



# Absorptive capacity and firm performance: The mediating role of strategic agility

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## ABSTRACT

The purpose of the study was to examine the mediating role of strategic agility in absorptive capacity's effects on the firm performance of accommodation establishments in Turkey. A survey was used to collect data. Questionnaires were conveyed via e-mail and 190 applicable questionnaires were gathered. From the exploratory factor analyses, absorptive capacity was determined to have two dimensions (acquisition and use). While the acquisition dimension was revealed not to have a direct effect on firm performance, the use dimension was found to have a direct effect on firm performance. The acquisition and use dimensions have a positive effect on strategic agility and strategic agility positively affects firm performance. In addition, it was revealed that the acquisition and use dimensions have an indirect effect on firm performance through strategic agility.

## 1. Introduction

It is important for management to use external information sources to respond more properly to the complexities of a rapidly changing dynamic environment and to survive (Lane and Lubatkin, 1998; O'Connor, 2008). In literature, necessity of acquiring and managing knowledge has been emphasized in order to increase the overall performance of the firm and to create competitive advantage (e.g. Adams and Lamont, 2003; Darroch, 2005; Marqués and Simón, 2006).

In view of the uncertainty created by external factors (political, legal, economic, socio-cultural, technological, natural factors, fashion, terror etc.) that cannot be controlled in tourism sector, the intense competition in the sector and the change in customer demand/expectation, external knowledge is significant from the point of the sustained performances of the businesses in the sector (Shaw and Williams, 2009; King et al., 2014). There is a comprehensive literature on knowledge, knowledge sharing and knowledge management in tourism (e.g. Hallin and Marnburg, 2008; Shaw and Williams, 2009; Yang, 2010; Kim and Lee, 2013).

Besides the acquisition of knowledge, the proper use of the acquired correct knowledge for the purpose of the business is also an aspect that is necessary to be invested and tackled for businesses (Tzokas et al., 2015). For this reason, businesses need to develop their assimilation capacities that are considered as a source of competitive advantage (Cohen and Levinthal, 1990; Jansen et al., 2005; Tu et al., 2006).

Absorptive capacity is related to a firm's ability to recognize the value of new information, assimilate it, and apply it to commercial ends (Cohen and Levinthal, 1990). Absorptive capacity, which enables firms to determine, gather, analyze, comprehend, and creatively use the external information (Lane et al., 2006), contributes to management in the creation of loyalty and satisfaction in customers (Tzokas et al., 2015). Several studies (Cohen and Levinthal, 1990; Zahra and George, 2002; Jansen et al., 2005; Tu et al., 2006) have found that absorptive capacity is a dynamic skill affecting the nature and sustainability of a firm's competitive advantage.

Although some studies in the tourism literature have addressed absorptive capacity (Weidenfeld et al., 2009; Thomas, 2012), a small number of studies that thoroughly examine absorptive capacity have been found. In these studies, it is seen that the absorptive capacity focuses on competitive advantage, innovation (Thomas and Wood, 2014, 2015) and value creation (Valentina and Passiante, 2009). Any study investigating the effect of absorption capacity on the overall performance of the firm is not encountered. With this study, it is aimed to fill this gap in the literature. When the effects of absorptive capacity on production, financial, marketing, customer relations, etc., the overall performance of the firm included are understood, interest on absorptive capacity will be affected (Tzokas et al., 2015).

Another issue that attract researchers' attention in recent years and that has a significant place for the success of the business is strategic agility (Vickery et al., 2010; Tallon and Pinsonneault, 2011; Inman

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et al., 2011). Agility provides opportunity for businesses to respond rapidly to changes, be flexible, adapt to changes, and implement other actions that control market risk and uncertainty (Sambamurthy et al., 2003; Sherehiy et al., 2007). Strategic agility is the sensitive and uninterrupted maintenance of management's flexibility, perception, prediction, and strategic sensitivity related to its internal and external environments (Kumkale, 2016). An agile organization adapts its organizational culture to market change, learns about market changes swiftly, benefits from these changes, and shapes its products according to personal preferences (Desouza, 2007; Braunscheidel and Suresh, 2009). At the same time, these changes can be turned into opportunity by reorganizing the system and its strategy responsively to environmental changes (Sharifi and Zhang, 1999; Shin et al., 2015). Even though the significance of agility for this sector has been focused in some studies (e.g. Irvine and Anderson, 2004; Thrassou et al., 2014; Mandal et al., 2017) in tourism literature, it is seemed that strategic agility has not been extensively addressed.

The necessity for strategic agility is obvious when competing in local, national, and international tourism markets, in effectively meeting customers' changing needs, in introducing new products, in adapting to negatively progressing political change, in establishing strategic partnerships, and in offering top-level service (Gehani, 1995; Oyedijo, 2012). Providing strategic agility requires constantly following the internal and external environments, collecting and using information quickly, and responding to market changes rapidly (Kumkale, 2016). Agility can improve the quality of a firm's competitive activity inventory and applicable responses to environmental changes and, thus, can increase performance (Tallon and Pinsonneault, 2011; Sambamurthy et al., 2003).

In this study formed on the basis of the opinions stated above, it is aimed to question the mediating role of strategic agility on the effect of firm performance of the absorptive capacity of the businesses in Turkey. In previous studies, absorptive capacity, firm performance and strategic agility have not been studied together. Besides the sector's characteristics, this issue becomes more significant for the countries where uncertainty is high and the developing countries like Turkey. Namely; in recent years, accommodation establishments have faced the risk of being unable to continue their lives because tourism in Turkey is affected by the uncertain environment the region is in. This highly uncertain environment has made it even more important for accommodation establishments to understand environmental changes, to make quick decisions about changes, and to manage risk. For these reasons, this examination of absorptive capacity and strategic agility, with which the tourism industry has recently become familiar, and investigation of the relationship between these terms and firm performance can guide both managers and future research.

## 2. Literature review

### 2.1. Absorptive capacity

The concept of absorptive capacity was coined by Cohen and Levinthal (1989). Cohen and Levinthal (1989) argued that R&D centers improve a firm's capacity to identify, assimilate, and exploit the new knowledge that it gathers from its environment. They called this situation absorptive capacity. Thus, they assessed absorptive capacity as a three-dimensional concept. Zahra and George (2002, p.186) defined "as a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability". Absorptive capacity refers to a firm's ability to recognize the value of new information, assimilate it, and apply it to commercial ends (Flatten et al., 2011). Absorptive capacity involves using information externally through a firm's exploratory learning, transformative learning, and exploitative learning processes (Lane et al., 2006).

According to Zahra and George (2002), absorptive capacity consists

of two subsets and four dimensions. These subsets are potential absorptive capacity and realized absorptive capacity. Potential absorptive capacity indicates the acquisition and assimilation of knowledge; realized absorptive capacity indicates a firm's capacity to transform and exploit assimilated knowledge by incorporating it into the firm's operations. This distinction has been also used in subsequent research (Jansen et al., 2005; Thérin, 2007; Fosfuri and Tribo', 2008; Camisón and Forés, 2010; Delmas et al., 2011; Flatten et al., 2011; Ali et al., 2016; Ali and Park, 2016).

Acquisition refers to the ability of a firm to identify and acquire external knowledge about itself from surrounding information (Fosfuri and Tribo', 2008). Assimilation also refers to the ability of a firm to develop useful processes and routines in analyzing, interpreting, and understanding externally-acquired knowledge (Flatten et al., 2011). Transformation means developing and refining these routines so that it is easier to combine existing knowledge with acquired and assimilated knowledge for future use (Zahra and George, 2002). This also involves the ability to change, adapt, and combine external information from external sources with existing and internally-generated information (Fosfuri and Tribo', 2008). Exploitation refers to the capacity of a firm to develop, expand, and use existing routines, competencies, and technologies to create something new based on "transformed" knowledge (Haro-Domínguez et al., 2007).

Businesses must invest properly on potential and realized absorptive capacity. Businesses that focus too much on knowledge acquisition and assimilation can constantly renovate their knowledge stock, but they may suffer from the costs of acquisition without gaining benefits of exploitation. On the contrary, businesses that focus on transformation and exploitation may achieve short term benefits but fall into a competence trap (Volberda et al., 2010). In this respect, it is significant to understand the effects of absorptive capacity on performance in detail.

### 2.2. Absorptive capacity and firm performance

Many studies in the literature have shown a positive effect of absorptive capacity on business and innovation performance. Stock et al. (2001) investigated the relationship between absorptive capacity and new product development performance. According to the authors' work, absorptive capacity and new product development performance are positively related, but only to a certain level. Beyond this turning point, higher absorptive capacity is associated with lower levels of new product development performance. Similarly, Lichtenthaler (2016) found an inverted U-shaped relationship between absorptive capacity and a firm's financial performance. That is, absorptive capacity increases a firm's financial performance to some extent, but after a certain point, it has a negative effect on financial performance. Kotabe et al. (2011) concluded that actual absorptive capacity interacted with the acquisition of information and increased new product market performance.

Fosfuri and Tribo', (2008) noted that potential absorptive capacity is a source of competitive advantage in innovation, especially in the presence of an efficient internal information flow that helps to reduce the distance between potential and realized capacity. Harvey et al. (2010) developed a model in which internal and external conditions together influence absorptive capacity, and, consequently, absorptive capacity increases a firm's performance. Some studies on SMEs also found that absorptive capacity increases a firm's performance (Thérin, 2007; Flatten et al., 2011; Tzokas et al., 2015) According to Bolívar-Ramos et al. (2013), potential absorptive capacity is related to realized absorptive capacity, and realized absorptive capacity is related to organizational performance.

García-Morales et al. (2007) noted that technological absorptive capacity in technological enterprises positively influences organizational learning and innovation, and that encouraging technological absorptive capacity within an organization directs employees to seek and learn new ideas. According to their study, organizational learning

and organizational innovation also increase organizational performance. Ali et al. (2016) found that different forms of absorptive capacity and organizational innovation conditions lead to better organizational performance. A study of 24 business units in a petrochemical company and 36 business units in a food manufacturing company found that the interaction between absorptive capacity and network location has significant and positive effects on business unit innovation and performance (Tsai, 2001). The following hypothesis was developed in response to these studies.

**H1.** Absorptive capacity affects firm performance positively.

### 2.3. Absorptive capacity and strategic agility

The concept of agility first appeared in Iacocca Institute survey in the United States in 1991 and focused on capability-based, flexible and agile production to meet the rapidly changing needs of the market (Iacocca Institute, 1991). After this definition the Iacocca Institute has done, the definition of agility has expanded and differentiated. Agility is seen as the transformation of continuous and unpredictably changing customer situations into profitable ability in a competitive environment (Goldman and Nagel, 1993), progressing and surviving in an environment that is variable and unforeseen (Gunasekeran, 1999; Dove, 2001), acting proactively against change in a turbulent environment and creating opportunities from change (Sharifi and Zhang, 1999; Bessant et al., 2001).

An integrated perspective is needed to understand agility better. According to Lu and Ramamurthy (2011); besides the agility responding to market, operational adjustment agility is significant for the formation of organizational agility. Strategic partnerships are also effective in ensuring agility. Kidd (1994) emphasized that it is a synthesis that several companies, each with different basic skills and competencies, establish in order to be able to respond to customer needs; he proposed that basic elements that can provide superiority in competition, such as people, organization, and technology, must be integrated in order to achieve agility. Gehani (1995) underlined certain functions of an agile business: meeting customer expectations quickly, introducing new products in a timely manner, and getting in and out of strategic partnerships quickly.

Agility is the application of functions such as high quality, short delivery time, flexibility, responding to innovation, adaptation to change, and low cost in order to have an advantage in a competitive environment (Sherehiy et al., 2007; İleri and Soylu, 2010; Ustasileyman, 2008). The need for strategic agility is obvious when competing in local, national, and international tourism markets, in effectively meeting the changing needs of customers, in introducing new products, in adapting to negatively progressing political change, in establishing strategic partnerships, and in offering top-level service (Gehani, 1995; Oyedijo, 2012).

Strategic agility means the ability to, dynamically, review or re-discover the company and its strategy with changes in the business environment (Doz and Kosonen, 2008; Lengnick-Hall and Beck, 2009). Strategic agility and long-term strategies have left their places to choose the proper one among alternative strategies with a strategic orientation. The ability to be agile is directly related to human performance, processes and technologies of the organization (Al-Azzam et al., 2017). According to Doz and Kosonen (2010); strategic agility can be implemented through the presence of three meta-skills (strategic sensitivity, leadership unity and resource fluidity) that will make an organization more agile. Besides, strategic agility requires that the predictions about the internal and external environment of the business, perceptions, flexibility and strategic sensitivity must be maintained more sensitively and without losing speed (Kumkale, 2016). Strategic agility aims to get information about the expected changes in the market through inter-company cooperation. Strategic agility is knowledge-based and proactive, which departs it from reactivity-based

production agility (Ojha, 2008).

This literature review has revealed a lack of studies dealing with the relation between absorptive capacity and strategic agility. However, some studies provide indirect support for this relationship. Idris and Al-Rubaie (2013) found that dimensions of strategic learning, which include knowledge acquisition, interpretation, dissemination, and activation (strategic knowledge creation, strategic knowledge interpretation, and strategic knowledge implementation), are all related to strategic agility. Sambamurthy et al. (2003) emphasized the importance of knowledge reach and richness for agility. Mao et al. (2013) showed that information technology capabilities and knowledge capabilities have positive effects on organizational agility.

**H2.** Absorptive capacity affects strategic agility positively.

### 2.4. Strategic agility and firm performance

The above literature review demonstrates that studies investigating the effects of agility and strategic agility on firm performance are generally conducted in the field of production and information technology. According to Swafford et al. (2006), value chain agility influences business performance. Ojha (2008) found that the ability to perceive market changes is an important determinant of strategic agility, which strategic agility has no direct impact on financial performance, and that strategic agility is beneficial in moderately ambiguous environments. In their study on manufacturing firms, Vickery et al. (2010) showed a positive impact of agility on firm performance. Tallon and Pinsonneault (2011) found a positive and clear link between agility and firm performance. Inman et al. (2011) reported a positive relationship between agile manufacturing and financial performance, marketing performance, and operational performance. Roberts and Grover (2012) tested the association between agility (customer sensing and responding capabilities) and firm performance. They found that, while customer sensing capability has a positive impact on firm performance, customer responding capability does not. Shin et al. (2015), in their study on Korean small and medium enterprises, found that strategic agility has a positive effect on operational performance and customer retention, but does not affect financial performance. Teoh et al. (2017) indicated that strategic agility is an important mediator between corporate risk management practices and firm performance.

It is stated in some studies that strategic agility increases the firm performance by creating competitive advantage. Kumkale (2016) considered strategic agility as a means of providing competitive advantage. She also claimed that, to ensure strategic agility, the internal and external environments should constantly be examined, information should be gathered and used quickly, and market changes should be responded to rapidly. She stated that when businesses become strategically agile, they can gain a competitive edge and improve their performance. Ofoegbu and Akanbi (2012) and Yang and Liu (2012) found that strategic agility has a significant impact on business performance and is a critical resource for businesses to gain a competitive edge. From these studies in the literature, the following hypothesis is suggested.

**H3.** Strategic agility affects firm performance positively.

### 2.5. The mediating role of strategic agility

In addition to the direct impacts of absorptive capacity on strategic agility and of strategic agility on firm performance, strategic agility can mediate the impact of absorptive capacity on firm performance (Fig. 1). In the literature, there is a limited number of studies examining the mediating role of strategic agility. In their study sampling 112 large Spanish companies, Cegarra-Navarro et al. (2016) revealed a mediating role of organizational agility in the impact of knowledge application on organizational performance. Tallon and Pinsonneault (2011) found a mediating role of firm agility in the impact of strategic information

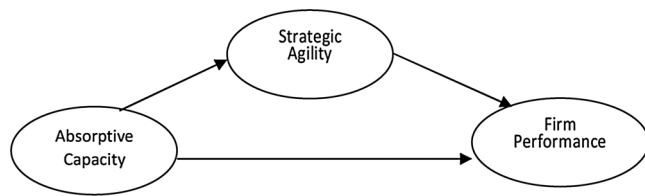


Fig. 1. The proposed research model.

technology alignment on firm performance. In another study, the mediating role of supply chain agility is confirmed in the relationship between absorptive agility and firm performance (Martinez-Sanchez and Lahoz-Leo, 2018). Considering the previous studies, strategic agility may have a role in the impact of absorptive capacity on firm performance, so the following hypothesis is suggested.

**H4.** Strategic agility mediates the relationship between absorptive capacity and firm performance.

### 3. Research methodology

#### 3.1. Sampling and data collection

The research sample comprises accommodation establishments in Turkey. A survey technique was used to collect data. A link to the web-based survey was sent to approximately 1600 e-mail addresses, which were gathered from a website that contains contact addresses of tourist accommodation establishments, between May and August 2017. The purpose of the research was explained in the mail and the top management was requested to fill in the survey in the attached link. When the feedback about the ratio of delivery-to-read status was examined, it was found that it was very small (about 30%). It is thought that the reading rate of the mails was low due to various reasons, such as some mail addresses were wrong, mailboxes were full, and the mail was deleted without being read. At the end of the research, 210 questionnaires were collected. Questionnaires that were incomplete and not filled in by managers, and that were sent by the same IP addresses were eliminated and 190 applicable questionnaires were obtained at the end of the research.

#### 3.2. Scales

In the research survey, three different scales were used to measure participants' demographic data and management knowledge, as well as to measure absorptive capacity, strategic agility, and management performance.

In the study, a 14-item scale, developed by Flatten et al. (2011) and adapted to Turkish by Yilmaz (2013), was used to measure absorptive capacity. In preparing the scale, both the original scale and the Turkish version were considered. For the questionnaire, a five-point Likert scale was used (1: never, 5: always). Some example questions are: 1. the search for relevant information concerning our industry is an everyday business in our company; 2. our management emphasizes cross-departmental support to solve problems; and 3. our management motivates employees to use information sources within our industry. After pretest, the scale confidence was founded to be Cronbach's alpha = 0.94.

In the measurement of strategic agility, the studies of Tallon and Pinsonneault (2011) were utilized. Strategic agility was measured using 8 items that were related to the basic question "How easily and quickly can your firm perform the following actions?" (e.g., 1. respond to changes in aggregate consumer demand; 2. customize a product or service to suit an individual customer) and a five-point Likert scale was used (1: do not agree; 5: agree completely). After pretest, the scale confidence was founded to be Cronbach's alpha = 0.77. Adaptation of

the scale from English to Turkish was done by translating into the target language, evaluating the translation in the target language, re-translating into the source language, and then by evaluating the translation in the source language.

In the measurement of firm performance, the 7-item scale developed by Zerenler (2005) was used. Questions regarding firm performance were formed by comparing each firm to its rivals (compared to your rivals, in the last three years, your establishment's 1. market share 2. quality level of services/products, etc.) with a 5-point Likert scale (1: very low, 5: very high). After pretest, the scale confidence was founded to be Cronbach's alpha = 0.90.

Scale questions were assessed by 4 academics, who were experts in the field, and the scales settled on were formed. Additionally, statements were tested if they were understood in face-to-face interviews with 10 hotel managers and points that were not understood were corrected. The questionnaire took its final version and pretests were applied to 50 establishments operating in the Cappadocia region. From the pretest, the scales were concluded to have appropriate confidence levels and the research continued.

#### 3.3. Analysis of the data

Frequency analyses were used to analyze the information for participants and establishments. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to create the dimensions of the scale and CFA was used to create an overall measurement model. Structural equation modeling was used to examine the relationships among the variables.

## 4. Results

#### 4.1. Sample characteristics

Participants' information was: 75% of the participants are males, 25% are females; 44% are between the ages of 31–40, 23% are between the ages of 41–50; 48% are general managers, 9% are assistant general managers, the rest are department managers; 61% are graduates in tourism; 55% of the participants have been working in the sector for 13 years or longer. The periods of employment of the participants in their current positions are 27% for 1–3 years for the and 22% for 4–6 years.

Classifying the accommodation establishments showed that 24% are 4-star hotels, 23% are boutique hotels, 17% are 5-star hotels, and 13% are 3-star hotels. Examining the age of the establishments shows that 38% are 5 years or less, 20% are 6–10 years, and 19% are 21 years or older.

#### 4.2. Individual measurement model

Exploratory and confirmatory factor analyses were done on the scales used in the research. In order to determine the dimensions of the absorptive capacity scale, EFA with Varimax rotation was employed for 14 variables by principal components analysis. Two dimensions emerged from factor analysis, unlike the original scale. The 2 factors account for 66.76% of the total variance. The KMO test for sampling adequacy is 92% and Bartlett's test was found to be significant ( $\chi^2 = 2058,951$ , s.d.: 91,  $p < 0.0001$ ). The first factor gathered from the analysis consisted of 11 statements. This factor is associated with the analysis, transformation, and creative use of information and is named 'use', as studied by Thomas and Wood (2014). This factor has an eigenvalue of 8.04 and accounts for 57.42% of the total variance. The second factor, comprising the 3 statements related to the acquisition of external information, is named 'acquisition', in accordance with the literature. This factor has an eigenvalue of 1.30 and accounts for 9.33% of the total variance. The confidence of the use factor is Cronbach's alpha = 0.94, while that of the acquisition factor is Cronbach's alpha = 0.81.

After exploratory factor analysis, the absorptive capacity scale was subjected to two-dimensional confirmatory factor analysis. Goodness of fit values of CFA are at acceptable levels ( $\chi^2 = 149.961$ ,  $df = 70$ ,  $CFI = 0.96$ ,  $GFI = 0.90$ ,  $RMSEA = 0.07$ ).

The strategic agility scale was subjected to EFA and CFA. In EFA, 8 variables of the scale are gathered under one factor. However, since the explained variance was low, the 3 variables that has consecutively the lowest factor loadings (S4, S2, and S5) were extracted from the scale. Due to the latest factor analysis, total variance became 52%. The KMO test for sampling adequacy is 78% and Bartlett’s test was found to be significant ( $\chi^2 = 189,924$ ,  $s.d.: 10$ ,  $p < 0.0001$ ). After CFA, the scale with 5 variables was concluded to have better goodness of fit values than the scale with 8 variables ( $\chi^2 = 7,936$ ,  $df = 5$ ,  $CFI = 0.98$ ,  $GFI = 0.98$ ,  $RMSEA = 0.05$ ).

EFA and CFA were also employed for the firm performance scale. In EFA, 7 variables of the scale are gathered under one factor. Explained total variance is 63%. The KMO test for sampling adequacy is 87% and Bartlett’s test was found to be significant ( $\chi^2 = 855,484$ ,  $s.d.: 21$ ,  $p < 0.0001$ ). A single-factor structure of CFA was confirmed ( $\chi^2 = 29,595$ ,  $df = 12$ ,  $CFI = 0.98$ ,  $GFI = 0.96$ ,  $RMSEA = 0.8$ ).

4.3. Overall measurement model

CFA was conducted on absorptive capacity, strategic agility, and firm performance. Fit indices of the model ( $\chi^2 = 458,270$ ,  $df = 284$ ,  $CFI = 0.95$ ,  $GFI = 0.85$ ,  $RMSEA = 0.6$ ) are at good and acceptable levels. It was also found that the standardized regression coefficients of each of the observed variables were greater than 0.50 (Bagozzi and Yi, 1988:82) and that t values were between 6.395–18.046 ( $p < 0.001$ ;  $t > 1.96$ ) (Schumacker and Lomax, 2004).

In the light of the data gathered from EFA and CFA, the values of composite reliability (CR), average variance extracted (AVE), and maximum shared variance (MSV) were calculated, as seen in Table 1. Also, Cronbach’s alpha values, the results of correlation analysis, and the mean and standard deviation of each variable were found. Accordingly, both reliability and validity tests of the study were done. Studies have shown that the reliability coefficient must no lower than 0.70 (Nunnally, 1978; Iacobucci and Duhachek, 2003). So, Cronbach’s alpha values were calculated in order to measure the structures’ internal consistency. Cronbach’s alpha values of the variables are between 0.77-0.94 > 0.70. According to Hair et al. (2010), CR values are supposed to be 0.70 or higher. In the research, it was found that the CR values are between 0.75-0.93 > 0.70. AVE values are greater than 0.50 and the square root of the AVE values of each structure are greater than their correlation with other structures. Besides, AVE values are greater than MSV values. According to these results, convergent and discriminant validity are ensured (Fornell and Larcker, 1981; Hair et al., 2010).

Correlations among the variables’ demonstrate acquisition ( $r = .47$ ,  $p < .01$ ) and use ( $r = .46$ ,  $p < .01$ ), which are the two dimensions of absorptive capacity, are positively related to firm performance. It was seen that strategic agility is positively related to firm performance ( $r = .55$ ,  $p < .01$ ). Similarly, there is a positive relationship between acquisition ( $r = .64$ ,  $p < .01$ ) and use ( $r = .68$ ,  $p < .01$ ) and strategic agility.

Table 1  
Correlations, Means and Values of Reliability and Validity.

	Mean	Std. D.	a	AVE	CR	MSV	1	2	3	4
1-Acquisition	3.77	0.86	0.94	0.505	0.752	0.438	0.710			
2-Use	3.94	0.79	0.81	0.611	0.823	0.465	0.662**	0.782		
3-Strategic Agility	3.79	0.83	0.77	0.581	0.938	0.465	0.635**	0.682**	0.762	
4-Firm Performance	3.72	0.68	0.91	0.577	0.903	0.301	0.467**	0.463**	0.549**	0.759

Notes: Square roots of AVE values are indicated diagonally and in bold. \*\* $p < .01$ .

Table 2  
Structural Equation Model Comparisons.

Criteria	$\chi^2$	sd	$\chi^2/sd$	GFI	NFI	IFI	CFI	RMSEA
Direct Model	281.080	177	1.588	.88	.91	.96	.97	.05
Indirect Model	466.822	286	1.632	.85	.88	.95	.95	.06
Hypothesized Model	458.270	284	1.614	.85	.88	.95	.95	.06

4.4. Hypothesis testing

Three different path models were created in order to determine the mediating role of strategic agility in the effect of absorptive capacity on firm performance (Table 2). A direct model was used to determine the direct effect of absorptive capacity on firm performance. This model’s goodness of fit values are between good and acceptable fit limits ( $\chi^2 = 281.080$   $df = 177$ ,  $\chi^2/df = 1.588$ ;  $CFI = .97$ ,  $GFI = .88$ ;  $RMSEA = .05$ ). According to this model, the use dimension of absorptive capacity has a positive and significant effect on firm performance ( $\beta = .30$ ,  $p < .01$ ). A positive and significant effect, however, of acquisition dimension on firm performance was not found ( $\beta = .11$ ,  $p > .01$ ). Therefore, H<sub>1</sub> is partially accepted.

The second model was used to demonstrate indirect relationships (absorptive capacity-strategic agility-firm performance). This model’s goodness of fit values are between good and acceptable fit limits ( $\chi^2 = 466.822$   $df = 286$ ,  $\chi^2/df = 1.632$ ;  $CFI = .95$ ,  $GFI = .85$ ;  $RMSEA = .06$ ). According to this model, both the acquisition dimension ( $\beta = .19$ ,  $p < .01$ ) and use dimension ( $\beta = .33$ ,  $p < .01$ ) have positive effects on strategic agility. Strategic agility positively affects firm performance ( $\beta = .68$ ,  $p < .01$ ). Therefore, H<sub>2</sub> and H<sub>3</sub> are accepted.

The last model (hypothesized model) included all inter-variable paths. This model’s goodness of fit values are between good and acceptable fit limits ( $\chi^2 = 458.270$   $df = 284$ ,  $\chi^2/df = 1.614$ ;  $CFI = .95$ ,  $GFI = .85$ ;  $RMSEA = .06$ ). According to this model (Fig. 2), while the use dimension of absorptive capacity has a positive and significant effect on firm performance ( $\beta = .21$ ,  $p < .01$ ), there is no positive and significant effect of acquisition dimension on firm performance ( $\beta = .06$ ,  $p > .01$ ). The acquisition dimension ( $\beta = .19$ ,  $p < .01$ ) and use dimension ( $\beta = .29$ ,  $p < .01$ ) of absorptive capacity affect strategic agility positively. Strategic agility has a positive effect on firm performance ( $\beta = .33$ ,  $p < .05$ ).

The relationship between the use dimension and firm performance in mediating strategic agility is less according to the direct model. Strategic agility mediates the relationship between the use dimension and firm performance. In order to determine the significance of this partial mediation, a Sobel test was employed. The Sobel test showed that partial mediation is statistically significant at the  $p < 0.001$  level and the Z score is  $Z = 3.860$ . The acquisition dimension does not have a direct effect on firm performance, but does have an indirect effect in mediating strategic agility. Therefore, H<sub>4</sub> is accepted.

5. Discussion and conclusion

Absorptive capacity is crucial to the success of hotel establishments in the tourism industry, which is affected by environmental uncertainty

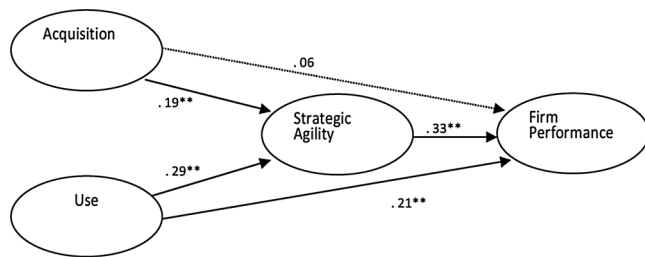


Fig. 2. Structural path estimates model. Note: All path estimates are standardized; \* $p < .05$ ., \*\* $p < .01$ .

and rapid changes. This study examined the influence of absorptive capacity on hotel establishments' firm performance and the mediating role of strategic agility in this influence.

Exploratory factor analysis showed that the dimensions of absorptive capacity, in contrast to the original scale (Flatten et al., 2011), are not four (acquisition, assimilation, transformation, and use), but only two. While the acquisition dimension remains unchanged, the assimilation, transformation, and use dimensions were gathered under one dimension called use. The previous studies were conducted outside of the service industry (Camisón and Forés, 2010; Delmas et al., 2011; Flatten et al., 2011; Jimenez-Barrionuevo et al., 2011). Thomas and Wood (2014) studied hotel establishments in England and concluded that a two-factored model of absorptive capacity was the most fit. The authors proposed a model with two dimensions. It is significant that similar results were gathered in this on accommodation establishments in a different country and culture using a different scale. These results indicate that absorptive capacity needs to be reassessed in accommodation establishments, and perhaps even in the service industry, with a different scale and model. This difference may be due to the unique characteristics of the tourism industry. Tourism enterprises have simultaneous production and consumption, limited scope of R&D activities, and intensive operational dimension of tasks, which necessitate the rapid use of external information in situations requiring change. Hence, the processes of adopting and transforming information take place concurrently with the use of information in accommodation establishments; so, they are gathered under one dimension.

Regarding the effect of the two dimensions of absorptive capacity (acquisition and use) on firm performance, the acquisition dimension was concluded not to have a direct effect. Previous studies have concluded with both similar and different findings. Thérin (2007) did not find a relationship between the acquisition dimension and financial and innovation performance. Flatten et al. (2011) found that the acquisition dimension affects firm performance in small- and medium-sized enterprises. Obtaining external information alone may not have an impact on firm performance, but is necessary as a first step of absorptive capacity. This is a dimension of potential absorptive capacity and is important for realizing absorptive capacity.

After the acquisition of information, the use dimension, including the assimilation, transformation, and exploitation of information, was found to affect firm performance. In other words, it is beneficial for the overall performance of hotel establishments that obtained external information is combined with in-house information, transformed into useful information for the enterprise, and used.

In this study, the positive impacts of the dimensions of absorptive capacity on strategic agility were determined. Although there is no study in the literature on this relationship, some studies have addressed the effect of knowledge reach and richness, knowledge capabilities, strategic learning, etc. on strategic agility (Sambamurthy et al., 2003; Idris and Al-Rubaie, 2013; Mao et al., 2013). In order for hotel establishments to identify and respond quickly to environmental threats and opportunities, and to change customer, supply, and operational strategies quickly, it is necessary to assimilate environmental information and utilize this information correctly.

According to our research findings, strategic agility affects firm performance. Firm performance increases when establishments respond to environmental and technological changes rapidly and adapt and change strategies quickly according to customer expectations and competitors' moves. In previous studies (Vickery et al., 2010; Tallon and Pinsonneault, 2011; Ofoegbu and Akanbi, 2012; Yang and Liu, 2012), strategic agility was found to boost firm performance. In contrast, Jacobs et al. (2011) found no relationship between manufacturing agility and firm performance.

The acquisition dimension of absorptive capacity has an indirect effect on firm performance through strategic agility. Firms that use acquired external knowledge by adapting external strategies to their strategies see their performance quickly increase. The use dimension appears to affect firm performance directly, as well as also indirectly effect through strategic agility. Strategic agility has a partial mediating role in this influence and this role is significant.

### 5.1. Theoretical and practical implications

The results of this study contribute to the tourism and hospitality literature. Absorptive capacity is a poorly researched issue, aside from a few studies (Valentina and Passiante, 2009; Thomas and Wood, 2014, 2015) in the tourism literature. Studies of absorptive capacity have concentrated on the impact of new product development and innovation performance in high-tech sectors. However, because enterprises in the tourism sector are influenced very quickly by environmental variables, changes in customer preferences, high competition, etc., it is important to examine the effects of obtaining, transforming, exploiting, and using external information on firm performance.

Defining the role of strategic agility in the relation of absorptive capacity and firm performance is a new subject in the literature. This research's findings on the mediating role of strategic agility in the effect of absorptive capacity on firm performance contribute to the understanding of the effects of using absorbed and renewed information strategically and quickly. Considering that studies of strategic agility are limited in the tourism literature, the findings of this study may contribute to the literature and provide a basis for future studies.

In practical terms, the findings of this study may guide hotel managers. Studies on absorptive capacity and strategic agility can contribute to managers in terms of management performance, especially in countries with intense environmental changes intensely, as these changes are rapidly reflected in the tourism industry. Several reasons, such as harsh competition between businesses in terms of destination and the changing expectations of customers and other stakeholders, necessitate enterprises to consider both absorptive capacity and strategic agility in terms of protecting and developing existing market shares and firm performance. As can be seen from the results of this study, it is necessary in terms of business performance to make decisions by rapidly updating the acquisition and use of information and strategies.

Senior managers should develop a culture of learning in their establishments by developing the competence of accommodation staff in terms of acquiring, using, and developing agile strategies that can be obtained from the outside world. In addition, hotel managers should also improve human resources, not only to increase the quality of service but also to identify internal and external information necessary for the business, to integrate them with present information, and to use it for the benefit of the company. Furthermore, in order for this information to cause any difference across the enterprise, it is necessary to establish a good communication system and deliver this information to all necessary levels of management simultaneously. By doing this, accommodation establishments will be able to gain sustainable competitive advantage.

## 5.2. Limitations and suggestions for future study

A limitation of this study is that, due to the data collection technique used (e-mail), the number of samples was limited. The electronic form sent via e-mail did not reach most business e-mail addresses and was not read by many. Another limitation is that the absorptive capacity scale used is a common scale that is also used in other sectors. Additionally, the fact that studies on strategic agility are limited in the literature limits any comparison of findings with other studies. Similarly, research on the mediating role of strategic agility is also very limited in the literature, which also limits the evaluation of the research results. Other limitations include measuring all scales by one single form, using a Likert scale for all, using the self-report technique in measurement, and collecting data from one person from each establishment. Scales, whose validity and reliability have been proven in the literature, were used in order to solve these problems. The meticulousness of the confidentiality of the research results is emphasized. In the questionnaire design, the questions of the dependent variable were first asked, then questions on the mediating and independent variables were asked; these scales appeared on different pages.

In future studies, both absorptive capacity and strategic agility can be dealt with in terms of the tourism sector with different sampling groups. Given the lack of work on both issues, this issue can be examined in terms of overall business performance and different types of performance (e.g., financial performance, customer satisfaction, innovation performance), both in terms of hotel establishments and other large and small enterprises in the tourism sector. Future studies should strive to use a multi-method multi-measure approach instead of obtaining data from one source. There is a need for new research in order to clarify agility-related concepts, to separate strategic agility from other agility types, to make establishments understand its importance, and to fill gaps in the literature. A suggestion for a specific research subject is to examine the impact of company stakeholders in terms of strategic agility. Additionally, it is suggested to develop a new scale to measure absorptive capacity considering the characteristics of the tourism industry.

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