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Organizational change capability and ambidexterity: The mediating role of innovativeness and responsiveness

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Abstract: This study aims to investigate whether organizational change capability (OCC) enables firms' ambidexterity (explorative innovativeness and exploitative responsiveness) and results in above-average performance. Besides testing whether ambidexterity is possible, the study also investigates how it can be achieved by testing the role of mediators in the relationship between OCC and a firm's performance. The study surveyed suppliers of a large Croatian firm from the construction industry. A total of 160 usable surveys were collected and data analysis was conducted using partial least squares structural equation modeling. Our study confirms the positive effect of OCC on a firm's responsiveness and innovativeness, while also demonstrating that OCC has a positive impact on a firm's performance. In addition, the results empirically show for the first time that OCC and innovativeness have a positive impact on a firm's responsiveness. This study contributes to the understanding of the OCC construct by linking it to ambidexterity and investigating the role of mediators in the relationship between OCC and a firm's performance.

Subjects: Business, Management and Accounting; Innovation Management; Strategic Management

Keywords: ambidexterity; dynamic capabilities; innovativeness; organizational change capability; responsiveness

1. Introduction

To understand the impact of a firm's organizational change capabilities on performance, we draw on dynamic capabilities (DC) and ambidexterity theory. The dynamic capabilities concept has emerged from a resource-based view (RBV). According to the RBV, competitive advantage arises from the firm's internal environment (Wernerfelt, 1984), with the firm's resources as coordinating mechanisms (Rumelt, 1991). If a firm has valuable, rare, and inimitable resources and capabilities, and if the organization supports their usage, a firm will achieve sustainable competitive advantage and above-average performance (Barney, 1991, 1997, 2001). These characteristics of organizational resources are referred to as the VRIO framework. Although RBV is one of the most influential theories in management research (Kraaijenbrink et al., 2010), it is also extensively criticized. A significant number of critiques are related to its static character, immobility and heterogeneity assumptions, and absolute internal orientation while ignoring industry influence (Foss & Knudsen, 2003; Porter, 1991; Priem & Butler, 2001).

On the grounds of RBV, to overcome its drawbacks, Teece and Pisano (1994) proposed the dynamic capabilities (DC) framework. The DC framework refers to a volatile environment and emphasizes the role of strategic management in adapting, integrating, and transforming internal and external organizational skills, resources and functional abilities to environmental change (Eisenhardt & Martin, 2000; Macher & Mowery, 2009; Teece et al., 1997; Wang & Ahmed, 2007). In addition, dynamic capabilities are created by accumulating relevant experience and learning, which enables them to (re)configure operational capabilities and resources (Regnér, 2008; Zollo & Winter, 2002). There is a broad consensus that DC has a positive impact on firms' performance (Ferreira & Coelho, 2020; Narayanan et al., 2009; Nhon et al., 2020), but little is known about the ways they affect firm performance (Zott, 2003). Fabrizio et al. (2022) explains that understanding the key elements of firms' DC is crucial in particular for small and medium-sized enterprises (SMEs) because of a shortage of strategic resources, which in turn decreases their competitive advantage sources. In addition, dynamic environments which most companies are facing, require a proactive approach. Such an approach requires a specific capability, which has been referred to as organizational change capability (OCC) (Soparnot, 2011).

OCC is a generic dynamic capability that enables change implementation in adapting to opportunities and threats (Andreeva & Ritala, 2016; Judge & Blocker, 2008; Judge & Elenkov, 2005; McGuinness et al., 2002; Soparnot, 2011). The antecedents and outcomes of OCC have gained substantial research attention, while mediators "are beginning to be investigated" (Montreuil, 2023, p. 1191).

To achieve competitive advantage and above-average performance, a firm must prepare for new markets through exploration, while efficiently responding to current demands through exploitation (Judge & Blocker, 2008). The balance between exploration and exploitation is hard to achieve since is extremely difficult to be good at both processes simultaneously. This ability to exploit and explore is called ambidexterity, and dynamic capabilities form the core of a firm's ambidexterity (Easterby-Smith & Prieto, 2008; O'Reilly & Tushman, 2008; Zollo & Winter, 2002). Our study addresses this gap and investigates whether (and how) OCC as dynamic capabilities, enables firms' ambidexterity and leads to above-average performance.

The contribution of this paper is reflected in the development and testing of a model that perceives responsiveness as a market-driven exploitation strategy and innovativeness as a market-driving exploration strategy. The model tests whether responsiveness and innovativeness could be simultaneously developed using the organizational change capabilities to achieve above-average performance, i.e. the model tests if ambidexterity is possible. This study contributes to the OCC literature, which is a new and growing field in need of additional research and development (Heckmann et al., 2016; Montreuil, 2023; Sanchez-Medina, 2020). McGuinness et al. (2002) argue that OCC can be used as a link between the literature on strategic management (dynamic capabilities, competitive advantage) and marketing (MARKOR and responsiveness) on the one hand and organizational change management on the other. Judge and Elenkov (2005) call for additional research on OCC and performance outcomes as well as links to innovation.

2. Theory and hypotheses

2.1. Organizational change capabilities

Without adequate adaptation and change management, the firm will most likely lose its competitive advantage and risk its survival (Richard, 2014). The concept of organizational change capability (OCC) originates from the RBV. It is a dynamic approach that explains the evolution of organizations, where change is a deliberate and conscious reaction (Soparnot, 2011). OCC is a dynamic capability (Soparnot, 2011), that allows the firm to adapt existing capabilities to new threats and opportunities and helps to create new capabilities (Judge & Blocker, 2008; Judge & Elenkov, 2005; Soparnot, 2011) and to achieve and sustain a competitive advantage (McGuinness et al., 2002).

OCC is the ability to manage change. It determines a firm's effectiveness in change implementation (McGuinness & Morgan, 2005). It refers to the dynamic capability that allows a firm to adapt existing capabilities to new opportunities and to develop new capabilities (Judge & Elenkov, 2005). It can help with efficient planning and implementation of all changes while reducing the negative impact on people and the firm's functioning (Ackerman Anderson & Anderson, 2010). The concept of OCC is associated with the quality of the implementation of change resulting from any other capability (McGuinness et al., 2002). OCC should be developed in all firms, regardless of size, industry, and other parameters (Heckmann et al., 2016). Since the OCC concept is quite a new concept, Supriharyanti and Sukoco (2023) in their most recent overview argue that the definitions do vary but describe the same ideas.

According to Naveed et al. (2017) the main predictors of OCC are process, strategy, attitude, structure, culture and technology. McGuinness and Morgan (2005) state that OCC has three components; a suitable basis for continuous change (part of organizational culture), the ability to shape continuous change (partly culturally shaped and partly through systems and processes), and retaining the energy of that change (maintaining employee commitment). Soparnot (2011) states that the ability to manage change consists of context, process, and learning dimensions. The context dimension is made of resources that enable the change process. The process dimension refers to change implementation, and the learning dimension refers to the firm's introspective ability to review its capability to manage change.

Judge and Elenkov (2005) define OCC through the following dimensions: 1) trustworthy leadership: the ability of top management to earn the trust of the rest of the organization and show organizational members how to achieve goals; 2) trusting workers: the ability of the rest of the organization to express constructive disagreement and/or enthusiasm for new management ideas; 3) capable champions: the firm's ability to attract, retain and empower change leaders; 4) involved middle management: the ability of middle managers to effectively connect top management with the rest of the organization; 5) innovative culture: the firm's ability to encourage innovative activities; 6) accountable culture: the firm's ability to successfully manage resources and successfully meet predetermined deadlines; 7) system communication: the firm's ability to communicate vertically, horizontally and with clients, and 8) systems thinking: the firm's ability to focus on causes and recognize interdependencies within and outside the firm's environment. Although there are differences in defining dimensions of OCC, Supriharyanti and Sukoco's (2023) systematic review shows that more than 40% of analyzed papers refer to OCC using Judge and Elenkov's (2005) definition. The most commonly used and tested model is by Judge and Elenkov (2005). Taking this into account and the fact that Judge and Elenkov's (2005) eight-dimension classification of OCC with its detailed approach encompasses various aspects of OCC that can appear in a firm, their classification will be used in this study.

OCC is associated with organizational openness and tolerance for change, which depends on the overall structure and systems of the organization. It can be assumed that if the OCC is not at a high level, the proposed changes will be abandoned very quickly, or after their implementation, their impact on the organization's performance will be absent (McGuinness et al., 2002). OCC can be described as allocating and developing change and operational capabilities that support long-term performance. There is also evidence that an exclusive focus on individual change can cause negative performance, while strategic, directed, structural, interconnected, and guided changes work well together and lead to better performance (Klarner et al., 2007). The purpose is to use OCC to achieve maximum performance (Ackerman Anderson & Anderson, 2010), which was empirically confirmed by Adna and Sukoco (2020). Based on that, we propose:

H1. *Organizational change capability positively influences a firm's performance.*

2.2. Ambidexterity and organizational change capabilities

To be successful and achieve above-average profits, a firm must prepare for new markets while efficiently responding to current demands. However, the critical question is how firms can simultaneously respond to current and future needs (Judge & Blocker, 2008).

Dynamic capabilities are linked to discussions about exploitation and exploration strategies (Judge & Blocker, 2008). The aim is to discover whether it is possible and how to use both strategies simultaneously. The process of a firm's adaptation includes the ability to productively exploit the firm's existing assets and position while simultaneously exploring new technologies and markets, i.e., configuring and reshaping resources to exploit existing and exploring new opportunities. This the ability to exploit and explore is known as ambidexterity. Exploitation is associated with efficiency, growth in productivity, control, and safety, while exploration is related to discovery, autonomy, and innovation. Ambidexterity refers to all of the above. Most authors believe that firms cannot pursue exploitation and exploration at the same time due to the "stuck in the middle" hypothesis (Thornhill & White, 2007). Moreover, Clauss et al. (2021) proved that ambidextrous strategy has a negative impact on firm's competitive advantage, while Rojas-Córdova et al. (2023) elaborate that managers should create specific exploitation-exploration mix in relation to contextual factors (organizational and environmental conditions). In order to overcome the difficulties regarding implementation of ambidexterity and uncertainty of its outcomes, Stoiber et al. (2023) define seven concepts of ambidextrous structures that can facilitate implementation of disruptive business models. Their analysis also shows that the different ambidextrous structures do not address all barriers equally because different structures have different values for the companies.

O'Reilly and Tushman (2008) state that ambidexterity is possible, but difficult to achieve. They believe that dynamic capabilities form the core of a firm's ambidexterity. Zollo and Winter (2002), as well as O'Reilly and Tushman (2008), believe that the above processes can co-evolve. Easterby-Smith and Prieto (2008) associate dynamic capabilities with ambidexterity and claim that dynamic capabilities depend on the evolution of knowledge through exploration and exploitation, where exploration refers to the generation of new ideas and selecting the most suitable, and exploitation to use existing methods in new contexts. A firm must strike a balance between exploration and exploitation because it is extremely difficult to be good at both processes simultaneously. Since OCC are dynamic capabilities (Judge & Blocker, 2008; Judge & Elenkov, 2005; McGuinness et al., 2002; Soparnot, 2011), our study aims to explore whether OCC could enable ambidexterity. Strategic actions can be either market-driven or market-driving. Responsiveness is market-driven action that aims to respond to changes in the external environment. Innovativeness is market-driving action that induces changes in the market structure. These two types of actions are complementary (Jaworski et al., 2020; Wei & Wang, 2011). By perceiving responsiveness as market-driven exploitation strategy, and innovativeness as market-driving exploration strategy, this study investigates if both could be simultaneously developed using OCC.

2.3. Exploitation strategy and firm's responsiveness

According to Judge and Blocker (2008), market orientation is an exploitation strategy that emphasizes serving customers by understanding their needs and creating value for them. It is a set of processes that include creation, expansion, and response to the market, as well as the firm's ability to understand the needs of customers and suppliers while building a relationship with them. Narver and Slater (1990) argue that market orientation consists of three behavioral components: customer orientation, competitor orientation, and inter-functional coordination. The goal of market orientation is satisfying customer needs through market intelligence generation, dissemination of market intelligence, and responsiveness to it (Kohli et al., 1993). Usually in research market orientation is conceptualized through information generation, dissemination, and responsiveness (González-Benito & González-Benito, 2005; Jiménez-Jiménez & Cegarra-Navarro, 2007; Kaynak & Kara, 2004; Santos-Vijande et al., 2005; Taylor et al., 2008), and our study adopts this classification. Moreover, we focus on responsiveness since it is a market-driven exploitation strategic action

(Jaworski et al., 2000; Wei & Wang, 2011) that refers to a firm's market-sensing activities (Day, 1994). It is the result of a firm's interaction with the external environment and is the extent to which a firm responds to market changes (Homburg et al., 2007; Wei & Wang, 2011).

Since dynamic capabilities could be the source of a firm's ambidexterity (Easterby-Smith & Prieto, 2008; O'Reilly & Tushman, 2008), OCC is a dynamic capability (Judge & Blocker, 2008; Judge & Elenkov, 2005; McGuinness et al., 2002; Soparnot, 2011), while responsiveness is a market-driven exploitation strategic action (Jaworski, et al., 2000; Wei & Wang, 2011), we hypothesize:

H2. *Organizational change capability positively influences a firm's responsiveness.*

Market orientation aims to create superior performance for the firm (Narver & Slater, 1990; Wei et al., 2014). Hence, the firm's responsiveness is also expected to increase the firm's performance (Lee, 2010; Luo, 2001; Wei & Wang, 2011) The firm that can exploit its existing resources to respond to its customer needs and competitor actions should have higher performance (Grein et al., 2001), so responsiveness affects firm's performance (Darroch, 2005). We hypothesize:

H3. *A firm's responsiveness positively influences a firm's performance.*

Firms with an exploitative strategy seek a close relationship with customers, respond to competitors' actions, and expect this relationship to lead to valuable and rare competitive advantage. But focusing entirely on market exploitation can pose a risk for the firm. It usually influences short-term performance, while long-term performance is questionable (Judge & Blocker, 2008).

2.4. Exploration strategy and innovativeness

An exploratory strategy creates value through innovation and experimentation while considering the risks of operating in new markets. The exploratory strategy advocates looser ties with customers to adapt more easily to the market. The idea behind this strategy is that, if there are no strong ties with customers, the firm can be flexible and adaptable to a dynamic market (Judge & Blocker, 2008). Klammer et al. (2017) link innovativeness as entrepreneurial orientation to ambidextrous strategic renewal. The study is conducted through a large scale online survey focusing on members of the middle and top management of mature companies. Their results demonstrate that strategic renewal positively impacts firm performance, and that entrepreneurial orientation and organizational learning are antecedents.

According to Hurley and Hult (1998), innovativeness describes a firm's openness toward new ideas, it is a measure of the firm's orientation toward innovation, it refers to the ability of an organization to develop, adopt and implement new ideas, processes, or products successfully (Nasution & Mavondo, 2008). Innovativeness is implicit to the theory of dynamic capabilities, an outcome of the competition process (Lawson & Samson, 2001). Innovativeness explains the relationships between a firm's resources, capabilities, and product market (Wang & Ahmed, 2007). Its function is to acquire, mobilize and reshape knowledge and ideas into new products, processes, and systems (Lawson & Samson, 2001; Robertson et al., 2012). Fabrizio et al. (2022) analyze existing articles on dynamic capabilities and conclude that a recurrence of terms "innovation" and "performance" can be seen in several studies of the textual corpus suggesting that innovativeness leads to higher performance. Dynamic capabilities are linked to innovation (Teece, 2007; Verona & Ravasi, 2003). According to Ng and Ahmed (2022) dynamic capabilities have a positive effect on innovation and can directly stimulate it (Wendra et al., 2019). Judge and Elenkov (2005) state that OCC, as a type of dynamic capabilities, is associated with, but not equal to organizational ability to learn and innovate (Judge & Elenkov, 2005). Innovation processes are the result of dynamic capabilities development (Fabrizio et al., 2022). Thus, we propose:

H4. *Organizational change capability positively influences the firm's innovativeness.*

2.5. Innovativeness and responsiveness

Market orientation has significant interaction with innovativeness (Cacciolatti & Lee, 2016). Carbonell and Rodrıguez Escudero (2008) propose that innovation speed impacts responsiveness directly and firms pursuing innovative strategy will be more likely to respond more effectively to new information and market changes, i.e. will have higher responsiveness. According to Ng and Ahmed (2022), the more a firm develops innovations the greater the level of its timely responsiveness will be. We hypothesize:

H5. *Innovativeness positively influences a firm's responsiveness.*

H6. *The link between organizational change capability and responsiveness is mediated by innovativeness.*

However, the problem with the exploratory strategy is that firms can hardly define the financial benefits they achieve with it (Judge & Blocker, 2008). Innovation is resource-consuming, and firms are constrained in available resources, hence the investment in innovation has to be well-founded (Martin et al., 2017). Although theory states that innovativeness has a positive effect on a firm's performance (Hult & Ketchen, 2001; Lee, 2010) and this relationship has been empirically confirmed (e.g. Chang et al., 2014; Lee & Hsieh, 2010; Santos-Vijande et al., 2013; Saunila, 2017), studies are reporting a negative or even non-significant relationship between innovativeness and performance (e.g. Menguc & Auh, 2006; Vermeulen, de Jong & O'Shaughnessy, 2005). These mixed results could stem from the fact that this relationship is not direct, as shown by Darroch (2005). For innovativeness to truly translate to superior performance, it must be complemented by high responsiveness. The rationale is that while innovativeness can lead to new products or processes, these innovations may not resonate with the market unless the organization is also responsive to emerging market conditions and changing customer demands. Day (1994) posited that market-responsive firms were better positioned to leverage their innovations for superior performance. Furthermore, Hult et al. (2004) found that firms that were both innovative and responsive were better at meeting customer needs, thereby achieving better performance outcomes. Slater and Narver (1998) discovered that while innovation leads to new product development, a firm's ability to respond to these developments dictated whether or not those products would succeed in the market. Therefore, while responsiveness and innovativeness are independently linked to performance, their interplay magnifies their impact. Slater et al. (2014) noted that responsiveness acts as a mechanism that ensures that innovations are market-oriented. Thus, responsiveness could mediate the relationship between innovativeness and performance. In this context, studies like Zhou et al. (2005) have explored the mediating role of market responsiveness in linking market orientation to performance, which could be analogously extended to innovativeness. Further supporting this mediating role, Braunscheidel and Suresh (2009) found responsiveness to mediate the relationship between agility (which is innovativeness in its essence) and firm performance. Their findings suggested that the ability to introduce agile practices in isolation did not guarantee superior performance. Instead, how these practices were adapted and responded to market demands (responsiveness) played a crucial role. Also, in the context of IT, the responsiveness of IT infrastructure has been proposed as a mediator between IT innovativeness and firm performance (e.g., Ravichandran et al., 2005). Innovativeness, when related to market orientation, increases the chances for better performance (Cacciolatti & Lee, 2016). According to Cacciolatti and Lee (2016), market orientation is a moderator in innovation-performance relationships. Lee (2010) hypothesized and confirmed that market responsiveness and product innovation both have positive effects on firm performance. Collectively, the literature emphasizes that while innovativeness can provide firms with potentially groundbreaking products or processes, responsiveness

determines their market success. Firms prioritizing both are better positioned to achieve superior performance, as they can introduce novel offerings and ensure these offerings resonate with the market. We hypothesize:

H7. *The link between innovativeness and performance is mediated by responsiveness.*

3. Research method

3.1. Sample and measurement

The survey is based on primary data collected using a questionnaire that was distributed to the suppliers of a large Croatian firm from the construction industry. A total of 160 usable surveys were collected. The constructs were operationalized using already developed and tested measurement scales (Appendix A).

Organizational change capability was operationalized using a scale developed by Judge and Elenkov (2005). This scale consists of eight dimensions: trustworthy leadership (OCC_1); involved middle management (OCC_2); capable champions (OCC_3); innovative culture (OCC_4); trusting followers (OCC_5); systems thinking (OCC_6); accountable culture (OCC_7); and system communications (OCC_8) measured by 32 questions. We operationalized the construct OCC with these eight reflective latent variables by calculating the mean of the appropriate answers.

Responsiveness was measured using Morgan and Berthon's (2008) scale describing a firm's response to competitor and customer actions, while innovativeness is based on Hurley and Hult (1998) and Hult et al. (2007) focusing on acceptance and encouragement of innovation.

Since perceptual performance measures collate with objective measures (Powell, 2001), financial performance was measured using the following scale developed by Inemek and Tuna (2009): profits as a percent of sales (PERF1); production cost (PERF2); market share (PERF3); annual sales growth (PERF4); product price (PERF5). A five-point Likert scale ranging from 1 to 5 was used. Measurement and structural models were analyzed using PLS-SEM due to sample size and its flexibility regarding multivariate normality.

Since the data is collected by single respondents, it is recommended to assess the potential presence of common method bias. After collecting the data, we conducted Harman's one-factor test (Podsakoff et al., 2003). When we imported all items into factor analysis, 10 factors emerged that had eigenvalue higher than one. These 10 factors accounted for 70.05% of the variance, while the first factor accounted for 16.40% of the variance. Based on that we concluded that common method bias is not an issue in this research.

4. Results

4.1. Measurement model analysis

Before calculating composite measures, to confirm that the items indeed measure underlying variables, we conducted a reliability and validity analysis (Appendix B and C). Cronbach's Alpha for all eight constructs was higher than 0.7, which confirms internal consistency reliability. Composite reliability measured by rho_a and rho_c is above 0.8 for all items which is satisfactory. All factor loadings are above 0.7 proving indicator reliability. Convergent validity is measured using average variance extracted (AVE). AVE values are above 0.6 meaning that convergent validity is also established. Discriminant validity was tested using the Fornell-Larcker criterion. The square root of the AVE of each construct is higher than its highest correlation with any other construct confirming that discriminant validity is achieved (Hair et al., 2014).

Individual and composite reliability and convergent and discriminant validity of all constructs used in the PLS-SEM model were analyzed to confirm reflective constructs. The results are presented in Tables 1 and 2.

Internal consistency was confirmed since Cronbach's alpha for all constructs is above 0.7 as suggested by Hair et al. (2014). The same is valid for composite reliability, which we measured with rho_a and rho_c. AVE values above 0.5 show that convergent validity is also established.

Discriminant validity is analyzed using Fornell and Larcker (1981) criterion. The results are presented in Table 2.

According to the Fornell-Larcker criterion, the square root of AVE should exceed the correlation between any other constructs. The results from Table 2 confirm that discriminant validity is confirmed for all analyzed constructs.

4.2. Structural model analysis

To test the mediation proposed in the hypotheses, we followed the steps proposed by Baron and Kenny (1986) and Hair (2010).

First, we tested the mediation of responsiveness in the innovativeness-performance relationship. The first step was to analyze the initial model with only a direct relationship from innovativeness to performance. This impact has proven to be statistically significant ($\beta = 0.312$, $p = 0.000$). After that, we tested the second model with responsiveness as a mediating variable and two additional paths. After adding responsiveness into the model, the direct impact of innovativeness on performance was reduced to the point where it was not statistically significant anymore ($p = 0.445$), leading to the conclusion that full mediation exists. To confirm this, we tested the third model with full mediation of responsiveness on the innovativeness-performance relationship. In this model, the tested relationships were statistically significant, the impact of innovativeness on responsiveness equaled 0.729 ($p = 0.000$), confirming H5, and the impact of responsiveness on performance equalled 0.350 ($p = 0.000$), confirming H3 and meaning that indirect impact of innovativeness on performance through mediator responsiveness was 0.255, which confirmed H7.

To analyze the mediation of innovativeness on the OCC-responsiveness relationship, the same procedure was conducted. After we tested the initial model containing only a direct link from OCC

Table 1. Reliability and convergent validity of constructs

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
IN	0.772	0.795	0.855	0.600
OCC	0.891	0.899	0.913	0.567
PERF	0.830	0.863	0.877	0.590
RES	0.760	0.770	0.848	0.583

Table 2. Discriminant validity (the Fornell-Larcker criterion)

	IN	OCC	PERF	RES
IN	0.775			
OCC	0.733	0.753		
PERF	0.364	0.450	0.737	
RES	0.726	0.751	0.431	0.763

to responsiveness the results have shown that the impact is statistically significant (β = 0.753, p = 0.000), confirming H2. Then we added a mediating variable into the model, i.e., innovativeness. In the new model, all estimated paths were still statistically significant, accounting for partial mediation. The impact of OCC on innovativeness equaled 0.733 (p = 0.000), confirming H4. The impact of innovativeness on responsiveness was 0.384 (p = 0.000), confirming H5, and the direct impact of OCC on responsiveness was now 0.468 (p = 0.000). The indirect effect of OCC on responsiveness through the mediation of innovativeness was 0.281, confirming H6. The total, direct and indirect effect of OCC on responsiveness was 0.749.

Based on previous results, we decided to test if responsiveness mediates the impact of OCC on performance. First, the initial model with only a direct relationship from OCC to performance was analyzed. As predicted, the tested relationship was significant (β = 0.373, p = 0.000), supporting H1. Then we tested the second model with responsiveness as a mediating variable and two additional paths. In that model the direct impact of OCC on performance was reduced to the point where it was not statistically significant anymore (p = 0.480), leading to the conclusion that full mediation exists. After that, we tested the model with full mediation in which responsiveness mediated the impact of OCC on performance, and here the analyzed relationships were statistically significant, i.e., the impact of OCC on responsiveness equaled 0.753 (p = 0.000), confirming H2, and the impact of responsiveness on performance equaled 0.354 (p = 0.000), confirming H3 and meaning that indirect impact of OCC on performance through mediator responsiveness was 0.267.

Having in mind the results of all tested mediations, to create a model explaining all existing relationships, a full model with all analyzed variables was estimated using a single, full-information SEM-PLS with bootstrapping method (500 subsamples). To test collinearity, Variance Inflation Factors (VIF) were analyzed. The results proved that there is no multicollinearity between variables since all values are between 0.2 and 5 as proposed by Hair et al. (2014), with VIF (OC_5) = 2.646 being the highest. All relationships in the structural and measurement model were statistically significant (p < 0.001). The results are presented in Figure 1.

All hypotheses are again analyzed, but this time on a full model. First, the analysis focuses on direct relationships from the model presented in Figure 1. The direct impact of OCC on responsiveness is positive and statistically significant (β = 0.470, p < 0.001), which confirms H2. Hypothesis H3 predicts that a firm's responsiveness positively influences the firm's performance, which was also confirmed (β = 0.352, p < 0.001). The impact of OCC on a firm's innovativeness is positive and statistically significant and quite high (β = 0.733, p < 0.001), confirming hypothesis H4. Hypothesis H5 stating that innovativeness positively influences a firm's responsiveness is also confirmed (β = 0.382, p < 0.001).

We again tested already confirmed mediated relationships, but this time in a single SEM-PLS including all analyzed variables. The results of total indirect effects, specific indirect effects, and total effects are presented in Tables 3, 4, and Table 5.

We predict in H6 that the link between organizational change capability and responsiveness is mediated by innovativeness, which is supported. The size of this indirect impact equals 0.280, while the total effect of OCC on responsiveness equals 0.750. Hypothesis H7 stating that the link between innovativeness and performance is mediated by responsiveness is also confirmed. The direct impact of innovativeness on performance was not statistically significant (full mediation). The size of this impact equals 0.134. Finally, evidence shows that organizational change capability positively influences a firm's performance with a total indirect effect of 0.284., confirming hypothesis H1.

5. Discussion

Although in recent years the research on OCC has increased, two most recent review studies on OCC (Montreuil, 2023; Supriharyanti & Sukoco, 2023) call for additional research. Montreuil (2023) argues that although much work has been done on this relatively new construct, there are still important gaps that should be filled. Supriharyanti and Sukoco (2023) anticipate that many researchers will be interested in

Figure 1. PLS-SEM model.

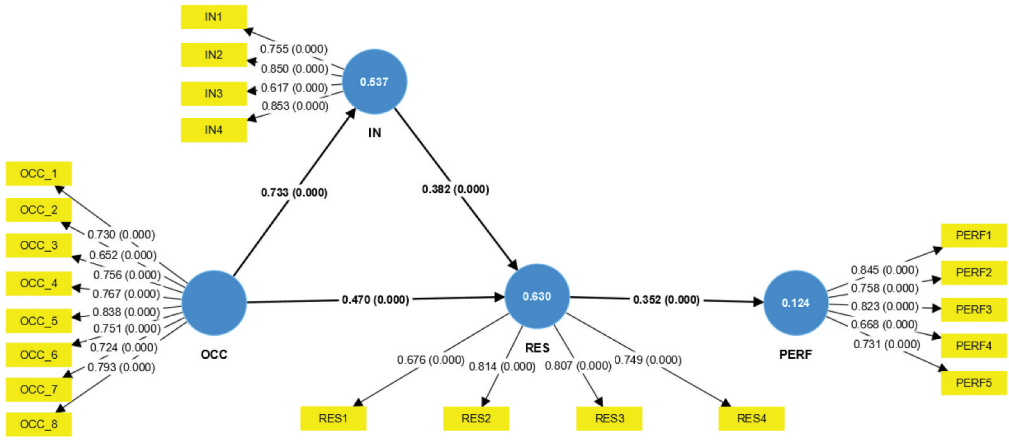

Table 3. Total indirect effects

	PERF	RES
IN	0.134	
OCC	0.264	0.280

Table 4. Specific indirect effects

OCC -> IN -> RES -> PERF	0.098
OCC -> RES -> PERF	0.166
OCC -> IN -> RES	0.280
IN -> RES -> PERF	0.134

Table 5. Total effects

	IN	PERF	RES
IN		0.134	0.382
OCC	0.733	0.264	0.750
RES		0.352	

investigating OCC in the future. In terms of the research focus, both review studies found that a firm's performance is an OCC outcome that is most often investigated. The results of a vast body of research agree upon the positive impact of OCC on a firm's performance (Judge & Douglas, 2009; Judge et al., 2006; Liozu et al., 2014; Mellina, 2015; Sanchez-Medina, 2020; Shipton et al., 2012), which is in accordance with the results of our analysis. In their investigation of the potential positive effects of OCC on a company's competitive advantage, Jacobson and Sundqvist (2023) discovered that companies with greater OCC also adjust to changes in the market more quickly. The finding, which supports the positive impact of OCC, is an interesting parallel to that of Judge et al. (2006) and other researchers. In the meantime, Park and Choi (2022) investigated the impact of cultural factors on OCC, speculating that corporate culture may be crucial to OCC's efficacy. Such a claim might suggest that organizational culture has a role in the effective mediation of innovativeness and responsiveness. However, there is almost nonexistent research on mediators between OCC and its outcomes (Montreuil, 2023). Also, van Lieshout et al. (2021) stated that future research efforts should focus on investigating different types of dynamic capabilities for different types of firm's ambidexterity while Meyer and Stensaker (2006) note that change capacity's further theoretical elements, such as ambidexterity, should be explicitly addressed by future studies. Based on that we hypothesize that OCC as a dynamic capability can enable

ambidexterity i.e., explorative innovativeness and exploitative responsiveness, and lead to above-average performance. The latest study by Ito and Tanaka (2024) highlighted the importance of a firm's absorptive capacity in boosting its sensing capabilities, which in turn paves the way for improved exploration when examining ambidexterity and dynamic capabilities. They also reinforced Judge and Blocker's (2008) remarks by implying that OCC might have a part in this series of actions.

Prior research about dynamic capabilities and ambidexterity was mostly focused on the way sensing capabilities are linked to exploration and seizing capabilities with exploitation (Birkinshaw et al., 2016; Popadiuk et al., 2018; van Lieshout et al., 2021). Although Judge and Blocker (2008) elaborate conceptually on OCC in relation to ambidexterity, the relationship between OCC and ambidexterity has previously not been empirically analyzed. While Kok and Driessen's (2012) research has confirmed the positive impact of OCC elements (process improvement control and top management emphasis) on market orientation, our study is the first one to our knowledge to hypothesize and confirm the positive effect of OCC on firm's responsiveness (H2). This impact is direct, but also indirect, partially mediated by innovativeness (H6).

Hypothesis H3 stating that a firm's responsiveness has a positive impact on a firm's performance was confirmed. Our results are in accordance with the theory and previous research (Darroch, 2005; Lee, 2010; Luo, 2001; Wei & Wang, 2011). Focusing entirely on market exploitation influences short-term performance, which can be risky in the long term (Judge & Blocker, 2008). It is of crucial importance for firms to also build future markets by implementing exploration through innovativeness. Yu et al. (2019) concluded that responsiveness partially mediates the relationship between environmental scanning and operational performance.

We hypothesized (H4) and confirmed that OCC can have a positive impact on a firm's innovativeness. This is in line with theoretical propositions stating that dynamic capabilities are related to innovativeness (Teece, 2007; Verona & Ravasi, 2003) and that OCC is related but not equal to the organizational ability to innovate (Judge & Elenkov, 2005). Our results are in accordance with previous studies showing that dynamic capabilities have a positive effect on innovativeness (Ng & Ahmed, 2022) and that there is a positive impact of OCC on innovative capabilities (Pudjiarti, 2018). Simmons et al. (2018) build on this by articulating how OCC nurtures innovative culture while enabling agility to market changes.

By confirming hypothesis H5 we have proven that innovativeness positively influences a firm's responsiveness. Such a statement has not been tested in previous research but is in accordance with the results by Cacciolatti and Lee (2016) showing that market orientation has significant interaction with innovativeness.

Hypothesis H7 stating the link between innovativeness and performance is mediated by responsiveness has also been confirmed. The mediation of responsiveness is complete which is in line with the results by Darroch (2005) that prove that this relationship is not direct. Previous research has mainly confirmed the positive impact of innovativeness on performance (e.g. Chang et al., 2014; Lee & Hsieh, 2010; Santos-Vijande et al., 2013; Saunila, 2017). However, there are also studies reporting negative or even non-significant relationships (e.g. Menguc & Auh, 2006; Vermeulen, de Jong & O'Shaughnessy, 2005). In keeping with the discussion of innovation and its effects, Natarajan and Singh (2022) underlined the complex interaction between innovation and market conditions. Their analysis emphasizes the significance of environmental factors by speculating that the beneficial impact of innovativeness on performance may be more pronounced in volatile market situations. This could provide a deeper level of insight into the conclusions made by Chang et al. (2014) and other researchers. Wu and Zhao's (2023) research expanded on the knowledge of the relationship between performance and innovativeness by emphasizing the significance of strategic orientation. According to their findings, a firm's orientation—whether it is more market-driven or innovation-driven—can have a big impact on how much of an impact innovation has on performance. Future studies may look into this to determine whether and how

OCC interacts with strategic orientation to affect performance. The work of Gupta and Kumar (2024), who investigated the long-term impact of innovativeness on a firm's sustainability practices, is, finally, an interesting approach worth considering. They highlight possibility that persistent innovation may encourage businesses to adopt more environmentally friendly procedures, which may have an impact on stakeholder value and long-term performance.

On the other hand, Siagian and Johono (2022) confirmed that both, responsiveness and innovation capability, positively affect operational performance. Moreover, this study has contributed to understanding the nature of observed relationships by confirming the mediating role of supply chain responsiveness and innovation capability in the impact of supply chain integration on operational performance. Chien (2022) examined how entrepreneurial orientation and market responsiveness improve franchised-outlet performance. Interestingly, Chien (2022) found that entrepreneurial orientation has only an indirect effect on financial performance through the market responsiveness, while the market responsiveness had a positive effect on financial performance.

6. Conclusion

6.1. Contribution

This study responds to the most recent calls by scholars for additional research on OCC (Montreuil, 2023; Supriharyanti & Sukoco, 2023) and the research on DC in emerging markets (Fabrizio et al., 2022). Also, Tipu (2022) notes that there is more focus on change antecedents and processes of change in comparison to the context and the outcomes, as well as lack of survey-based empirical work. In particular, the study is among the very few to investigate the mediators between OCC and its outcomes (Montreuil, 2023). The relationship between OCC and ambidexterity has not been empirically analyzed until now, although Judge and Blocker (2008) have theoretically elaborated this relationship. This paper is the first to our knowledge that empirically investigates the role of OCC in enabling ambidexterity i.e., explorative innovativeness and exploitative responsiveness to lead firms to above-average performance. Therefore, the contribution of the paper is twofold: 1) the development and empirical verification of a model which postulates responsiveness as a market-driven exploitation strategy and innovativeness as a market-driving exploration strategy; 2) new understandings of the OCC construct and the influence of mediators in the relationship between OCC and a firm's performance.

6.2. Practical implications

The findings provide evidence that firms should carefully develop their organizational change capabilities to achieve above-average performance. Developing organizational change capabilities can enable the firm to exploit current markets by responding to buyers' needs and competitors' actions, and at the same time prepare for the future by fostering innovativeness through an exploitation strategy. Since ambidexterity is extremely hard to achieve and sustain, the results of the study which show that OCC could enable ambidexterity demonstrate their importance. In addition, the results clarify the impact of innovativeness and responsiveness on a firm's performance. Managers can utilize this finding to recognize that performance outcome from responsiveness is direct and faster, while positive performance effects stemming from innovativeness take time and are not direct. However, these effects are equally, if not more important, because they prepare the firm for the future.

6.3. Limitations and future research

Although this study has contributed to theoretical research and managerial practice, it still has limitations. The study employs a cross-sectional design. Bowen and Wiersema (1999, p. 625) argue that the implicit assumption of this design, which is that "model parameters are stable (constant) across firms and over time is … at odds with the firm-specific aspects of the theoretical models employed in strategic management". The outcomes of OCC, responsiveness, and innovativeness have a temporal dimension and a longitudinal study could explain in more detail the relationships between analyzed constructs.

OCC depicts quality aspects of managing change, i.e. how well change is managed within the firm, rather than quantity aspects (how much change the firm manages), so perceptual data is appropriate (Montreuil, 2023). Although this approach enables the collection of high-quality information about analyzed constructs, problems associated with perceptual assessment may occur. Future research could collect data from multiple respondents to overcome this drawback. Also, the qualitative analysis could potentially go beyond hypothesized relationships and discover underlying influences.

The used OCC scale (Judge & Elenkov, 2005) doesn't depict the size or type of the implemented changes (Judge & Douglas, 2009; Kerber & Buoni, 2005). Future research can analyze whether the type of organizational change, for instance, incremental vs. radical, changes the influence of OCC on innovativeness, responsiveness, and the firm's performance. Also, OCC in relation to sustainability could be analyzed in one of the future studies based on recommendations by Tipu (2022). Tipu's (2022) findings show that only a limited number of studies focus on developed economies. Even more, if studies do investigate developing economies, a majority of them draw a multi-country sample in which the response rate from developing countries is often very low. Saleh et al. (2023) call for research on ambidexterity in relation to organizational resilience and environmental readiness, which could also be interesting to incorporate in the OCC concept. This study is based on firms operating in Croatia, and since change can be viewed differently in different cultural contexts (Trompenaars & Wooliams, 2003) additional studies based on data from other countries would be beneficial. In addition, Fabrizio et al. (2022) identified the institutional environment as an important factor that needs to be investigated. The role of institutional environment is of significant importance for the countries outside the western developed world (Meyer et al., 2009) but also during the crisis since companies are reconfiguring their resource base.

One promising avenue for future research lies in examining the roles of ethical leadership and servant leadership in nurturing OCC. Trusting leadership is a cornerstone for effective OCC (Oreg et al., 2011). Emerging research underscores the significance of leadership behaviors and their roles in various organizational outcomes. A study by Ruiz-Palomino et al. (2013) assessed ethical behaviors in the Spanish banking and insurance industries. Their findings reveal that ethical behaviors greatly influence the trustworthiness perception of institutions, suggesting that ethical leadership can enhance organizational credibility and trustworthiness, especially in sectors where trust is paramount. Their results also indicate that both individual and the organizational factors have significant influences. Interestingly, the results show that norms and values held by peers have greater influence "than the influence of top managerial and supervisory leaders as promoters of ethics" (p. 2187). While focusing on the relationship between CEO ethical leadership and performance, Eisenbeiss, Knippenberg and Fahrbach's (2015) study sheds light on the importance of top-down ethical behavior in setting the tone for organizational responsiveness and adaptability. On the other hand, a study by Zoghbi-Manrique de Lara and Ruiz-Palomino (2019) delves into servant leadership. Their study investigates how servant leadership contributes to the creation and accumulation of personally owned social capital within hotel firms. Their insights posit that servant leaders, through their altruistic behaviors and prioritization of employee needs, can cultivate rich environments of collaboration, trust, and commitment. Neubert, Kacmar, Carlson, Chonko and Roberts's (2008) results outline that servant leadership behaviors, like empowering and nurturing growth in employees, can foster a positive environment conducive to change. Employees feel more valued, and therefore, they are more likely to support and be proactive in change initiatives. Therefore, future research should pivot towards understanding the roles of ethical leadership and servant leadership in nurturing OCC. When employees perceive leaders as ethical and altruistic—acting in the best interests of both the organization and its members—it can reduce resistance and enhance receptiveness to change. Integrating these leadership constructs into discussions on organizational change capability could offer deep insights into how leadership styles either bolster or hinder change processes, thereby providing actionable strategies for organizations in transition.

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Appendix A. Measurement scales

	OCC **(Judge & Elenkov, 2005)**
OCC_1	Do business unit leaders:
	1. protect the core values while encouraging change?
	2. consistently article an inspiring vision of the future?
	3. show courage in their support of change initiatives?
	4. demonstrate humility while fiercely pursuing the vision?
OCC_2	Do middle managers in this business unit:
	5. effectively link top executives with frontline employees?
	6. show commitment to the organization's well-being?
	7. balance change initiatives while getting work done?
	8. voice dissent constructively?
OCC_3	Do we have change champion(s) who:
	9. command the respect of the rest of the business unit?
	10. possess good interpersonal skills?
	11. are willing and able to challenge the status quo?
	12. have the will and creativity to bring about change?
OCC_4	Do we have an organizational culture that:
	13. values innovation and change?
	14. attracts and retains creative people?
	15. provides resources to experiment with new ideas?
	16. allows people to take risks and occasionally fail?
OCC_5	Do frontline employees:
	17. open themselves to consider change proposals?
	18. have opportunities to voice their concerns about change?
	19. generally know how change will help the business unit?
	20. generally view top management as trustworthy?
OCC_6	Do change champions recognize the:
	21. interdependent systems implications of change?
	22. importance of institutionalizing change?
	23. need to realign incentives with desired changes?
	24. value of addressing causes rather than symptoms?
OCC_7	Do employees throughout the business unit:
	25. experience consequences for outcomes of their actions?
	26. meet deadlines and honor resource commitments?
	27. accept responsibility for getting work done?
	28. have clear roles for who must do what?
OCC_8	Does information flow effectively:
	29. from executives to workers?

(*Continued*)

(Continued)

	OCC **(Judge & Elenkov, 2005)**
	30. in a timely fashion?
	31. across organizational units?
	32. from customers to the business unit?
	Financial performance (Inemek & Tuna, 2009)
PERF1	Return on investment
PERF2	Profits as percent of sales
PERF3	Production cost
PERF4	Market share
PERF5	Annual sales growth
PERF6	Product price
	Responsiveness (Morgan & Berthon, 2008)
RES1	If a major competitor were to launch an intensive campaign targeted at our customers, we would implement a response immediately.
RES2	The activities of the different departments in this business unit are well coordinated.
RES3	Even if we came up with a great marketing plan, we probably would not be able to implement it in a timely fashion. (R)
RES4	When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.
	Innovativeness (Hult et al., 2007; Hurley & Hult, 1998)
IN1	Innovation, based on research results, is readily accepted.
IN2	We actively seek innovative supply management ideas.
IN3	People in our firm are penalized for new ideas that do not work. (R)
IN4	Innovation in our supply management process is encouraged.

Appendix B. Reliability and validity results

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
OCC_1	0.850	0.851	0.899	0.692
OCC_2	0.797	0.807	0.868	0.623
OCC_3	0.843	0.850	0.895	0.680
OCC_4	0.879	0.893	0.917	0.735
OCC_5	0.793	0.805	0.864	0.615
OCC_6	0.889	0.890	0.923	0.751
OCC_7	0.806	0.840	0.874	0.639
OCC_8	0.890	0.897	0.932	0.820

Appendix C: Fornell Larcker for construct OCC

	OCC_1	OCC_2	OCC_3	OCC_4	OCC_5	OCC_6	OCC_7	OCC_8
OCC_1	0.832							
OCC_2	0.484	0.790						
OCC_3	0.568	0.430	0.825					
OCC_4	0.497	0.388	0.594	0.858				
OCC_5	0.489	0.497	0.586	0.676	0.784			
OCC_6	0.541	0.447	0.520	0.472	0.591	0.866		
OCC_7	0.460	0.465	0.430	0.380	0.529	0.478	0.799	
OCC_8	0.449	0.391	0.467	0.552	0.600	0.465	0.637	0.905