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RESEARCH PAPER

Exploring the Co-Effect of Market-Orientation and Ambidextrous Innovation in Service Innovation of SMEs

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Abstract
Market-orientation capability (MOC) and ambidextrous innovation (AI) as dynamic capabilities have a significant role in the success of SME service innovation. Their co-effect, which has not been studied previously, represents the linking strategy and actions that relate MOC to AI to reconfigure resources based on market insights to balance the exploration-based and exploration-based innovation activities and leads SMEs to seize service innovation opportunities effectively. Thus, this study examined the relationships among these variables and firm performance, considering international environmental hostility (IEH) as a moderator, in a model using data from 154 tourism and travel firms in Iran as an emerging market. The results revealed a significant association between each of MOC and AI with firm performance, in which IEH significantly moderates these relationships. Besides, their co-effect negatively influences the firm performance, which indicates a weak relation between MOC and AI in these SMEs. This research suggests that tourism SME managers should deliberately adjust the linking strategy between their MOC and AI to accurately respond to service innovation opportunities and attempt to turn the threats of environmental hostility into opportunities for the sustainability of their firm performance.

Keywords: organizational ambidexterity, market intelligence, entrepreneurial behavior, firm performance, emerging markets.

1. Introduction

Travel and Tourism Industry (TTI), especially in emerging markets – countries not considered as the origin or destination market (Li, 2016) – such as Iran, is a significant source of foreign income, which plays a vaccinating role in their economic growth (Cucculelli & Goffi, 2016). It seems that the businesses in this industry, particularly in these emerging markets, will continue growing in the years ahead (Li et al., 2018), in which SMEs can have a highlighted role as a driving force behind this growth (Mu et al., 2020). Increasing investment in tourism destinations has augmented competitiveness. Emerging markets like Iran are suffering from a lack of competitiveness (Khanzadeh et al., 2021). Thus, to overcome this issue and acquire a competitive advantage in such a hostile environment, they need to emphasize business innovation and offer innovative services (Kitsios & Grigoroudis, 2020).

Service innovation in the TTI is affected by trends and their key drivers that shape future markets and the experiences tourists as customers seek (Dwyer & Edwards, 2009), which cause perceived uncertainty for managers during innovation management to deal with (Nobari et al.,

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2020). This uncertainty mostly leads to failure in service innovation, which is called 'strategic drift' (Dwyer & Edwards, 2009). This subject is significant in SMEs since it makes them more vulnerable when investing in service innovation activities, Due to their specific nature, such as finite access to financial and human resources, than giant companies (Tsiotsou & Vlachopoulou, 2011). However, relatively rare studies investigate the underpinning strategic mechanism of combining firm resources and capabilities, which causes improving service innovation in SMEs (Kowalkowski et al., 2013; Mennens et al., 2018; Salunke et al., 2013). Moreover, few studies have examined how these mechanisms, strategies, and capabilities affect firm performance in service innovation (Salunke et al., 2013).

To address the issue, this study adopted dynamic capabilities (DCs) perspective, which are the abilities of the firms to constantly sense and seize business opportunities, and integrate, recombine, or recreate resources and competencies to respond to these opportunities, so as to be competitive in a fast-changing environment (Teece, 2007; Wang & Ahmed, 2007). This study focuses on market-orientation capability (sensing opportunities) and ambidextrous innovation as DCs (reconfiguring resources) and their co-effect as a representative of the degree of effectiveness of linking strategy between them (seizing opportunities).

Market-orientation capability (MOC) is known as a significant determinant for tourism SMEs (Tsiotsou & Vlachopoulou, 2011), which helps them sense opportunities (Ortiz de Guinea & Raymond, 2020) through creating market intelligence (Guo et al., 2017) by monitoring and scanning trends and customers' expectations to recognize costumers' needs (Hattula et al., 2015; Haverila & Ashill, 2011). However, there is some research about the relation between MOC and firm (SME) performance (Bamfo & Kraa, 2019; Shah et al., 2015), yet there is a deficiency in figuring out the way MOC contributes to performance, especially in the TTI SMEs (Tsiotsou & Vlachopoulou, 2011). This brings about a need for further research (Shah et al., 2015).

To reconfigure their resource and competency capacities for deriving benefit from recognized service innovation opportunities, organizations in competitive markets must have ambidextrous innovation (AI) capability (Popadiuk et al., 2018; O'Reilly & Tushman, 2008; Ortiz de Guinea & Raymond, 2020). Previous studies have underlined the role of AI in firms' performance (Li et al., 2018; McDermott & Prajogo, 2012; Wei et al., 2014). Nevertheless, there is barely sufficient studies into AI in SMEs to date (also in the TTI), and it more research is still needed to better comprehend it, particularly with emphasizing firm performance in the service innovation area as a focal point (McDermott & Prajogo, 2012).

To be responsive to market opportunities, firms need abilities to diffuse the market intelligence (Ortiz de Guinea & Raymond, 2020) gained from MOC to adopt an appropriate course of action based upon them and adjust their AI activities to take advantage of service innovation opportunities effectively. The combined effect of MOC and AI shows the degree that the firm can seize opportunities by defining a proper strategy to create a connection between MOC and AI. Although each of these constructs (MO and AI) have been identified as well-known particular DCs related to firms' performance in service industries (Akbari et al., 2019; Mu et al., 2017; Najafi-Tavani et al., 2016), their co-effects on performance have not been studied yet.

Moreover, the vast economic exchange of large enterprises causes a competitive and hostile environment for SMEs that may affect their DCs and strategies (Tsiotsou & Vlachopoulou, 2011), developed for achieving superior performance in service innovation. Thus, this study surveyed the influence of international environmental hostility (IEH) on these variables. Although the relationship between business environment and tourism enterprises' performance has been discussed in the academic literature, the impact of IEH on the DCs has not been assessed.

This paper contributes to the theory and practice from different perspectives. First of all, it examines the importance of DCs and their impact on firm performance in the TTI service innovation and reveals novel facts about them (Kindström et al., 2013), especially in Iran as an emerging market. Although research on the TTI is overriding due to the industry's high turnover, it does not attract much attention from academia in Asian countries, even though some emerging markets, such as Iran, are proliferating. Second, this research aims to promote the knowledge of MOC and AI in the TTI built upon the previous studies (Najafi-Tavani et al., 2016; Yu et al., 2017) by attempting to respond to the noted deficiencies in the literature that scholars called for, and exploring the relationships among MOC, AI, IEH, and performance. Finally, following the DCs proposed by Teece et al. (1997), this study introduces the co-effect of MOC and AI as a new concept that has not been investigated previously and examines it on travel SMEs performance, which gives a valuable vision about the way (Iranian) SMEs in TTIs can seize and respond to environmental opportunities for service innovation.

The structure of the paper is as follows: first, the literature review and theoretical framework are presented. Next, the methodology is described, and then the results of the analysis are presented. Finally, a discussion of significant outcomes, implications, and concluding remarks are provided.

2. Literature Review

DC is a developed perspective of the literature on the "Resource-Based View" (RBV) theory (Schreyo¨gg & Kliesch-eberl, 2007). Unlike the RBV static perspective to capabilities, the word "dynamic" in DC refers to the capacity to rebuild organizational capabilities (Pavlou & El Sawy, 2011).

According to DC, firms, to be competitive as a result of their performance (Wang & Ahmed, 2007), must continuously endeavor to sense and seize external environmental opportunities and be capable of modifying, recombining, and improving or renewing their internal resources (Breznik & Hisrich, 2014) based on manager's entrepreneurial expectations (Zahra et al., 2006). By this description, three facts about DCs can be recognized (Madsen, 2010), which form the basis of the theoretical model of this study.

First, DCs are connected with the business environment, which can influence the DCs of the firm in two ways: 1) the dynamic environment initiates DCs and plays a guiding role for them, and 2) it plays a remarkable moderating role between DCs and performance (Li et al., 2014). The latter attitude is adopted in this research.

Second, some capabilities and activities lead to dynamism in a firm (Barreto, 2010; Rezazadeh & Nobari, 2018). Three categories of DCs are known as "sensing, seizing, and reconfiguring" (Teece, 2007). In this research, MOC (Barrales-Molina et al., 2014) and AI (Popadiuk et al., 2018) are known as sensing and reconfiguring DCs, respectively, and their co-effect represents the degree to which they effectively link to each other to seize market opportunities.

Third, using DCs has outcomes and consequences mainly presented in firm performance (Barreto, 2010; Madsen, 2010). There is a critical debate among researchers on how DCs influence the performance of the firms (Zhou et al., 2017), and whether this influence is direct or indirect (Teece et al., 1997).

By this description, the theoretical model and hypotheses of this research are presented as follow:

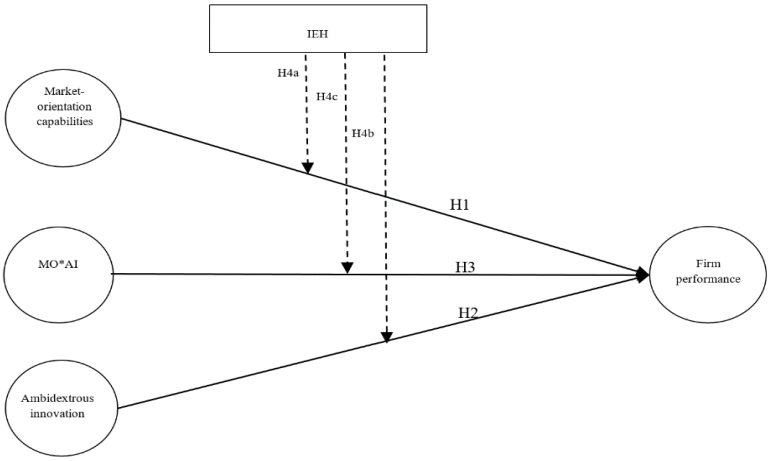

Figure 1. Research Theoretical Model

2.1. Market-Orientation Capability

Market orientation (MO) is a firm's "orientation to serve customers' needs through market intelligence" (Atuahene-Gima & Ko, 2001, p. 55) at present or in the future (Kohli & Jaworski, 1990). It gives an entrepreneurial vision to managers (González-Benito et al., 2009) for strategic positioning purposes by making timely decisions (Nobari et al., 2020) that affect their long-term profitability (Narver & Slater, 1990).

Enough attention has not been paid to the capabilities by which firms set up their market orientation toward target markets (Morgan et al., 2009). Murray et al. (2011) claimed that MOC mediates the relationship between MO and firm performance. They revealed that MOC acts as an impetus affecting firms' marketing capability and competitive advantages, influencing their performance. MOCs are based on knowing customers' needs and using past experiences to forecast and respond to those needs (Krasnikov & Jayachandran, 2008).

This research considers MOC as customer-linking capabilities (CLC) and market-sensing capabilities (MSC). CLC has been defined as the ability of the firm to establish and maintain a relationship with customers (Wang & Tsai, 2017) to improve the customer values and recognize the evolution of their needs for NPD (Mu, 2015). MSC can help firms observe recent market developments, predict the fundamental shifts in markets or behaviors by monitoring the market dynamics, and become aware of real-world trends (Du & Kamakura, 2012).

MOC lets organizations produce and propose a higher value for the customer and a source of firm profit (Zhou et al., 2009) and enable the firm to realize how the generated knowledge's potential value affects firm performance (O'Cass et al., 2014).

Previous research indicates that MOC influences new product performance (Najafi-Tavani et al., 2016), NPD performance (Mu et al., 2017), and firm performance (Bamfo & Kraa, 2019; Shah et al., 2015). Previously, many studies examined the association between MOC and firm performance in different sections, which demonstrated positive (Chen & Myagmarsuren, 2013; Tsiotsou & Vlachopoulou, 2011) and negative (Grewal & Tansuhaj, 2001; Kohli & Jaworski, 1990) effects as well as a non-significant relationship (Nwokah, 2008). However, evidence from the literature showed a strong relationship between MOC and firm performance in the tourism industry (Shah et al., 2015). Hence,

H1: MOC significantly influences firm performance.

2.2. Ambidextrous Innovation

Organizational ambidexterity is a trade-off between contradictory activities such as exploration and exploitation. Ambidexterity happens as adjustments occur inside organizations and the development of the innovations (Duncan, 1976). AI can be considered a particular kind of organizational ambidexterity as a DC (Kortmann, 2012), focusing on balancing explorative innovation and exploitive innovation related to opportunity-seeking and advantage-seeking behaviors as an entrepreneurial behavior, respectively (Hughes et al., 2021). Exploration implies knowledge development, which results in revolutionary innovation, including concepts like disparity, risk-taking, investigation, play, flexibility, detection, and innovation (Andriopoulos & Lewis, 2008). Exploitation points out improvement, selection, creation, effectiveness, choice, operation, and accomplishment to incremental innovation (March, 1991; Mihalache & Mihalache, 2016).

AI is not merely implemented through organizational structure and mechanisms separation (structural ambidexterity). It can also be carried out sequentially (switching between exploration and exploitation and vice versa) (Mu et al., 2020) based on ambidextrous behavior that can be attained in different levels of business-unit, project teams, and also individual level with the fundamental nature of contextual ambidexterity (Kortmann, 2012). However, because of their structural constraint, AI in SMEs is mostly sequential and individual-based, where top managers have a critical role (Mu et al., 2020).

SMEs require taking advantage of AI in their service innovation (McDermott & Prajogo, 2012). As competitiveness increases, firms must exploit conquering competencies and explore new ones more seriously (Floyd & Lane, 2000). There is a synergic effect between balancing and properly combining resources in exploring and exploiting activities to achieve a more significant competitive advantage by positively affecting firm performance (Cao et al., 2009).

AI is a critical key for achieving superior long-term firm performance in the tourism industry (Mihalache & Mihalache, 2016; Nobakht et al., 2020). To influence ambidexterity for firm performance, a firm must allocate adequate resources for exploration and exploitation (Wei et al., 2014). Gupta et al. (2006) declared that augmenting the effects of exploration and exploitation influences performance. In addition, it has been discussed that AI at the individual level, as it is prevalent in SMEs, promotes firm performance outcomes (Mu et al., 2020; Schnellbächer et al., 2019). Therefore,

H2: AI positively influences firm performance.

2.3. Combined Effect of Market-Orientation Capability and Ambidextrous Innovation on Firm Performance

Making insights about innovation opportunities from MOC is not merely crucial for organizations; disseminating and applying this information to create and implement strategies to seize the innovation opportunities is also essential (González-Benito et al., 2009), which firstly need a linking strategy to coordinate and align resources within the business based on the MOC results (Tsiotsou & Vlachopoulou, 2011). In this regard, MOC applies essential market intelligence into the approaches (Ortiz de Guinea & Raymond, 2020), while AI provides means for deploying the exploitative and explorative innovations taken after the information collected in this procedure. Accordingly, their co-effect indicates a linking strategy and course of actions that relate MOC to AI. In other words, their combination represents a firm's ability to make a connection between a perceived market opportunity gained from MOC and AI to make decisions more precisely to recombining resources and

competencies to adjust innovation exploration and exploitation activities. Measuring it demonstrates how effective the linking strategy between MOC and AI is and how much alignment there is between sensing opportunities and decisions made for putting them into action to seize market opportunity appropriately. Knowing this, managers could better decide how to create proper strategies and actions to disseminate the market intelligence and apply it for steering their AI activities.

However, although the impact of AI influences on firms' performance has received considerable attention, there is no perfect sense of how firm MOC might support AI. Regarding MO, firms need to consistently learn about existing and future markets to respond to changes effectively. Having higher sensing of environmental changes allows the firm to change its responses to market opportunities. Explorative and exploitative innovations are necessary procedures that can affect firm performance through the related capabilities to sensing business environment and market (such as MOC) (Ngo et al., 2019).

Moreover, many studies emphasize that the type of MO (responsive MO vs. proactive MO) may change the influence of exploration and exploitation and their interaction with the firm performance. In other words, MOC affects reconfiguring resources and employing AI, which influences firm performance (Cai et al., 2015; Liu et al., 2014; Tinoco et al., 2019). Therefore,

H3: The interaction between MOC and AI significantly influences firm performance.

2.4. International Environmental Hostility and its Influence on Market-Orientation Capabilities and Ambidextrous Innovation

Hostility is related to the paucity/affluence of crucial firm resources, and non-existence/existence of long-term growth opportunities in terms of competition (García-Sánchez et al., 2021). Thus, IEH is defined as the amount of threat the firm is exposed to due to the intense competition, industry phases (Khandwalla, 1977), and radical changes in technology and demand, which are associated with infrequent opportunities and uncertainties (Zahra & Covin, 1995). In a hostile environment, there is a probability of unfair prices, faulted products, distributions and technological competition, regulatory limitations, lack of labor, defective materials, and adverse demographic changes (Miller & Friesen, 1983). Environmental hostility has been increased due to the radical changes, regulatory burdens, technology, and demand (Atuahene-gima, 2004; Zahra & Covin, 1995; Zahra & Garvis, 2002).

Environment plays a crucial role in determining performance quality (Jansen et al., 2006; Zahra, 1996). Akbari et al. (2019) found that the relationship between organizational capacity for entrepreneurship and organizational performance is more robust when firms perceive their business environment as more dynamic. They suggest that the environment's perceived nature, especially its hostility, affects the relationship between corporate's international entrepreneurship and their performance. Thus, although a hostile environment might be negatively related to the company's performance, it positively moderates the influence of entrepreneurial behavior on innovation consequences (Covin & Slevin, 1989; Strobl et al., 2020). Calantone et al. (1997) indicated that by developing the performance of main NPD activities under hostile environmental situations, a firm could significantly increase the probability of developing a new product.

IEH can lead organizations to perform poorly as they are not ready to come across the shocks stem from environmental hostility. Although some organizations can develop capabilities and adjust resources and competencies to absorb these shocks and may also be entrepreneurial, under the IEH, they do not necessarily have high performance. Therefore, IEH can improve or diminish the performance (Onwe et al., 2020). Accordingly, IEH has

different effects as a moderator between DCs and performance, and many studies have demonstrated it. IEH causes perceived uncertainty for SME managers and reduces their discernment to conduct the exploration and exploitative activities to keep the balance between them (AI), as Wang et al. (2021) mentioned at the time of dysfunctional competition. Thus, there is a need for environmental sensing capabilities like MOC to make them aware of the innovation opportunities (both incremental and discontinuous). In this line, it has been proposed that in an intensively competitive environment, SME's with superior MOC can better meet their customer's needs and enhance their performance (Shah et al., 2015), and firms with higher AI indicate better performance (Harmancioglu et al., 2020).

Moreover, the latest research literature has highlighted supplementary capability combinations in firm performance in an uncertain hostile environment (Najafi-Tavani et al., 2016; Ngo & O'Cass, 2012). Thus, since IEH affects both MOC and AI, it may influence their co-effect as well. Based on the discussions made in this section, we hypothesize that:

H4a: A hostile environment moderates the relationship between MOC and the firm's performance.

H4b: A hostile environment moderates the relationship between AI and the firm's performance.

H4c: An IEH moderates the relationship between a combination of MOC and AI with firm performance.

3. Methodology

3.1. Sampling

There are three types of licenses for TTI firms and SMEs in Iran. These include 1) air travel service companies or airline agencies with license type A, 2) tourism service companies or travel agencies with license type B; and 3) pilgrimage services companies or travel agencies with license type C. Taking into account this classification and the purpose of our research about service innovation, we focused on the second type that contained SMEs in the category of tourism service companies. The "Lastsecond.ir" website has created a directory of the tourism industry and travel agencies. There were 1193 active tourism SMEs in Tehran city in our research period (October 2018 and April 2019). By investigating each of the agencies, we found out that about 441 of them belonged merely to categories A and C. Thus, we considered our statistical population as comprised of 752 agencies, and using the "Cochran" formula for sample size, we concluded that a sample of 254 agencies would be appropriate for this study. Therefore, the quantitative research was carried out with 260 questionnaires distributed to the CEOs, marketing managers, and vice presidents of travel and tourist SMEs living in Tehran County. A sum of 154 questionnaires (i.e., 59%) was returned after three follow-up stages. The required time for filling the survey was about 25– 30 minutes. Participation in our study was voluntary, and other volunteer participants replaced those refusing to participate. No financial or non-financial incentives were offered to the participants. About 40 questionnaires were ignored because the participants did not answer more than 10% of the items. Forty seven percent of the CEOs and managers were males and 53% were females. In terms of educational qualifications, the majority of the CEOs and managers had a bachelor's degree (57.4%), followed by (25.2%) with a master's degree.

The questionnaire enclosed the variables emphasized in the study model, including performance, MOC, AI, IEH, and control variables concerning the travel industry.

3.2. Item Measurement

A four-item scale of international environmental hostility developed by McDermott and Prajogo (2012) and Zahra and Garvis (2000) was used. The MOC was measured using a 12-item scale (Wang & Tsai, 2017). An 11-item scale was used to measure AI (McDermott & Prajogo, 2012). Finally, the firm performance was measured using four items (Thakur & Hale, 2013). Five-point Likert scales were used for all constructs. Participants were asked to specify the degree of their agreement (from 1 'strongly disagree' to 5 'strongly agree').

3.3. Common Method Variance (CMV)

We served several methods to avoid the problem of CMV. As we surveyed the respondents with both dependent and independent variables, there was a higher possibility of existing CMV. To reduce the risks of CMV, as suggested by Podsakoff et al. (2003), we guaranteed firms' anonymity and strategically distributed the questions of dependent and independent variables in the questionnaire, which is a practical procedural step to minimize the risk of CMV (Krishnan et al., 2006). Furthermore, Harman's single factor test was performed (Podsakoff et al., 2003), indicating that the single factor explicated less than 50% of the total variance (18.12%). Next, as suggested by Kock and Lynn (2012), a full collinearity investigation was conducted to ensure the absence of CMV. Based on it, a critical point of 3.30 was achieved from Variance Inflation Factors (VIFs). Given that, all VIFs values in this study are lower than 3.30, indicating that the measurement model was not affected by this bias (Kock, 2015). Finally, we also described for respondents that the objectives of this study were only for academic purposes, and there were no 'true' or 'false' responses for the questions. Thus, the respondents' felt safe over their answers, and they would give what they comprehend as the best answers (Zhou et al., 2017).

3.4. Validity and Reliability

Construct validity is the ability of selected questions to reflect the characteristics of the structure being measured. To this end, before distributing the questionnaires, we sent them to three experts who had both academic and practical experiences (Rubio et al., 2003) in the TTI field. Based on their comments, we made needed changes so as to make the questions more appropriate for managers active in TTI SMEs in terms of understanding and responding. To estimate the reliability of the questionnaire, a pilot study was conducted by 30 CEOs who were initially chosen. Cronbach's alpha coefficients for the Likert-type scales were between 0.67 and 0.87. After a minor change in the research questionnaire, data collection was carried out.

The average variances Extracted (AVE) and Composite Reliability (CR) for the research constructs were higher than 0.5 and 0.7, respectively (Table 1). Additionally, in our model, convergent validity was represented by the entire item loadings which, were above 0.6 and significant at 0.01 (Bagozzi et al., 1991). Furthermore, comparing individual AVEs with the squared correlation of two constructs, the discriminant validity of research was also estimated as recommended by Fornell and Larcker (1981). If any construct has the AVE above the squared inter-construct correlation (SIC) estimations, it means that the model's constructs confirm the standards of divergent validity, as it was the case in this study. Bivariate correlations were conducted among all variables included in this study (Table 2).

Statistical tools, including means, standard deviations, and Hierarchical Linear Regression analysis, were used to analyze the hypotheses of this study using SPSS software. PLS software 3.2 was used for confirmatory factor analysis (CFA), considering covariance matrix

as input, refining maximum likelihood estimation by the measurements, and estimating the measurement model's dimensionality, reliability, and validity. The final model represented a good fit after eliminating six questions with a weak performance (four MOC variables and two AI variables).

Table 1. Mean, Standard Deviation, AVE, CR, and Cronbach's Alpha

Variable	Mean	SD	Item loading	AVE	CR	Cronbach's alpha
MOC	4.014	0.618	0.666-0.784	0.508	0.892	0.861
1. CLC	4.191	0.704	0.842-0.882	0.753	0.901	0.836
2. MSC	3.907	0.692	0.723-0.807	0.596	0.880	0.830
AI	3.88	0.634	0.675-0.777	0.526	0.909	0.887
1. Explorative innovation	3.896	0.726	0.726-0.804	0.611	0.887	0.840
2. Exploitative innovation	3.875	0.631	0.759-0.831	0.617	0.865	0.792
IEH	4.284	0.672	0.625-0.844	0.599	0.815	0.672
FP	4.033	0.596	0.761-0.800	0.607	0.903	0.871

Table 2. Construct Correlation

	CLC	MSC	ERI	EII	IEH	FP
Customer-linking capabilities (CLC)	**0.868**					
Market-sensing capabilities (MSC)	0.546	**0.772**				
Explorative innovation (ERI)	0.543	0.560	**0.782**			
Exploitative innovation (EII)	0.487	0.648	0.513	**0.785**		
International environmental hostility (IEH)	0.117	0.209	0.368	0.352	**0.774**	
Firm Performance (FP)	0.600	0.509	0.516	0.574	0.188	**0.779**

4. Results

4.1. Descriptive Analysis

According to Table 1, the mean values of some constructs such as market orientation ($\overline{X}$= 4.01; SD =0.62), firm performance ($\overline{X}$=4.03; SD=0.596), and IEH ($\overline{X}$=4.28; SD =0.67) are relatively high and favorable, while AI ($\overline{X}$=3.88; SD =0.634) shows a medium level of mean values.

4.2. Hierarchical Linear Regression (HLR) Analysis and Hypothesis Testing

The HLR analysis was conducted to examine the hypothesized relationships. It is one of the most common methods used in previous studies (McDermott & Prajogo, 2012; Najafi-Tavani et al., 2016; Wei et al., 2014). The survey centers all measures (Mason & Perreault, 1991)

(except the items for the dependent variable, i.e., firm performance) to prevent multicollinearity problems. As represented in Table 3, Model 1 includes control variables (firm size and firm age). Model 2 represents the MOC, AI, and IEH analyses. The interactions of MOC×AI, MOC×IEH, and AI×IEH are interpolated in Model 3. Finally, Model 4 covers the interaction between MOC×AI×IEH.

Even though adding the main factors in Model 2 increased R2 by 0.382, the consideration of the interaction terms AI×MOC, MOC×EH, and AI×IEH in Model 3 further increased R2 by 0.24. Moreover, putting AI×MOC×IEH interaction to Model 3 increased R2 in Model 4 by only 0.006. F-values for the incremental R2 values reached a 0.001 significance level.

In Model 2, MOC and AI are meaningfully linked to firm performance (MOC: 0.515, $p < 0.001$; AI: 0.266, $p < 0.005$); confirming hypotheses H1 and H2. Subsequently, looking at the interaction condition in Model 3, the coefficient estimating interaction between MOC×AI is negative but significant (-0.142, $p < 0.05$); henceforth, the findings confirm H3.

Furthermore, the coefficients were estimated for the interaction term between MOC and IEH (0.259, $p < 0.05$) and AI and IEH (-0.219, $p > 0.05$). The results indicated that the relationship between MOC and firm performance is positively moderated by IEH; therefore, the results provide support for H4a but not for H4b. Eventually, in Model 4, the coefficient estimate for interaction between MOC×AI×IEH was positive but not insignificant (0.123, $p > 0.05$), and thus, it did not support our H4c.

Table 3. HLM Analysis

		Model 1	**Model 2**	**Model 3**	**Model 4**	**VIF**
	Firm Size	0.157 (1.423)	-0.121 (-1.765)*****	-0.095 (-1.36)	-0.086 (-1.24)	1.253
	Firm Age	0.159 (1.415)	0.008 (0.113)	-0.012 (0.178)	0.014 (0.204)	1.233
H1	MOC		0.492 (5.15)*******	0.55 (5.64)***	0.548 (5.65)***	2.445
H2	AI		0.228 (2.34)******	0.12 (1.14)	0.08 (0.742)	3.038
	IEH		-0.078 (-1.143)	0.105 (1.13)	0.033 (0.309)	2.892
H3	MOC×AI			-0.142 (-1.962)*	-0.182 (- 2.36)*	1.540
H4a	MOC×IEH			0.259 (2.483)**	0.241 (2.3)*	2.840
H4b	AI×IEH			-0.219 (1.957)*	-0.144 (1.17)	3.912
H4c	MOC×AI× IEH				0.123 (1.48)	1.786
	R^2	0.012	0.402	0.437	0.446	

Note: T-values are in parentheses.

5. Discussion

Our findings can be discussed in four parts. First, a strong MOC was associated with solid growth in firm performance (H1) in TTI SMEs. These findings are congruent with the existing marketing and business literature, maintaining that MOC influences (tourism) firm performance (Bamfo & Kraa, 2019; Narver & Slater, 1990; O'Cass et al., 2014; Shah et al., 2015). However, our findings are inconsistent with Nwokah (2008) research, which indicated that there is no relationship between these constructs. In addition, results confirm Tsiotsou and Vlachopoulou (2011) and Chen and Myagmarsuren (2013) research that MOC positively affects firm performance. Thus, the approval of this influence in this research that happens in a service context supplements the former findings and strengthens DCs perspective.

Second, the findings confirm previous studies (Gupta et al., 2006; Mihalache & Mihalache, 2016; Mu et al., 2020; Schnellbächer et al., 2019; Wei et al., 2014), claiming that AI positively affects the firm's performance (H2), including TTI. Moreover, these results are consistent with what Schnellbächer et al. (2019) and Mu et al. (2020) stated about the positive relationship between individual levels of AI and SME performance. In addition, the previous studies have approved that SMEs can take advantage of AI (McDermott & Prajogo, 2012). Hence, our results complement prior visions and reinforce the support for the DC perspective (O'Reilly & Tushman, 2008).

Third, it can be concluded from the results that there is no proper link between MO and AI activities in the investigated SMEs, leading to a negative effect on performance (H3). This finding firstly confirms the finding of the previous studies (Cai et al., 2015; Tinoco et al., 2019; Wei et al., 2014) studies that MOC has an effect on exploration and exploitation and their interaction with the firm performance. Secondly, building on Ortiz de Guinea and Raymond's (2020) opinion, it can be perceived that the studied SMEs are weak in seizing and responding to the recognized opportunities from the business environment. Therefore, they should provide appropriate a link and alignment between their MOC and AI activities. This connection leads to reconfiguring their resources and competencies successfully by adjusting their exploration and exploitation activities based on external environment changes by diffusing the gained market intelligence by MOC.

Fourth, although prior studies (e.g., Jansen et al., 2006; Zahra, 1996) claimed that the environment plays a crucial role in determining performance quality, our hypothetical predictions indicate that IEH does not significantly decrease the quality of performance. IEH significantly moderates the relationship between MOC and performance (H4a). Precisely, the TTI agencies working in dynamic environments will have a higher performance by pursuing MOC, which is in line with Shah et al.'s (2015) research. Moreover, the findings revealed that the relationship between AI and performance is moderated negatively by IEH (H4b), contrary to what Harmancioglu et al. (2020) proposed in their study. In addition, these results do not support the impact of IEH on the combined effect of MOC and AI on firm performance (H4c), unlike Najafi-Tavani et al. (2016) and Ngo and O'Cass (2012) who asserted that an uncertain and competitive environment influences using supplementary capability combinations to affect firm performance. The finding also illustrates that a firm internal issue of creating and implementing a linking strategy between MOC and AI may not be seriously affected by external environmental conditions.

5.1. The Implications for Theory and Practice

There is a notable gap in the literature regarding understanding non-financial factors that affect the firms' performance, especially in the TTI. MOC and AI are among the significant factors influencing firm performance in current and future business contexts. Although the literature and previous experiences hypothesized that MOC and AI influence travel and tourist firm performance, there are rare studies in the SME context and the tourism industry pertaining to this issue.

Thus, this study makes imperative contributions to the literature. Indeed, it contributes to strategic marketing literature by covering the latest research (Najafi-Tavani et al., 2016) on examining the relationships between MOC, AI, and firm performance, and also by examining them in the TTI SME context. In addition, this research expands the literature in two ways. First, it introduces the co-effect of MOC and AI as representative of the degree of effectiveness of strategic link between MOC and AI, and then finds out its influence on firm performance. Second, it considers IEH in MOC and AI research, which has not been

previously investigated sufficiently, and determines its effect as a moderator on the relation of MOC, AI, and their co-effect with firm performance.

The findings of this study have significant implications for TTI in Iran as well as other emerging countries that contain remarkable tourism potentials. These countries should move towards competitiveness, one of the requirements of which is to pay attention to service innovation provided by their SMEs. The findings of this study can be used to turn these potentials into reality by proposing suggestions for their SMEs to apply their limited resources properly by developing required DCs to succeed in creating service innovation. In this regard, there are exciting implications for executive directors and managers of SMEs in this industry, which are presented as follows.

In TTI, as a service and experience-based industry, paying enough attention to customer needs is crucial to creating memorable experiences for customers and creating a competitive advantage in this industry. The 'experience economy' concept introduced by Pine and Gilmore (1998) is also noteworthy here. In this regard, the economies' progress from the agrarian and then industrial towards service, and the most current experience economy implies that leading companies adopt their market capabilities and innovative measures to provide unique experiences for their customers (Pine & Gilmore, 1998). Indeed, to be competitive in such an uncertain environment, (SME) managers must be conscious about what will occur in their business environment to sense innovation opportunities and know-how to recombine and reconfigure their resources and performance based on perceived opportunities (Nobari et al., 2020), which indicates MOC and AI are critical DCs for them. Therefore, these managers must encourage the stakeholders to look for new opportunities by taking reasonable risks proactively and focus on effectively applying exploitative and explorative innovation activities while maintaining a balance between them based on the recognized opportunities. To this end, TTIs' SMEs must contact clients in new markets to attract future demands and identify new opportunities. In this regard, these SMEs need to estimate how they can manage the uncertainty of operating in a new market to overcome the possible risks of new opportunities. To do this, they have to implement measures for their knowledge and activities, establish interactive communication channels, and promote and improve the communication skills of their employees. Therefore, the firm's structure and operations should increase the knowledge of new markets and partners and improve the network's coordination and interactions. In this sense, the effective use of communication technologies both internally and externally is primarily essential (Solano Acosta et al., 2018).

Moreover, according to the characteristics of SMEs and their scarce resources, two strategies can be taken to harmonize and create a connection between MOC and AI. The first strategy is named the balanced dimension (BD) strategy, in which these two activities are done simultaneously in the firm. The second one, known as the combined dimension (CD) strategy, follows sequentially and focuses on resources instead of competing, leveraging, and supporting each other. To select an appropriate strategy, it is noted that the CD strategy makes a better performance in an industry with a long product/service life cycle and a long product/service development process (like the automobile industry). On the contrary, the BD strategy causes a better performance for industries with a short product/service life cycle and a long product/service development process (like the fashion industry) (Nofiani et al., 2021).

Due to a long service life cycle and a more protracted process of new service development in the TTI, it is suggested that SMEs choose the CD strategy to connect MO and AI to achieve a higher level of performance. For this purpose, first, top managers of SMEs should navigate the opportunity sensing activities that stem from their uncertain environment by putting into practice MOC. After determining the outcomes as opportunities for innovation, they should decide to focus on exploration or exploitation activities, since maintaining a

balance between them is sequentially according to the SMEs characteristics associated with lack of sufficient resources to dedicate to these activities. Managing ambidexterity in SMEs occurs at the individual level, being challenged and improved by proper top managers' guidance (Mu et al., 2020). Thus, managers should adopt a suitable leadership style based on entrepreneurial behavior that leads to the formation of these DCs (Liu et al., 2019) to make employees focus their attention on the selected activities. It caters to the proper context for successful service innovation, whose results are reflected in their performance.

In addition, as this research confirmed, environmental hostility was found to be a contingency factor (Strobl et al., 2020). In this stream, Miller and Friesen (1983, p. 223) found that "for scarce resources, hostility makes slimmer profit margins and less maneuverability in general." Managers need to take risks in environments characterized as hostile and proactively look for solutions to maintain or achieve sustainable competitive advantages (Covin & Slevin, 1989).

5.2. Limitations and Future Research Direction

Despite making theoretical and practical contributions to the literature, this research is not without limitations, influencing its generalizability. First, it only covers the TTIs' managers, so it remains extended to other industries and areas in future studies to generalize the results supported by our model. Similarly, further research could be conducted on the attitude of all workers in the travel and tourism supply chain to get a comprehensive view of this industry to be able to improve it. Future studies may apply mixed and multi-methods research (MMMR) measurements with large samples to make a triangulation on such multi-faceted attitudes. Furthermore, future scholars may consider a longitudinal panel design to better understand how a firm's pursuit of AI and MOC affects its subsequent performance over time (Jansen et al., 2006; Shah et al., 2015).

Furthermore, measuring firms' performance subjectively as the dependent variable was another limitation of this study, which might have a restricting impact on the analyses and results (Najafi-Tavani et al., 2016). Another limitation of our research is associated with our limited sample, which was collected from a specific industry of Iranian firms. This research was conducted in an emerging economy, so other factors related to the environment were not emphasized. It would be interesting to improve the research framework by incorporating new variables and assessing the direct and indirect influences. It helps us better understand the functioning of MOC and AI and their impacts on performance. Those new variables could also add the customer's point of view to improve the future results. Moreover, in this line, as our research was focused on emerging markets like Iran, it would be helpful for the researcher in developed countries with mature TTI to study the co-effect of MOC and AI and present a comparison of their results with the result of this study. Finally, in this study, we just measured non-financial performance in service innovation; we suggest the actual performance be considered in future research to give a more comprehensive view of the issue.

6. Conclusion

Even though the dynamic environment is a source for emerging innovation opportunities, the effective exploitation of which helps emerging markets like Iran gain competitiveness, tourism SMEs as a significant driving force in promoting TTI in this area often face ambiguity to select and develop new technology services accurately. It mainly causes them to experience failure in their service innovation and performance, which Dwyer and Edwards (2009) called 'strategic drift.' Accordingly, this research concentrates on examining the

relationship between DCs – containing MOC (sensing category), AI (reconfiguring category), and their co-effect (Seizing category) – and firm performance – considering IEH as moderator, in Iranian TTI SMEs – to understand how they can help SMEs to overcome this issue. The findings indicate that the performance of travel and tourist SMEs is positively influenced by MOC and AI, though not by IEH. Besides, the results approved the interrelations between the variables and recommended the effects of MOC and AI on firm performance through IEH. Thus, maneuvering to promoting them, TTI's SMEs is a critical matter that must be taken into account. In addition, although the findings confirmed that the interaction of MOC and AI affects the SME's performance in TTI, they also demonstrate that this interaction is infirm in studied SMEs, and managers must define and set appropriate strategies and courses of action to strengthen the connection between them.

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