



Validation of a design orientation scale in the trade and tourism sectors and assessment of its impact on firms' performance

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Abstract

The aim of this paper is to validate a multidimensional measurement of design orientation and test its links with marketing design integration and competitive advantage in trade and tourism companies. Structural equations modelling was used to analyse data from 421 service firms. The results show that design orientation helps firms to achieve a competitive advantage and thus improve their relationship with service users and their business effectiveness. This study provides trade and tourism firms with an instrument to accomplish design orientation by assessing its constituent dimensions.

Keywords Design orientation · Marketing design integration · Competitive advantage · Differentiation

1 Introduction

Service design is growing in importance and has become a crucial capability for businesses to survive in a service-dominant economy (Brown et al. 2009; Andreassen et al. 2016). Academic interest has traditionally focused on product design (Esfahlan and Valilai 2019; Chen 2022), but consumers spend more on services

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than on manufactured goods. In response to this reality, more and more companies are increasingly investing in the design of services. Lego is a good example of a manufacturing company that is aware of the dominance of service and innovates by designing entertainment services. It has opted to create Legoland parks and open stores in many parts of the world so that visitors can live the Lego experience. Thus, the dividing line between products and services is blurring, giving way to organizations whose offers are better explained in terms of product-service continuums.

The implementation of design in services creates customer experiences (Andreasen et al. 2016) and guides the development of new services through service-dominant logic (Vargo and Lusch 2004; Yu and Sangiorgi 2018), in which clients integrate their resources (knowledge and skills) with those of the service provider to achieve an objective that is relevant to both. However, research on the implementation of design in service firms in terms of capabilities, practices and skills is scarce (Karpen et al. 2017; Willmott et al. 2022).

The urgent need for research on the implementation of design in service companies is recognized by several authors (e.g., Furrer et al. 2020; Paula et al. 2021; Donthu et al. 2022). However, academic research does not attribute the same importance to design as the profession itself (Veryzer and Borja de Mozota 2005; Reibstein et al. 2009); from the professional and political spheres, prestigious design organizations are promoting the use of tools to measure design and its impact. Noteworthy examples include the fifth recommendation of the European Design Leadership Council (European Commission 2012) and the call to action on design metrics of the Montreal Design Declaration (World Design Summit Organization Inc. 2017). Micheli et al. (2018) highlight the need to study the ways in which design contributes to strategy and adds value, and the competitive conditions in which its contribution becomes critical. Luchs et al. (2016) highlight the opportunity for researchers to explain how design capabilities are generators of competitive advantage.

The role of design in businesses has undergone a transformation, shifting from an industrial focus to a multidimensional and multidisciplinary approach. It has transitioned from being confined to the realm of designers to becoming integrated into all levels of corporate management (Selinšek et al. 2021; Chen 2022). Recent studies focus on the concept of “design orientation”, which we define as a strategic management approach based on choosing design as a source of competitive advantage (Venkatesh et al. 2012; Rocco and Pisnik 2016) that implements design thinking in its corporate culture (Calabretta et al. 2008; Venkatesh et al. 2012; Rocco and Pisnik 2016). This concept encompasses both the behavioural aspects of design management and cultural aspects of design thinking (Moll et al. 2007; Calabretta et al. 2008; Venkatesh et al. 2012; Chen and Venkatesh 2013; Rocco and Pisnik 2016; Rocco and Selinšek 2019; Selinšek et al. 2021). Despite the potential of design orientation to improve the design process and firms’ competitive advantage, to the best of our knowledge, all the aforementioned studies have focused on the development of tangible products, with the exception of Selinšek et al. (2021). The work by Selinšek et al. (2021), a pioneer in the field of services, confirms the indirect impact of design orientation on company performance through customer orientation. It also provides evidence that the influence of design orientation on customer orientation is mostly indirect and occurs through the implementation of design. However, these

authors do not consider the antecedents of design orientation, nor do they correlate it with competitive advantage.

Based on the above-mentioned research gap and the strategic importance of design in the field of services, the aim of this study is to suggest design orientation as a successful approach in the service design process. To this end, first, we define design orientation as a multidimensional construct that enriches the concept of design management; second, we validate a scale to capture the concept of design orientation; and third, we test its links with marketing design integration as an antecedent and with competitive advantage as a consequence.

With this aim in mind, the relevant literature on this topic is reviewed in the next section and the hypotheses used are presented to construct a design orientation-centred model in service firms. Then, the research methodology is described based on the information provided by 421 Spanish companies in the service sector, specifically trade and tourism. Finally, the results, conclusions and future lines of research are presented.

2 Literature review and development of hypotheses

Different studies have demonstrated the existence of a relationship between design and the improvement of business performance (Candi and Gemser 2010; Fernández-Mesa et al. 2013; Roper et al. 2016; Andreassen et al. 2016; Dell’Era et al. 2018). Literature has identified the use of design through aspects such as the level of investment in design (Swan et al. 2005; Chiva and Alegre 2009), design management (Borja de Mozota 2002; Chiva and Alegre 2009; Fernández-Mesa et al. 2013) or design orientation (Cantó-Primo et al. 2021a; 2021b; Selinšek et al. 2021), among others. In this research, focusing on the service sector, we chose to retain the “design orientation” construct because it is a broader concept that considers both the behavioural aspects of design management and the cultural aspects of design implementation (Borja de Mozota 2002; Moll et al. 2007; Calabretta et al. 2008; Venkatesh et al. 2012; Chen and Venkatesh 2013; Rocco and Pisknik 2016; Cantó-Primo et al. 2021a; 2021b). The following sections describe its theoretical definition in greater detail, framing it within the context of service design.

The idea of designing services was introduced in the service marketing literature by Shostack (1984) in the context of service blueprint design. Service design is a process that defines and builds customer experiences. It is an iterative, creative, and human-centred process that structures evidence, places, processes, and interactions to create holistic service experiences (Ostrom et al. 2010; Chen 2022). The service design notion has evolved from a narrow meaning as the specification of service attributes to a comprehensive concept covering the whole process of service development; it relies on multiple disciplines and builds heavily on design thinking (Joly et al. 2019; Kurtmollaiev et al. 2018; Lim et al. 2019). The efficient implementation of design in service enterprises in terms of skills, practices and competencies is a challenge; design orientation would be a valid approach to guide companies in the process of service design.

2.1 Design orientation

Design orientation provides added value for the customer and impacts on the company's success in the market (Selinšek et al. 2021). It is focused on fulfilling customer expectations and encompasses the seamless integration of various facets of service design at different organizational levels. It consists of deliberate, thoughtful, and inventive approaches to conceiving, planning, and crafting products and services with the aim of generating enhanced value for customers. This, in turn, empowers them to attain heightened levels of satisfaction, extending beyond mere functionality to encompass emotional and social dimensions (Venkatesh et al. 2012; Selinšek et al. 2021). A design-oriented company integrates design thinking into its corporate culture (Calabretta et al. 2008; Venkatesh et al. 2012; Rocco and Pisnik 2016) and strategically manages design as a source of competitive advantage (Borja de Mozota 2002; Venkatesh et al. 2012; Rocco and Pisnik 2016). Design thinking considers service design as an exploratory process to understand service problems and opportunities (Kimbell 2011), based on a human-centred, holistic, creative and iterative approach to creating service innovations (Meroni and Sangiorgi 2011), while providing the mindset to creatively envision future new services (Blomkvist et al. 2010; Willmott et al. 2022). The implementation of design thinking forges a design culture in the company that implies a specific attitude towards design with the following characteristics: including the use of design sensibility (Venkatesh et al. 2012), promoting the use of user profiles (Venkatesh et al. 2012; Chen and Venkatesh 2013; Luchs et al. 2016), encouraging collaborations (Borja de Mozota 2002; Chen and Venkatesh 2013; Luchs et al. 2016), using brand image to establish a design language (Verganti 2008; Chen and Venkatesh 2013; Luchs et al. 2016), and having a competitive orientation (Borja de Mozota 2002; Moll et al. 2007; Chen and Venkatesh 2013). The multidimensional nature of design orientation is approached from this perspective; it is treated as a strategic management approach in which design is viewed as a source of competitive advantage and that integrates design thinking into corporate culture (Cantó-Primo et al. 2021a). Thus, aligned with this perspective, the literature identifies seven dimensions that make up this construct, and that have been tested in the field of the durable goods industry: (1) awareness of the benefits of design; (2) design sensibility; (3) basic design skills; (4) specialized design skills; (5) involving others; (6) organizational change; and (7) innovation skills (Cantó-Primo et al. 2021a; b). These dimensions capture the behavioural and cultural aspects of design management and implementation. Thus, awareness of the benefits of design is measured according to the importance companies attach to design and its benefits (Kootstra 2009; Borja de Mozota 2002); design sensibility refers to the skills of tacit design knowledge (Borja de Mozota 2002); basic design skills involve managing the core activities of the design process in order to achieve good design (Dickson et al. 1995), the ability to communicate the benefits of the offer to consumers (Borja de Mozota 2002) and to establish a design language (Chen and Venkatesh 2013); specialized design skills refer to the ability to manage certain specialized activities required for the design process (Dickson 1995; Fernández-Mesa et al. 2013), among which service modelling is considered fundamental; involvement of others implies involving customers and suppliers in the design process to

discover new solutions through customers; design organization is the ability to manage change in the process of service design and in co-design within multifunctional teams (Dickson 1995; Fernández-Mesa et al. 2013); innovation skills refer to the ability to manage innovation and provide the organization with resources (Swan et al. 2005; Cantó-Primo et al. 2021a).

2.2 Marketing design integration as precursor of design orientation

In the new service development process, the marketing function is responsible for providing the design function with information on the market, while the design function focuses on the meanings that people give to products and services (Verganti 2008). In the design of services, customer–producer interaction is highlighted as a key factor in the success of services innovation (Carbonell et al. 2012; Alam 2011); Alam and Perry (2002) propose the formation of cross-functional teams to cooperate in the service design. The way in which marketing and design capabilities are integrated in a service design process is key to creating offers that generate meaning and fuel enthusiasm in the target audience (Hemonnet-Goujot and Manceau 2012).

Lamore et al. (2013) consider the integration of marketing design as a critical capability of the organization and define it as the degree of communication, information sharing, and collaboration between the functions during the new product development process. In line with Lamore et al. (2013) and applying it to our context, we defined marketing design integration in the development of services such as the degree of communication, and the exchange of information and collaboration between the marketing and design functions during the service design process. The tension between marketing and design functions is necessary since the strategic implementation of the knowledge of one function in the other improves results in the development of new offers (Beverland 2005; Beverland et al. 2016). Bruce and Daly (2007) found that marketing design integration was necessary to ensure effective design management activities and processes. Thus, the first hypothesis in this study could be formulated:

H1 Marketing design integration during the service design process has a direct and positive influence on design orientation.

2.3 Consequences of design orientation

The strategy employed in the service design process provides direction to the innovation efforts of a company (Huang and Li 2017) and lays the foundations on which to coordinate the achievement of competitive advantage (Porter 1985). Resource-based competitive advantage theory identifies good design management as a source of competitive advantage (Hertenstein et al. 2005; Calabretta et al. 2008).

Design-oriented companies use design principles when designing a service to improve and innovate customer experiences (Patrício et al. 2011; Ostrom et al. 2015; Karpen et al. 2017). This customer experience is considered in services

literature as the cornerstone of competitive advantage (Gartner 2014; Homburg et al. 2017; Karpen et al. 2017).

Competitive advantage in differentiation is defined as the characteristics or attributes of a product which are capable of delivering significant and unique benefits for end users and conferring value superior to that of a company's immediate competitors (Cooper 1994). In the realm of service design, a company builds and uses its resources to offer its customers better value than its competitors to generate a sustainable competitive advantage (Esfahlan and Valilai 2019). Perceived efficiency in the development of new services is defined as a company's perception of its ability to achieve objectives (Balabanis et al. 1997) and success with new solutions (Cooper 1979).

Different researchers have shown that a relationship exists between investing in design and improving business results (Gemser and Leenders 2001; Hertenstein et al. 2005; Dell'Era et al. 2018), as well as between design management at a strategic level and better business performance (Dell'Era et al. 2018). Good design management is a source of competitive advantage (Selinšek et al. 2021), and the use of an appropriate service design can help companies ensure that customer needs are well integrated into the service development process (Andreassen et al. 2016). Jaggi and Bhushan (2020) suggest that a design-thinking firm that conceives service design as a continuous process of knowledge integration is capable of achieving sustainable competitive advantages.

The literature contains empirical evidence demonstrating that correct design management positively impacts design effectiveness (Ahire and Dreyfus 2000), product innovation results (Fernández-Mesa et al. 2013), the competitive position of companies (Gemser and Leenders 2001), the success of new products (Swan et al. 2005) and firm performance (Chiva and Alegre 2009).

These lines of argument allow the following hypothesis to be proposed:

H2 *Design orientation directly and positively influences competitive advantage in differentiation.*

It has been reported that design does not contribute directly to the improvement of corporate performance but rather through the competitive position of the company with respect to its competitors (Gemser and Leenders 2001; Hertenstein et al. 2005). According to resource-based competitive advantage theory, competitive advantage is considered an antecedent of the results obtained with new products (Atuahene-Gima and Wei 2011) and business returns (Li and Calantone 1998). As early as 1979, Cooper considered competitive advantage to be the most important ingredient in successful solutions. Success in service design is linked to a company's ability to provide unique and differentiated services (Syson and Perks 2004). From a holistic perspective, service design uses prototypes as creative tools to create high-quality customer experiences (Yu and Sangiorgi 2018). In this connection, successful services give the company a reputation and help enhance customer satisfaction and loyalty; i.e., they improve the performance of the relationship with the end user (Morgan et al. 2004). Thus, the third hypothesis in this study could be formulated:

H3 *Competitive advantage in differentiation has a direct and positive influence on the performance of the relationship with the end user.*

Perceived effectiveness in the service design process is related to the success of new services, as well as company survival. Perceived effectiveness as a psychosocial outcome variable (Fisher et al. 1997) assesses the impact of strategy on results (Balabanis et al. 1997). Therefore, competitive advantage in differentiation is expected to favour perceived effectiveness, in such a way that this advantage favours the success of new products (Cooper 1979) and the achievement of business objectives, as well as overall satisfaction with the activity in service companies. Thus:

H4 *Competitive advantage in differentiation directly and positively influences perceived effectiveness.*

Thus, based on all the proposed hypotheses, the model presented here (see Fig. 1) proposes design orientation as a central construct in service companies, considering that market orientation and marketing design integration are drivers of design orientation development in companies and the subsequent improvement of results.

3 Methodology

Our research hypotheses were contrasted with data obtained via a survey. Field work was carried out between September and October 2021 by means of a questionnaire administered by telephone. The population under study comprised small and medium-sized enterprises (SMEs) with over 10 employees in the Spanish trade and tourism service sectors which are actively involved in user-oriented design. To ensure the selection of appropriate firms and key informants, two screening questions were implemented before the questionnaire. The first question aimed to determine whether the company consciously incorporates user-design practices. The

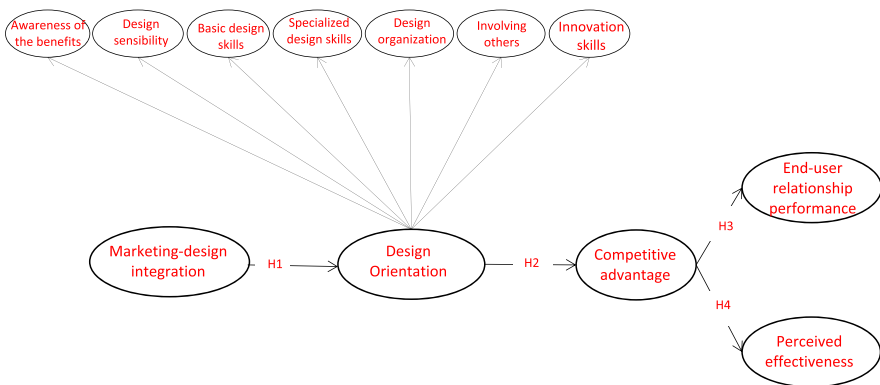


Fig. 1 Theoretical model

second question sought to identify the key informant, i.e., the person qualified to respond to the questionnaire. The key informant had to be the individual responsible for making design-related decisions within the company. In most instances, this individual held the position of either design manager or marketing manager. Prior to commencing the interview, these managers received a briefing outlining the primary objectives of the study.

SMEs are the backbone of the Spanish economy. The number of SMEs with more than 10 employees is 178,827, of which 120,936 are in the service sector (MINCO-TUR 2019). Notably, the trade and tourism sectors were chosen due to their significant contributions, constituting 28% and 14% of SMEs, respectively. Although not intended to represent the entire service sector, the combined presence of these sectors encompassed 58.6% of the total of service sector firms.

To ensure comprehensive representation, a quota sampling method was applied within each sector, considering subsectors or activities defined by the National Classification of Economic Activities (CNAE). For example, companies in the commerce sector included retail, wholesale, and repair and sale of vehicles, while the tourism sector included transportation, accommodation, restaurants, travel agencies, and museums, among the main ones. Following this sampling procedure, 421 valid questionnaires were obtained, with 220 companies from the trade sector (52%) and 201 companies from the tourism sector (48%). In terms of the type of activity performed, 91% were in the B2C sector and 9% were in B2B. In terms of internationalization, 14% of the enterprises exported, with an average percentage of international sales of 38%. Adding to the validity of our sample, the companies taking part in the study were distributed throughout the country.

The process of constructing the questionnaire began with a review of the literature to identify the most appropriate scales for measuring the constructs addressed in the model (see Table 1). The wording of the items was then slightly adapted to the service sector. The central construct of the study—design orientation—was operationalized as a second-order factor, integrated by seven (7) dimensions and twenty (20) items, based on the adaptation to the service sectors of the design orientation scale proposed by Cantó-Primo et al. (2021a). The remaining constructs were measured using one-dimensional scales, in accordance with the contributions of key authors in their conceptualization and studies that have incorporated essential aspects of design. All the items were measured by assessing the level of agreement using seven-point Likert scales.

In order to keep the correct meaning of the original scales, the questionnaire was first drafted in English, and then translated into Spanish. Secondly, the questionnaire was translated back into English to ensure that there were no inconsistencies between the two versions of the questionnaire. A pre-test of the questionnaire was carried out with nine companies to assess the wording and comprehension of the items.

The data were analysed using SPSS 26 to obtain statistics prior to the estimation of the model, and AMOS 22, for the confirmatory factor analysis and the estimation of the structural equations model. These are powerful and user-friendly statistical software packages developed by IBM that have reached global acceptance (Hair et al. 2014; Dash and Paul 2021). AMOS is specifically designed to estimate

Table 1 Confirmatory factor analysis

Constructs and indicators	Standardized coefficient	t-value
Marketing-design integration ($\alpha = 0.988$; AVE = 0.91; CR = 0.99) Li and Calantone (1998)		
We communicate regularly	0.940	25.772
We regularly share information on customers	0.939	25.680
We regularly share information about competitors' services and strategies	0.927	25.114
Market knowledge and design knowledge are fully integrated	0.973	27.465
Marketing and design cooperate in establishing new service development goals and priorities	0.971	27.330
We fully cooperate in generating and screening new service ideas and testing concepts	0.973	27.446
Marketing and design cooperate in evaluating and refining new services	0.969	27.203
Marketing and design are adequately represented in our service development team	0.940	25.718
Competitive advantage ($\alpha = 0.840$; AVE = 0.668; CR = 0.87) Ling-Yee and Ogunmokum (2001); Tan and Sousa (2015)		
Design unique services	0.860	21.246
Create image difference for services	0.905	22.994
Brand awareness	0.710	16.174
End-user relationship performance ($\alpha = 0.832$; AVE = 0.526; CR = 0.82) Morgan et al. (2004)		
Reputation of your company	0.686	13.384
End-user customer loyalty to your firm	0.718	14.476
End-user customer satisfaction	0.776	15.697
Quality of your company's end-user customer relationships	0.717	13.739
Perceived effectiveness ($\alpha = 0.857$; AVE = 0.610; CR = 0.86) Balabanis et al. (1997); Slater and Narver (1994)		
New service success	0.768	17.702
Achievement of short-term objectives	0.775	17.901
Achievement of long-term objectives	0.841	20.154
Overall satisfaction with your activity	0.737	16.699

Table 1 (continued)

Dimension	Indicators	Load	R ²	Standardized coefficient	t-value
Design orientation ($\alpha = 0.912$; AVE = 0.541; CR = 0.89) Cantó-Primo et al. (2021a)	Design is a core competency	0.697	0.486	0.705	11.202
	Design contributes significantly to the service benefits perceived by consumers	0.812	0.659		
Awareness of the benefits of design	Design changes the spirit of the firm, which becomes more innovative	0.727	0.529		
	Imagination	0.879	0.773	0.745	15.107
Design sensibility	Sense of detail	0.857	0.735		
	Quality of dialogue	0.910	0.828		
	Develop a good service design	0.846	0.716	0.832	16.224
Basic design skills	Design services capable of communicating their benefits to consumers	0.791	0.626		
	Using the brand image to structure design languages	0.762	0.581		
Specialized design skills	Using programs effectively to design or model the service	0.636	0.404	0.721	14.050
	Estimating the true cost of new services during the design process	0.862	0.743		
Involving others	Finding people with excellent design skills	0.612	0.375		
	Testing manufacturability of new services during the design process	0.879	0.773		
	Getting new service ideas from customers, prescribers or distributors	0.919	0.845	0.350	6.445
	Involving customers, prescribers or distributors in the design process	0.825	0.681		
Design organization	Getting different functions in the firm to work together	0.912	0.832	0.710	14.346
	Different departments collaborate for the development of new services, in all phases of the process	0.892	0.796		
Innovation skills	We cultivate organic organizational structures to increase collaborations with other agent	0.745	0.555		
	We strive to design aesthetic services	0.790	0.624	0.953	17.457
	Every year we spent a significant amount of resources on designing new services	0.578	0.422		

$\chi^2_{(676)} = 1467.492$, $\chi^2/df = 2.171$, RMSEA_(90%) = 0.053(0.049;0.056), IFI = 0.947, TLI = 0.942, CFI = 0.947

structural equation models based on covariances (CB-SEM). The use of CB-SEM is recommended when the goal is theory testing and confirmation, whereas for prediction and theory development an approach based on partial least squares would be better. AMOS allows confirmatory factor analysis to be implemented, enabling assessment and ultimately elimination of indicators characterized by weak measurement (Hair et al. 2014). Therefore, AMOS provides a good solution if the objective is to estimate a factor-based model, as is our case including our central second-order construct of design orientation (Dash and Paul 2021).

4 Results

To check the validity of the measurement instrument, a confirmatory factorial analysis was carried out (see Table 1). Firstly, items with loads lower than 0.6 were eliminated to guarantee convergent validity (Bagozzi and Yi 1988).

The goodness of fit of the final measurement model was confirmed by several indicators, which are shown in the lower part of Table 1. The Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) values demonstrated the reliability of the scales. To evaluate convergent validity, it was verified that all the items loaded significantly on their corresponding factor.

Three procedures were used to test discriminant validity: (1) the confidence interval of the correlation did not include the value 1 (Anderson and Gerbing 1988); (2) variance extracted from each latent construct was greater than the correlation square, with the exception of one item that showed a slightly higher value (Fornell and Larcker 1981) (see Table 2); (3) it was verified that in this case the chi-square was significantly smaller for the unrestricted model, with the chi-squares differences test (Anderson and Gerbing 1988) (see Table 3).

Once the measurement model had been satisfactorily analysed, the structural model (Anderson and Gerbing 1988) was then evaluated to test the research hypotheses. It was observed that the goodness-of-fit indices of the global model were acceptable (see Fig. 2), suggesting that the nomological network of relationships fitted the data obtained in the study.

As can be seen in Fig. 2, the sequence of relationships established in the model was verified. The results show that marketing design integration strongly contributes to design orientation (H1; $\beta_1=0.641$, $p<0.001$). In addition, the results show that competitive advantage (H2; $\beta_2=0.801$, $p<0.001$) is clear consequence of design orientation. Finally, it was observed that competitive advantage had a direct effect on performance in the relationship with the end user (H3; $\beta_3=0.637$, $p<0.001$) and on perceived effectiveness (H4; $\beta_4=0.570$, $p<0.001$).

5 Discussion and implications

This study evidences the suitability of observing design orientation as a construct integrating the behavioural dimension of design management with the cultural dimension of design thinking, with this approach being applied from the context of

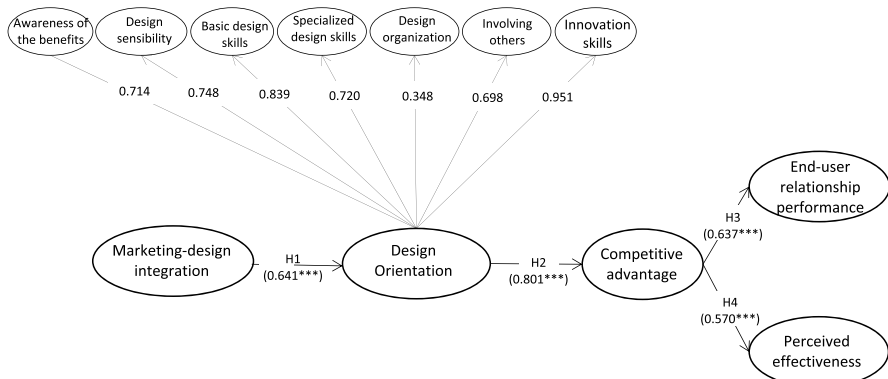
Table 2 Discriminant validity: correlations and confidence intervals

	Marketing-design integration	Design orientation	Competitive advantage	End-User relationship performance	Perceived effectiveness
Marketing-design integration	0.910* (0.592; 0.720)	0.430	0.208	0.104	0.114
Design orientation	0.541* (0.372; 0.540)	(0.737; 0.841)	0.623	0.329	0.310
Competitive advantage	(0.222; 0.422)	(0.486; 0.662)	0.688* (0.514; 0.682)	0.358	0.277
End-user relationship performance	(0.244; 0.432)	(0.457; 0.639)	(0.442; 0.610)	0.526* (0.486; 0.662)	0.329
Perceived effectiveness					0.610*

Under the diagonal: confidence interval for the correlation between each pair of factors; diagonal: average variance extracted; above the diagonal: square of the correlation between each pair of factors

Table 3 Discriminant validity: χ^2 difference test

	Design orientation—competitive advantage	
χ^2 unrestricted model	1467,492	676
χ^2 restricted model	1645,023	677
Difference χ^2	177,531	1



$\chi^2_{(682)} = 1519.166$; $\chi^2_{(df=2)} = 2.228$; $RMSEA_{(90\%)} = 0.054(0.050;0.058)$; $IFI = 0.944$; $TLI = 0.939$; $CFI = 0.944$; $***p < 0.001$

Fig. 2 Result of theoretical model estimation

the perishable goods industry in the services field. Thus, this study contributes to the service literature by validating the concept and measurement of design orientation and showing its links with superior performance and competitive advantage. We may conclude, in light of our findings, that the construct of design orientation may contribute to achieving competitive advantage in both service and product firms (Cantó-Primo et al. 2021b).

All in all, this study has contributed to the advancement of knowledge regarding the marketing of services in two ways. Firstly, by confirming the reliability and validity of an instrument for measuring design orientation in trade and tourism firms. The original design orientation scale (Cantó-Primo et al. 2021a) was applied to the design of products and it measured the attitude, culture, capabilities and design skills required by companies to design products that provide a competitive advantage in product differentiation. Our study suggests an adaptation of that scale to the field of services, validated with a sample of 421 Spanish SMEs in the trade and tourism sectors. Our scale is an effective strategic tool for diagnosing the level of design orientation in trade and tourism firms based on seven dimensions: (1) awareness of the benefits of design; (2) design sensibility; (3) basic design skills; (4) specialized design skills; (5) involving others; (6) design organization; and (7) innovation skills. This last dimension emerges as the strongest contributor to design orientation, underscoring the imperative to address aesthetic elements, in alignment with the findings of Selinšek et al. (2021). Our results extend the findings of Cantó-Primo

et al. (2021a), which were limited to the product design domain, thereby supporting the notion that design orientation is a multidimensional construct. This construct contributes to generating a competitive advantage not only in manufacturing companies but also in commercial and tourism service sectors.

Secondly, the study enriches the service marketing literature. Our study complements the findings of Selinšek et al. (2021), who did not investigate the antecedents of design orientation. A key contribution of our study is the proposition that marketing design integration serves as a precursor to design orientation, underscoring the necessity for close collaboration between both functions. Moreover, we extend the understanding of the benefits of design orientation for trade and tourism firms by identifying competitive advantage as a central outcome, which in turn has impacts on end-user relationships and the firm's effectiveness. Our results, derived from a larger sample, contribute to consolidating the initial insights by Selinšek et al. (2021), thus emphasizing the pivotal role of design in firm performance. Our findings show that when a trade or tourism company integrates the marketing and design functions, far-reaching effects are triggered, since this integration fuels the adoption of design orientation, which directly influences competitive advantage in differentiation. This in turn has a positive effect on performance of end-user relationships and effectiveness, thereby improving business performance.

In keeping with our theoretical framework, our research provides a novel insight into the strategic importance of design orientation in trade and tourism companies by comparing and confirming four research hypotheses in which this construct was the central axis. Thus, the existence of a sequence of effects was demonstrated, beginning with marketing design integration that drives design orientation in such firms (H1). This way, integration between the marketing and design functions is necessary, as the tension derived from the interaction of different behaviours, skills and thinking patterns of the marketing and design functions (Beverland et al. 2016) favours design orientation. Additionally, design orientation helps firms to achieve competitive advantage in differentiation (H2). In line with the literature, it is confirmed that good design management is a source of competitive advantage (Selinšek et al. 2021) and firms that invest in design thinking and conceive service design as a continuous process of knowledge integration are able to achieve sustainable competitive advantages (Jaggi and Bhushan 2020). This, in turn, has an influence by enhancing both performance in the end-user relationship (H3) and business effectiveness (H4). Furthermore, it is noteworthy that, in trade and tourism companies, factorial loads are high and significant in the effects of marketing design integration on design orientation (H1; $\beta_1 = 0.641$, $p < 0.001$), as well of design orientation on competitive advantage (H2; $\beta_2 = 0.801$, $p < 0.001$). This demonstrates more pronounced effects in service environments (trade and tourism) compared to industrial settings (Cantó et al. 2021b).

The main management-related implications are, firstly, those deriving from the fact that design orientation relies on functional marketing design integration; hence, both functions should be encouraged to collaborate while maintaining the tension generated by their different interests and ways of thinking, through practices that promote a broader mutual understanding of the value offered by the service in trade and tourism sectors.

Subsequently, the management implications related to the consequences of design orientation indicate that managers should promote design-oriented behaviours and skills to help design products that provide exceptional experiences, create a range of services with a distinctive image and strengthen brand recognition. This will improve the firm's competitive position in the market, improve its relationship with end users and boost business effectiveness. The results show that the coefficient values for the seven dimensions of design orientation vary, with the highest loads observed for the dimensions of innovation skills (0.951) and basic design skills (0.839). Thus, it is crucial for trade and tourism firms to pay greater attention to these two dimensions to establish an effective design orientation. In contrast to industrial enterprises (Cantó-Primo et al. 2021a), they will need to exert additional effort in developing innovation skills, attending to the aesthetic and symbolic aspects of service manifestations. An illustrative example in this vein is the significant investment undertaken by Zara, enhancing the aesthetics of its stores and improving service by replacing physical alarms with radiofrequency RFID antennas. This service enhancement, slated for 2025, will eliminate the need for sales assistants to remove alarms during the purchase process, thereby reducing the payment time in-store by 50%. Moreover, trade and tourism firms should pay attention to design skills, cultivating the essential competencies to design a service capable of generating unique experiences and conveying the brand's values through a distinctive language. For instance, Disney has successfully constructed an imaginary realm that combines visual and auditory elements in its films, extending to its parks and stores. This Disney imaginary serves as the foundation for creating memorable experiences and effectively communicates the brand's values.

Despite the greater contribution of innovation and basic design skills, trade and tourism firms would need to work on other dimensions of design orientation. Design sensibility (0.748), cultivating the tacit design knowledge in the organization by creating its own design culture. Specialized design skills (0.720), developing the ability to manage the specific activities required for the service design process, such as modelling the service, testing its cost or its feasibility. Awareness of the benefits of design (0.714), from the top of the organization, promoting and disseminating design as a competitive resource driven by intuition and creative feeling. Involving others (0.698), getting ideas for new services from customers, prescribers or distributors and even involving them in the design process. For trade and tourism firms, the dimension of design organization (0.348) makes a lower contribution to design orientation. Therefore, without ignoring them, structural aspects need not be treated as a priority for achieving design orientation in trade and tourism firms.

All in all, the validation of the design orientation measurement scale in the trade and tourism sectors has a series of practical implications for design management within those companies. In as far as the scale allows the degree of design orientation to be quantified, this study provides an instrument that enables cross-sectional and longitudinal diagnoses to be performed on the degree of design orientation of a business, and can also be used as a management tool. From a multidimensional perspective, each component is able to provide substantial information in relative positioning terms, and therefore has the potential to reveal the strengths and weaknesses of the business. In this sense, the instrument can help design managers to determine

their company's level of design orientation at a certain point in time, which can serve as a starting point to implement improvement measures based on the results obtained in each dimension.

6 Limitations and future research

As regards the limitations of the study, which in themselves represent opportunities for future lines of research, it is first important to highlight the sectoral and geographical limitation of the study since it was restricted to trade and tourism firms based in Spain. To enhance the generalizability and robustness of the findings, future research should encompass a more extensive array of companies within the tertiary sectors. This broader approach will contribute to validating and expanding upon the results presented in this study.

Likewise, further research should be conducted into the variables related to design orientation. Future lines of research could include the assessment of the moderating role of variables such as company design management style, in line with the suggestions put forward by Rocco and Pisnik (2016) to enhance the explanatory capacity of the model. The relationship between end-user performance and perceived effectiveness may exist; to be able to test this relationship, data from the customer's viewpoint should be collected. The fact that the study was based on the manager's opinion and that there was a single informant per company can be a significant source of bias. An attempt was made to reduce this potential bias by a careful selection of firms and key informant and by obtaining and analysing the key informant's data (Akgün and Lynn 2002). Ideally, studies should adopt a multiple key informant approach for data collection. Furthermore, subsequent studies including additional informants could assess service design from the customer perspective (Selinšek et al. 2021). By taking customers as informants, the different objectives and viewpoints in the service design process, both the marketing and design functions (Song et al. 2005), and the customer's viewpoint, would be taken into account.

Moreover, the cross-sectional nature of the study poses a notable concern. To establish causal relationships among the research variables, it is recommended that future research adopt a longitudinal approach. Specifically, it will be worth examining whether design-marketing integration can improve design orientation or whether design orientation improves competitive advantage over time.

Finally, using estimate structural equation models based on covariance, though appropriate for our study, assumes that the relationships among the variables are linear and the overall relationships are additive. This assumption was based on previous studies that reported linear relationships between similar variables. However, this is a limitation of the study, and future research should analyze whether the relationships are linear or if they could be of a different nature.

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