the drivers of NSDP excellence because previous empirical studies analyse only the individual effect of each NSDP stage on NS performance and conclude that (1) some NSDP stages are not implemented (Menor et al., 2002; Alam, 2012; Kitsios & Kamariotou, 2020) and/or
that (2) some stages are often poorly executed (Alam, 2002, 2006), both of which hinder NS performance.

In contrast, this research aims to adopt a novel theoretical approach and obtain a measure of the implementation of a complete and excellent NSDP. Therefore, we study, for the first time, the drivers of NSDP excellence in hotels. Moreover, we provide novel empirical evidence on the impact of excellence in implementation across all NSDP stages on NS performance.

Accordingly, this study contributes to the innovation and tourism management literature in three ways. First, in response to recent calls in the literature (Kitsios & Kamariotou, 2020), we incorporate into the analysis of NSDP the role of innovative culture, market orientation, and top management support. In this study, these factors are considered the forerunners of NSDP excellence in hotels. In a similar vein, Moreira et al. (2020) claim that further research is required that combines the analysis of (1) firms’ culture, (2) organizational and individual capabilities (market orientation and top management support, respectively) and (3) NSDP implementation. Tajeddini et al. (2020) investigate the role of customer orientation and managerial attitude in the cost, effectiveness and speed of the NSDP, but empirical evidence is lacking on how to achieve a complete and proficient NSDP to guarantee NS success (Kitsios & Kamariotou, 2020), which is necessary to properly guide innovation efforts in the hotel industry after the COVID-19 pandemic.

Second, given that some researchers claim that the NSDP in service firms is largely informal and ad hoc by nature (Menor & Roth, 2008; Lusch & Nambisan, 2015), our study also contributes to the fragmented, and even contradictory, evidence on the benefits of a structured and planned development process in service innovation (Martovoy & Mention, 2016; Witell et al., 2017). In this respect, our research conceptual model contemplates the effect of NSDP excellence on NS performance in hotels from both an internal (NS quality) and an external perspective (Ns market performance) to improve our understanding of the impact of service innovation on different types of performance outcomes (Gustafsson et al., 2020).

Third, we use multi-group analysis to compare whether the strength of the relationships proposed in our research model differs between radical and incremental NS projects. This analysis supplements the scarce evidence in the service innovation literature on whether the relevance of NS success factors differs across different types of innovation (Snyder et al., 2016). In this way, we also depart from previous conceptualizations of service innovation as mainly incremental and continuous, reinforcing the existence of disruptive innovation in the service field and the hospitality industry (Nieves & Diaz-Meneses, 2018).

2. New service development process (NSDP) excellence

Service innovation refers to an NS or process put into practice, i.e., the outcome of the innovation effort, while the NSDP refers to the process for developing a service innovation (Gustafsson et al., 2020). The NSDP has been studied in the literature less often than the new product development process, partially because service innovation has traditionally been considered the result of an unsystematic or spontaneous
process (Grönroos, 1990; Ottenbacher & Harrington, 2010). However, innovating is a complex process that entails a thorough implementation of various activities, many of which may have important implications in different functional areas within the firm. The lack of formalization of service innovation processes can diminish the possibility of incorporating the voices of customers and/or other important stakeholders throughout the development process and thus lead to the ignorance of important ideas or the omission of key aspects in the successful commercialization of the NS (Alam, 2012; Kitsios & Kamariotou, 2020). Thus, several studies confirm that the most successful companies avoid implementing an ad hoc NSDP for each NS project and try to maintain a certain uniformity in their service innovation processes (de Brentani, 2001; de Jong & Vermeulen, 2003). In other words, the literature suggests that the formalization or systematization of the NSDP increases the probability of service innovation success (Menor & Roth, 2008; Khan et al., 2011).

The sequence of innovation stages and the exact number of development stages to be considered are open to debate since service firms can adopt different patterns of innovation processes in service innovation (Martovoy & Mention, 2016; Kitsios & Kamariotou, 2020). These stages can be fulfilled in a sequential or linear manner, which means that when one stage ends, another begins, or in a nonlinear or parallel processing manner, that is, allowing two or more stages to take place simultaneously (Alam, 2002). However, all stages formally considered in the development process must be executed with a minimum level of efficiency to guarantee NS success (Ottenbacher et al., 2006; Storey et al., 2016). Efficiency depends on the proficient management of each NSDP stage, i.e., on the quality with which each stage is developed. The efficiency of the NSDP therefore reflects the excellence with which the activities of each stage are executed (Millson, 2012).

In this study, NSDP excellence thus involves the execution of an NSDP where none of the pre-established stages of the process is omitted and a minimum standard of excellence has been achieved in the execution of each stage. Accordingly, conceptually, NSDP excellence involves understanding the service innovation process as a set of stages to be efficiently completed during service innovation.

### 2.1. Drivers of NSDP excellence

#### 2.1.1. Innovative culture

Organizational culture reflects the set of norms, values, attitudes, beliefs and common behaviour patterns shared by organizational members that make up the identity of an organization (Chen, 2011). An innovative culture is defined as a part of organizational culture that ‘embodies a risk-taking, results-oriented, stimulating, challenging, and enterprising work environment’ (Hon & Leung, 2011, p. 127). From this view, an innovative culture fosters tolerance to failure, creativity and a proactive attitude in the search for new solutions and features to improve the existing services of a company following steady patterns (Wang et al., 2018; Zopiatis & Theocharous, 2018; Medina-Molina et al., 2022). Although it is widely recognized that a strong innovative culture fosters an inherent innovative attitude in organizations and some studies confirm that firms’ innovative culture enhances innovation success (Storey et al., 2016),
empirical evidence on the effects of innovative culture in service innovation is scarce (Baradarani & Kilic, 2018). Moreover, recent studies emphasize that the notion of innovative culture is a theoretical construct that does not guarantee that company intentions become effective innovation actions (Zopiatis & Theocharous, 2018). Therefore, to contribute to the understanding of the effects of innovative culture on service innovation, we analyse the impact of hotels’ innovative culture on NSDP excellence.

In this respect, hotels where innovation is institutionalized, that is, hotels that are open to the active search for innovative ideas and that continuously promote the development of innovations (Rubera & Kirca, 2012), will arguably be willing to follow steady procedures to achieve high-quality execution of the NSDP stages (Chen, 2011). In other words, hotels’ innovative culture might help deploy the abilities and tasks associated with the complete and excellent execution of all stages of the NSDP to a greater extent. Through this process, hotels can accelerate the NSDP, avoid miscommunication, benefit from previous knowledge and minimize errors and delays due to poor planning (Khan et al., 2011; Baradarani & Kilic, 2018). Consequently, we expect that a strong innovative culture in hotels will benefit NSDP excellence and thus favour continuous innovation and NS success. We therefore hypothesize the following:

**H1:** Innovative culture is positively related to NSDP excellence in hotels.

### 2.1.2. Market orientation

Market orientation reflects companies’ willingness to adopt a ‘customer-centric’ approach and develop a product and service portfolio to satisfy market needs, which generates superior value relative to the competition (Narver & Slater, 1990; Beliaeva et al., 2020). To this end, firms need to (1) acquire an in-depth knowledge of consumers’ needs, competitors’ offerings and market trends; (2) share this market intelligence within the organization; and (3) develop an organization-wide and coordinated response to deliver superior value (Kohli & Jaworski, 1990). Thus, market orientation allows firms to take advantage of market opportunities, attract new customers and retain existing customers by adapting to their needs and delivering better value on a regular basis. In this way, market orientation reinforces hotels’ competitiveness in the long term and contributes to innovation success, although empirical evidence in the service context is more limited (Alnawas & Hemsley-Brown, 2019).

However, market orientation arguably involves uncovering both the explicit and latent needs of customers, thereby providing valuable information to successfully guide innovation processes and guarantee innovation success (Hurley & Hult, 1998; Chou et al., 2020). Thus, when consumers express their desires and needs spontaneously and explicitly, these are captured by companies through reactive market orientation practices, which are implemented on a regular basis to continuously monitor the market. When customers do not display such behaviour and firms need to develop specific processes to gather information and understand how latent market needs evolve, proactive market orientation practices allow for capturing market trends and identifying new market segments (Olsen & Sallis, 2006). From this perspective, market-oriented hotels should be able to easily focus to a greater extent on
developing an excellent NSDP. First, all stages of this process are aimed at reducing the uncertainty associated with NS development, matching present and latent market requirements and avoiding NS failure (O’Connor & Rice, 2013). Second, market orientation provides a useful knowledge background and/or organizational skills to apply external knowledge and combine internal resources to achieve an excellent NSDP (Papastathopoulou & Hultink, 2012; Ozkaya et al., 2015; Chou et al., 2020). Accordingly, we hypothesize the following:

H2: Market orientation is positively related to NSDP excellence in hotels.

2.1.3. Top management support

Top management support for a service innovation project reflects top managers’ commitment to the NS, which is evidenced, first, by the allocation of sufficient funds, time, and human resources to the development process and, second, by their personal involvement in the project, adopting an active role and taking part in the innovation of day-to-day activities (van Riel et al., 2013). Top management support is among the most important success variables identified in the service innovation literature (Kuester et al., 2013; Storey et al., 2016). Thus, top management plays a key role in the proactive search for new market opportunities and employees’ preparation to take on new tasks (Vladimirov & Williams, 2018; Bin Saeed et al., 2019), i.e., contributing to the implementation of adequate innovation processes (Alam, 2012). Moreover, top management support minimizes potential conflicts among different functional areas or departments of the firm, provides cohesion to innovation efforts, and facilitates the development team’s work through the stages of the innovation process (Tajeddini et al., 2020). Accordingly, top management support is vital to effectively and rapidly develop service innovations that meet changing market needs, providing added value (Nyman, 2014). From this perspective, although this relationship has not been previously tested in the literature, we expect that strong support by top hotel managers for an NS project will facilitate the excellent execution of all the pre-established stages in the development process, that is, NSDP excellence. Therefore, the following hypothesis is proposed:

H3: Top management support is positively related to NSDP excellence in hotels.

2.2. NSDP excellence and NS performance

NS performance is measured from an internal or operational perspective and from an external or market-related viewpoint. NS internal performance refers to NS quality, a key operational outcome of the service innovation process (Santos-Vijande et al., 2016; Moreira et al., 2020). NS external performance refers to NS outcomes in the marketplace, typically measured in terms of sales, profits and market share growth (Melton & Hartline, 2013). Previous studies in the innovation literature have focused mainly on the benefits of executing each NSDP stage in isolation. In other words, previous research has not considered the effect of the excellent implementation of all NSDP stages on NS performance. Our approach in this study, however, involves conceptualizing NSDP excellence as a first-order reflective construct to „develop
alternative ways of measuring service innovation and their effect(s)” (Gustafsson et al., 2020, p. 113) and to achieve, in this way, a more holistic vision of the relevance of a structured NSDP on innovation performance.

2.2.1. NSDP excellence and NS quality
The development of a complete and structured NSDP with a high degree of excellence in each stage can reduce the complexity of the innovation process, thereby promoting adequate idea screening to ensure client fit, as well as employees’ commitment to and training for selling the NS (Melton & Hartline, 2010; Khan et al., 2011). In this respect, NS quality is conceptualized as ‘the characteristics of a service that contribute to the fulfilment of stated or implied customer needs and wants’ (Sok & O’Cass, 2015, p. 139) and is widely recognized as having two dimensions: technical (what the customer receives) and functional (how the customer receives the service) (Grönroos, 1990). Similarly, NSDP excellence involves the regular exchange of any relevant information related to NS quality, which can be translated into a superior NS design and an improved NS provision process, and it also allows for the synergistic use of resources and previous knowledge, thereby avoiding repeated failures and future customer complaints and claims (Stevens & Dimitriadis, 2005; Martovoy & Mention, 2016). Therefore, we hypothesize the following:

H4: NSDP excellence is positively related to NS quality in hotels.

2.2.2. NS quality and NS market performance
The literature provides sound empirical evidence confirming that service quality improves a firm’s market outcomes in terms of sales, profits, and market share. Achieving higher levels of perceived NS quality requires offering superior value and better service experience to the final customer, which allows a firm to charge higher prices, enlarging its profit margin (Rubera & Kirca, 2012). Perceived NS quality also allows firms to increase the attractiveness of their offers, thereby increasing their sales and market shares (Ngo & O’Cass, 2013). Hence, we posit the following:

H5: NS quality is positively related to NS market performance in hotels.

2.2.3. NSDP excellence and NS market performance
A complete and structured NSDP with careful development of each stage favours the optimization of firm resources and can help avoid delays and meet deadlines (Witell et al., 2017). The synergistic use of firm resources also avoids duplicating tasks and reduces costs, thus promoting superior NS market performance in terms of profits. Lower costs will also allow tighter pricing that can translate into increased sales and greater market share. Similarly, the benefits of NSDP excellence on project flow, allowing the development of NSs in a timely manner, can also facilitate superior NS market performance in rapidly evolving markets by satisfying market needs before the competition (Santos-Vijande et al., 2016). Consequently, it is expected that NSDP excellence will have a positive and direct effect on NS market performance in hotels. Therefore, the following hypothesis is proposed:
H6: NSDP excellence is positively related to NS market performance in hotels.

Thus, the model proposed contemplates an innovative culture, market orientation and top management support as drivers of NSDP excellence and the effect of NSDP excellence on NS performance.

3. Methodology

3.1. Sample and data collection

Hotels can be classified as economy, mid-range, high-end and luxury hotels. Following standard procedures in the research field, the present study focuses on the latter three categories of hotels (Alnawas & Hemsley-Brown, 2019), as economy hotels usually have lower professionalism, less clearly defined strategies, and fewer resources available to undertake innovation efforts (Baradarani & Kilic, 2018). These three categories of hotels represent approximately 90% of room availability and 90% of employees in the Spanish hotel industry (INE–Instituto Nacional de Estadística, 2022). Thus, following a stratified random sampling procedure, we selected 971 three-, four-, and five-star hotels from the Iberian Balance Analysis System database (SABI), maintaining the relative distribution of the total population.

Data were collected through a self-report survey. Hotel managers were selected as key informants, as they receive information from a wide variety of departments and therefore have extensive knowledge of a firm’s activities and results (Alnawas & Hemsley-Brown, 2019). We requested information about NS projects developed within the last three years. Three years is a commonly accepted period for obtaining perceptual data (Vladimirov & Williams, 2018), as it favours recall and data quality (Melton & Hartline, 2010). This time range also allows the time lag between an innovation and its effects on results to be captured (Tsai, 2001; Ortigueira-Sánchez et al., 2022). We received 133 responses (Table 1) from hotels that followed a complete and excellent NSDP. The lack of differences in the data provided by early and late respondents suggests that non-response bias is not a major concern in this study. We controlled for common method variance ex-ante (through study design) and ex-post using Harman’s single-factor test. The results show that the majority of the variance was not captured by one factor.

Most of the hotels described the NSDP of a radical innovation (76 hotels, 57.14%). Radical innovations include totally new-to-the-market services, i.e., services totally new that offer completely new features compared to competitive services and/or radically involved NS provision processes using new technologies, while incremental innovations include service modifications and service line extensions (Alam, 2006; Snyder et al., 2016). These data suggest the increasing importance of radical innovation in the hotel industry in accordance with the rapid pace of technological change and tourists’ needs.

3.2. Measurement scales

We used multi-item scales to measure the constructs under analysis (Table 2). The items on the scales were scored on a 7-point Likert scale ranging from 1 = strongly
disagree to 7 = strongly agree. The excellence of execution of the NSDP stages was also measured on a 7-point Likert scale ranging from 1 = null excellence to 7 = high excellence. The minimum excellence achieved in the execution of each NSDP stage by the sample firms was five, above the middle point of the 7-point Likert scale. There is no consensus in the literature regarding the configuration of an NSDP or the number of stages that must be included (Alam, 2006). With these issues in mind, we considered six key stages of NSDPs: idea generation, idea selection, business analysis, service design, market test, and market launch. This choice was inspired by the work of Melton and Hartline (2010), Carbonell et al. (2012), and Martovoy and Mention (2016). The sample hotels indicated that they had executed each of these stages. In this study, NSDP excellence is considered a first-order reflective factor since this concept is conceptualized as the excellent completion of all stages established in the NSDP.

Innovative culture is measured following Hurley and Hult (1998) scale. To measure market orientation, we used the scale developed by Olsen and Sallis (2006). The scale reflects the proactive marketing practices of a hotel and aims to identify the latent needs of current and potential customers, future market trends, and the hotel’s reactive marketing practices, which focus on understanding the current needs of tourists and offering services that meet these needs. Top management support, or the extent to which senior management backs NS development, is measured based on van Riel et al. (2013).

NS quality was measured from a technical and functional viewpoint, analysing the extent to which the NS delivers superior customer value and the NS provision process minimizes failures and is performed in a way superior to that of competitors (Menor

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### Table 1. Profile of the sample firms (n = 133).

<table>
<thead>
<tr>
<th>Category of establishment</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-range</td>
<td>54</td>
<td>40.60</td>
</tr>
<tr>
<td>High-end</td>
<td>69</td>
<td>51.88</td>
</tr>
<tr>
<td>Luxury</td>
<td>10</td>
<td>7.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size of the hotel (number of employees)</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15</td>
<td>41</td>
<td>30.83</td>
</tr>
<tr>
<td>16-30</td>
<td>31</td>
<td>23.31</td>
</tr>
<tr>
<td>31-60</td>
<td>32</td>
<td>24.06</td>
</tr>
<tr>
<td>61-120</td>
<td>20</td>
<td>15.04</td>
</tr>
<tr>
<td>121-500</td>
<td>9</td>
<td>6.76</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target market</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>72</td>
<td>54.14</td>
</tr>
<tr>
<td>International</td>
<td>61</td>
<td>45.86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer strategy</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure</td>
<td>91</td>
<td>68.42</td>
</tr>
<tr>
<td>Business</td>
<td>35</td>
<td>26.32</td>
</tr>
<tr>
<td>Both</td>
<td>7</td>
<td>5.26</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Quality certification</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>77</td>
<td>57.89</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>42.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respondents’ years working in the hotel</th>
<th>Frequency</th>
<th>Valid percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>60</td>
<td>45.11</td>
</tr>
<tr>
<td>5 to 10</td>
<td>45</td>
<td>33.83</td>
</tr>
<tr>
<td>11 to 20</td>
<td>16</td>
<td>12.03</td>
</tr>
<tr>
<td>More than 20</td>
<td>12</td>
<td>9.02</td>
</tr>
</tbody>
</table>

Source: the authors.
et al., 2002; Carbonell et al., 2012). NS market performance concerns NS sales, market share, and profits relative to firm objectives since relative measures facilitate the comparison of different innovation projects (Ngo & O’Cass, 2013; Santos-Vijande et al., 2016). Finally, this study considers firm size as a control variable (Hernández-Perlines et al., 2020), measured as the natural logarithm of the number of employees and sales turnover (Tsai, 2001). These control variables are expected to have direct effects on the endogenous latent variables included in the model, as previous literature confirms the relationships between firm size, financial resources and innovation management (Frank et al., 2019).

3.3. Data analysis

The conceptual model is tested as a system of partial least squares of structural equation modelling (PLS-SEM) using SmartPLS v3.2.8 software. There are two reasons that support this approach (Hair et al., 2017) commonly accepted in the innovation field (Al-Omoush et al., 2022; Ortigueira-Sánchez et al., 2022). First, PLS-SEM shows higher statistical power than covariance-based SEM for complex models with limited

<table>
<thead>
<tr>
<th>Table 2. Measurement models.</th>
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</thead>
<tbody>
<tr>
<td>Factor/Items</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>Innovative culture</strong></td>
</tr>
<tr>
<td>Innovation proposals are welcomed in the hotel</td>
</tr>
<tr>
<td>Hotel management actively seeks innovative ideas</td>
</tr>
<tr>
<td>Innovation is a fundamental part of our hotel culture</td>
</tr>
<tr>
<td><strong>Market orientation</strong></td>
</tr>
<tr>
<td>We detect the kind of services our customers want</td>
</tr>
<tr>
<td>In the market, we track trends in service features</td>
</tr>
<tr>
<td>Compared to our competitors, we have much more information about new market trends in the hotel industry</td>
</tr>
<tr>
<td>Compared with our most important competitors, in our service development process, we are much more concerned with discovering new customer segments</td>
</tr>
<tr>
<td><strong>Top management support</strong></td>
</tr>
<tr>
<td>The hotel’s top management was actively involved in the daily management of the project</td>
</tr>
<tr>
<td>The hotel’s top management allocated the necessary resources (human, financial, and physical) for NS development</td>
</tr>
<tr>
<td><strong>NSDP excellence</strong></td>
</tr>
<tr>
<td>Idea generation</td>
</tr>
<tr>
<td>Idea selection</td>
</tr>
<tr>
<td>Business analysis</td>
</tr>
<tr>
<td>Service and process development</td>
</tr>
<tr>
<td>Market test</td>
</tr>
<tr>
<td>Market launch</td>
</tr>
<tr>
<td><strong>NS quality</strong></td>
</tr>
<tr>
<td>The NS causes hardly any incidents (complaints, claims …)</td>
</tr>
<tr>
<td>The quality of the NS provision process is better than the competition’s</td>
</tr>
<tr>
<td><strong>NS market performance</strong></td>
</tr>
<tr>
<td>The NS has exceeded the success targets set by the hotel</td>
</tr>
<tr>
<td>The NS has exceeded market share goals</td>
</tr>
<tr>
<td>The NS has exceeded sales targets</td>
</tr>
<tr>
<td>The NS has exceeded profit targets</td>
</tr>
</tbody>
</table>

NS = new service; NSDP = NS development process.

Source: the authors.
sample sizes. Thus, to reinforce the confidence of our findings, we conducted a post hoc power analysis using the G*Power 3 statistical package, which revealed that the power value for the structural model was above the accepted cut-off of 0.80. Second, there is no need for the dataset to follow a normal distribution, as PLS-SEM makes no distributional assumptions (nonparametric technique). Following the methodological procedures suggested by Hair et al. (2017), a two-stage analysis was performed: first, we assessed the measurement model results, and then, we tested the structural model.

4. Results

According to traditional and more recent recommendations, adequate psychometric properties of the measurement model were observed. Table 2 shows that all loadings are above the 0.7 threshold, and the associated t-statistic indicates statistical significance. This significance is provided by means of a bootstrap resampling method of 5,000 subsamples (Hair et al., 2017). Both the average variance extracted (AVE) and the composite reliability index (CR) values range from 0.669 to 0.923 and from 0.857 to 0.960, respectively, indicating satisfactory reliability for the latent variables. To examine discriminant validity, we check the Fornell-Larcker criterion (Fornell & Larcker, 1981) and the heterotrait-monotrait (HTMT) ratio (Hernández-Perlines et al., 2020). Current studies suggest the use of the HTMT ratio, as this criterion has been established as superior to more traditional assessment methods. HTMT values below the conservative threshold of 0.85 suggest discriminant validity (Table 3).

The criteria employed to accept the coefficient of determination (R2) are taken from Falk and Miller (1992); therefore, for each dependent variable, R2 is not below 0.10. Regarding the Stone-Geisser criterion (Q2) values, the range of values is between 0.126 and 0.267, which indicates acceptable levels of predictive relevance. In addition, the global criterion of goodness-of-fit (GoF) (Tenenhaus et al., 2005) is considered large (0.479) and thus suggests that the model performance is satisfactory.

Concerning the hypothesized relationships, the results indicate (Figure 1) that innovative culture (H1; 0.223, t-value = 1.833), market orientation (H2; 0.214, t-value = 2.234) and top management support (H3; 0.322; t-value = 3.666) have a positive and significant impact on NSDP excellence in service firms. As expected, NSDP excellence favours superior NS quality (H4; 0.444, t-value = 6.508), which, in turn, reinforces NS market performance (H5; 0.402, t-value = 4.852). Finally, contrary to our expectations, there is no significant relationship between NSDP excellence and NS market performance (H6; 0.102, t-value = 0.992). As complementary results of

Table 3. Discriminant validity (HTMT85 criterion).

<table>
<thead>
<tr>
<th>Innovative culture</th>
<th>Market orientation</th>
<th>Top management support</th>
<th>NSDP excellence</th>
<th>NS quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative culture</td>
<td>0.736</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market orientation</td>
<td>0.667</td>
<td>0.574</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top management support</td>
<td>0.642</td>
<td>0.599</td>
<td>0.625</td>
<td></td>
</tr>
<tr>
<td>NSDP excellence</td>
<td>0.610</td>
<td>0.521</td>
<td>0.727</td>
<td>0.560</td>
</tr>
<tr>
<td>NS quality</td>
<td>0.364</td>
<td>0.333</td>
<td>0.297</td>
<td>0.320</td>
</tr>
<tr>
<td>NS market performance</td>
<td>0.549</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS = new service; NSDP = NS development process.
Source: the authors.
these analyses, it is worth noting that NSDP excellence exerts an indirect effect on NS market performance through NS quality (indirect effect $= 0.179$, t-value $= 4.205$).

Related to the control variables, only the number of employees has a significant effect on NS market performance ($\text{number of employees} \to \text{NS market performance}$) (0.312; t-value $= 2.639$).

### 4.1. Robustness analysis

To confirm the robustness of our theoretical framework and the stability of the empirical results, we performed a multi-group analysis considering the two broad types of innovations developed by hotels: radical vs. incremental innovations. Multi-group analysis determines whether differences between group-specific path coefficients are significantly different (Hair et al., 2017). In this respect, it remains underexplored whether drivers and effects (Ortigueira-Sánchez et al., 2022) of service innovation success differ across innovation types, such as incremental versus radical innovation, although radical innovation is more complex than incremental innovation and involves more difficult and uncertain development processes (Snyder et al., 2016).

To provide confidence in the results of the multi-group analysis, we considered two different nonparametric methods that represent the most conservative technique...
for PLS-SEM: the permutation test and the PLS-MGA test. Table 4 illustrates the results using 5,000 bootstrap resamples and 5,000 permutations. The results of multi-method multi-group analysis reveal significant differences only between radical and incremental innovations with respect to the effect of NSDP excellence on NS quality.

The direct and positive effect of NSDP excellence on NS quality is stronger in the development of incremental innovations (path coefficient $= 0.605$; t-statistic $= 7.935$) than in that of radical innovations (path coefficient $= 0.306$; t-statistic $= 1.992$). The remaining relationships in the research model are consistent independent of the innovation type (radical vs. incremental) considered.

5. Discussion

The NSDP is acknowledged as a key determinant of NS success. NSDP excellence is critical to achieving NS success because it reduces the inherent uncertainty associated with innovation efforts, which is related to the market acceptance of an NS, the availability of the resources required to develop the NS, and the organizational commitment to the NS (O’Connor & Rice, 2013). Although a few studies have analysed how to improve the execution of certain stages of the NSDP (Melton & Hartline, 2010, 2013), this study contributes to the innovation and tourism management literature by identifying some of the potential forerunners of the overall NSDP excellence in hotels and its impact on service innovation performance (Kitsios & Kamariotou, 2020).

The results indicate that hotels’ innovative culture and market orientation are important factors in guaranteeing the completeness and quality of execution of an NSDP. Therefore, a hotel’s willingness to provide superior value to its customers has important implications for innovation activity in terms of fostering not only the hotel’s innovation capability or NS success, as previous studies indicate (Ozkaya et al., 2015), but also the quality of NSDP execution. Similarly, an innovative culture also benefits NSDP excellence, which means that, in practice, cultural values can affect an organization’s behaviour in service innovation (Zopiatis & Theocharous, 2018), although this relationship is weaker than the effect exerted by market orientation. The impact of top management support on NSDP excellence, however, is greater than the effect of innovative culture and market orientation. Our results, therefore, reinforce the key role of the individual capabilities of managers in charge of service innovation in affecting the NSDP while highlighting the role of organizational capabilities, such as hotels’ market orientation, and the relevance of hotels’ culture in the process. In this way, we merge different research themes in service innovation success to provide a wider picture of how and why an excellent NSDP takes place (Moreira et al., 2020).

The results also confirm that NSDP excellence enhances NS operational performance in terms of NS quality, but NSDP excellence does not directly contribute to the external or market performance of an NS. However, the indirect effect of NSDP excellence on NS market performance through NS quality is positive and significant, which suggests that the quality of execution of a complete NSDP is insufficient by itself to guarantee better market performance of a service innovation unless the NS meets market quality expectations.
5.1. Theoretical and managerial implications

This paper presents a new way of measuring NSDP excellence and makes three main theoretical contributions. First, to the best of our knowledge, organizational-level and project-level success factors are studied together for the first time as antecedents of NSDP excellence. Second, this paper sheds light on the positive effects of conducting structured and planned NSDPs. Third, it highlights the existence of disruptive innovation in the service field and, through a multi-group analysis, corroborates the strength of the relationships proposed in the model regardless of the degree of innovation.

This paper also has managerial implications. Companies must avoid mistakes made under previous crises, such as reducing their innovative activity or the degree of novelty of their offerings (Rašković et al., 2012). More than ever, in light of the profound transformation that the sector will undergo after the COVID-19 pandemic (Skare et al., 2021), managers in the hotel industry must be aware of the importance of a formalized NSDP and the need to achieve excellence in executing all NSDP stages to ensure NS success. Thus, to avoid high failure rates in service innovation and guarantee NS quality and market success, hotel managers should focus on the implementation of all NSDP stages and the satisfactory execution of the tasks associated with each stage. In this respect, hotel managers must also be aware that an excellent NSDP requires continuous involvement in project management (reviewing progress and task priorities, making go/kill decisions) and adequate access by the project team to the required resources and time. Accordingly, the results in this study show that top management support for the NS project is the most important driver of NSDP excellence.

In the endeavour to achieve NSDP excellence, hotel managers must also guarantee an adequate organizational climate open to innovation and to new ideas promoting the hotel’s innovative culture. The effort to improve the NSDP should extend to all areas of the hotel, including front-office processes related to behaviour outside the hotel (reception, reservations, etc.), and back-office processes (administration, accounting, personnel, etc.). Building on hotels’ innovative culture, hotel managers should also positively value employees’ proactive participation in the development of service innovations to achieve NSDP excellence. Similarly, hotel managers must foster a customer-centric approach in hotel operations, seeking to fulfil market requirements in the long and short term. Both factors, hotel innovative culture and market orientation, help guarantee an excellent NSDP and optimal NS performance in the hotel industry.

5.2. Limitations and future research

The present results should be interpreted considering the limitations of the study. First, we used cross-sectional data. Second, the data reflect the perceptions of a single key informant and refer to subjective measures of NS market performance. Thus, future research will benefit from considering multiple informants and objective measures of NS market performance. Future studies should also consider alternative indicators of NS operational performance, such as NS development speed or agility to
improve the time to market; the impact of alternative strategic orientations and organizational capabilities on NSDP excellence, e.g., entrepreneurial orientation or organizational ambidexterity (Liou et al., 2019; Beliaeva et al., 2020; Chou et al., 2020; Kusa et al., 2021); and the potential implications on the NSDP excellence of a sustainable business model (Pan et al., 2022). These results stress the need to develop a complete and proficient NSDP. Some studies discuss the benefits of non-linear development processes and the limitations of formalization in terms of creativity, learning and radicalness (Witell et al., 2017). We do not refute non-linearity, which is not contradictory to the neat identification of NSDP stages, but future research should explore the suitability of alternative configurations of the NS development model in the hospitality industry, as most evidence thus far is based on financial services (Kitsios & Kamariotou, 2020). Similarly, given the distinct sensibility of the hospitality industry to changing environmental conditions, considering the effect of market competitiveness, economic crisis or technological uncertainty as potential moderators in the relationships depicted in our conceptual model deserves further analysis. Several researchers appreciate performance differences between technological and non-technological innovations (Škare & Porada-Rochon, 2022) associated with diverse levels of technology adoption (Frank et al., 2019) that might be examined from the NSDP excellence view. Some of these differences could be based on size—SME vs. larger companies—(Vendrell-Herrero et al., 2017) or ownership—family vs. non-family firms—(Škare & Porada-Rochon, 2022). Future studies could investigate how the current new work trend (Bouncken et al., 2022)—home offices, coworking spaces, and hybrid multilocal work—influences NSDP excellence and the recently highlighted collaborative innovation drivers as social capital or collective intelligence (Al-Omoush et al., 2022). On the other hand, several studies in the field of innovation and entrepreneurship reflect how decision-making is not always a rational process (Metallo et al., 2021). Differences are observed between intentions or beliefs and actual behaviour (Armuña et al., 2020; Belchior & Lyons, 2021). This gap should also be considered in future studies.

6. Conclusion

This study contributes to the literature on service innovation by identifying the drivers of excellence in the NSDP. Market orientation, innovation culture, and top management support are determining factors in achieving NSDP excellence, although top management support is the most important driver. These effects do not depend on the degree of novelty of the new service and are analogous for both incremental and radical new service projects.

The implementation of NSDP without omitting any of the planned stages and ensuring excellence in the execution of each stage, i.e., NSDP excellence, is a guarantee of the quality of the NS, which, in turn, benefits the market performance of the new service. NSDP excellence does not guarantee by itself NS market performance unless the NS meets market quality expectations. The direct and positive effect of NSDP excellence on NS quality is stronger in the development of incremental innovations than in the development of radical innovations.
Notes

1. An innovative culture study is also facilitated by the entrepreneurship strategy literature (Medina-Molina et al., 2022), being considered a main component of entrepreneurial orientation.

2. We also received 123 surveys from hotels that had not executed all the stages considered in this study. The average number of stages developed in those hotels that do not execute a complete NSDP is 3.75. The stages that are more frequently skipped when an NSDP is not completed are market test (omitted in 78.0% of cases), formal service and process development (29.3%) and business analysis (25.2%). Additionally, in line with previous findings, hotels that implement an incomplete NSDP achieved significantly lower values in all the NS performance indicators considered in the study (NS quality and NS market performance, 99% confidence level).

Disclosure statement

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