



**International business competence and innovation
performance: The role of ambidextrous organizational
culture and environmental dynamism**

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Abstract

Purpose – This study seeks to examine the influence of international business competence (IBC) on innovation performance of organizations activating in global markets. The study also explores whether ambidextrous organizational culture (AOC) acts as an antecedent of IBC and whether the environmental dynamism affects the IBC–innovation performance relationship.

Design/methodology/approach – The authors assessed the hypothesized relationships using data collected from a sample of companies operating in the Norwegian seafood industry. The direct, mediating, and moderating effects were tested using partial least squares (PLS) with SmartPLS software application.

Findings – The empirical analysis revealed that AOC is positively associated with IBC, while IBC is a significant predictor of innovation performance. The findings also corroborated the proposed mediation effect of IBC, but refuted the moderating role of environmental dynamism.

Originality – This study contributes to the international business literature by suggesting that companies equipped with IBC can excel in innovative undertakings and that organizational culture can be effectively leveraged to develop such competences.

Keywords: international business competence (IBC); innovation performance; ambidextrous organizational culture (AOC); environmental dynamism

Introduction

In today's fast-moving knowledge-based economy, the capacity to innovate is considered a crucial element in the performance and longevity of organizations (Spraggon & Bodolica, 2020). Succeeding in the face of rapid innovation is even more important for firms engaged in international business operations due to the rapidly changing customer demands and market trends. Therefore, companies operating across national boundaries need to equip themselves with a set of capabilities and competences, commonly referred to as international business competence (IBC), that can become a source of competitive advantage (Knight & Kim, 2009; Ibrahim *et al.*, 2016).

It is believed that access to global markets enriches corporate experiences by providing diverse sources of knowledge and skills, which in turn can result in higher levels of innovation (Bodolica & Spraggon, 2020). Two different views exist in the literature regarding the causal relationship between internationalization and innovation. The supportive view suggests that internationalization enables innovation through greater accessibility to diverse sources of knowledge (Hitt *et al.*, 1994; Kotabe *et al.*, 2002), while the opposing view argues that innovation confers market power that facilitates internationalization (Pla-Barber & Alegre, 2007; Rogers, 2004). The supportive view prompted substantial scholarly interest in the exploration of competences needed to achieve success in international markets. Knight and Kim (2009) conceptualized the IBC construct, which incorporates major firm characteristics that collectively enhance international performance. This assertion is reinforced by empirical evidence that uncovers superior performance outcomes in global markets for organizations that possess IBC (Sørensen & Madsen, 2012).

Although the importance of IBC in facilitating competitive advantage (Ruokonen & Saarenketo, 2009), superior export outcomes (Escandon-Barbosa *et al.*, 2019) and firm performance in global markets (Gerschewski *et al.*, 2015) has been previously demonstrated,

the extent to which IBC influences the innovative performance of organizations received less consideration. This is especially critical in today's economy where a firm's capacity to innovate has become a tenet of success in international settings (Efrat & Shoham, 2012; Escandon-Barbosa *et al.*, 2019; Knight & Cavusgil, 2004). Moreover, most studies on the beneficial role of IBC in global environments have focused on a specific organizational capability. Extant research offers only a limited understanding of whether IBC becomes more relevant for firm outcomes under dynamic conditions. Recent evidence indicates that companies with high international orientation are active in turbulent markets, which leads to increased performance (Escandon-Barbosa *et al.*, 2019). This paper aims to address these gaps in the literature, by examining the relationship between IBC and innovation performance under the contingent effect of environmental dynamism.

Among the key contextual influencers of IBC development, researchers uncovered the proactive entrepreneurial orientation of top management teams (Kalinic & Forza, 2012), the availability of tangible and intangible resources (Baum *et al.*, 2015), and the involvement in networks and networking activities (Coviello, 2006). Nonetheless, the empirical evidence on the role of internal factors, such as the organizational culture, in shaping IBC remains overlooked (Joseph & Gaba, 2020; Kassem *et al.*, 2019; Sandhu & Kulik, 2018). The organizational culture was found to complement or substitute the formal components of the firm's social system (Galbreath, 2010). Recently, the role of ambidextrous organizational culture (AOC) received more consideration with respect to its beneficial effects for exploration and exploitation activities (Wang & Rafiq, 2014). This is particularly important because foreign environments often make for a higher degree of complexity and dynamism (Gooderham *et al.*, 2013) that involve competing possibilities in terms of achieving a balance between efficiency and innovation, and ambidextrous organizations can better position themselves in such environments (Zhang *et al.*, 2015). Thus, an AOC characterized by the

simultaneous pursuit of disparate norms and values, such as shared vision and diversity (Wang & Rafiq, 2014), may act as a key contextual resource for building IBC. Thus, another objective of this study is to explore whether AOC may predict the development of IBC.

Prior literature employed IBC either as an antecedent (Birru *et al.*, 2019; Escandon-Barbosa *et al.*, 2019; Knight & Kim, 2009; Lee *et al.*, 2019) or as a consequence (de Vasconcellos *et al.*, 2019; Andresen *et al.*, 2021), but paid little attention to its role as a mediator. The rationale for the mediating role of IBC is that contextual variables, such as organizational structure and culture, may lead to the achievement of superior firm performance by providing a context that allows the development of certain meta-capabilities (Gibson & Birkinshaw, 2004). More research is, therefore, warranted to develop a better understanding of whether IBC acts as a mediator in the relationship between AOC and innovation performance. Our study aims to contribute to the literature by examining whether the effects of organizational culture on firm innovation are materialized through IBC.

Theoretical background and hypotheses

In the following subsections, we review prior literature in the field (Bodolica & Spraggon, 2018) to, first, provide conceptual clarity on the constructs that compose our theoretical framework and, second, formulate hypotheses to test the theorized direct, moderating and mediating relationships.

AOC

Traditionally, ambidexterity has been defined as an organization's ability to simultaneously embrace two disparate orientations, such as efficiency and flexibility (Adler *et al.*, 1999), or adaptability and alignment (Gibson & Birkinshaw, 2004). Three views on ambidexterity – structural, temporal, and contextual – can be distinguished in the extant literature. According

to the structural view, explorative and exploitative activities constitute competing goals so they should be undertaken independently in different organizational units (Benner & Tushman, 2003; Lavie *et al.*, 2010). The temporal view suggests the need for a temporal sequencing of exploration and exploitation in the same organizational unit (Puranam *et al.*, 2006). The contextual view is consistent with the paradox approach to management (Lewis, 2000), which suggests that firm functioning inherently involves dualities (Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008) that coexist in organizational settings and may be synergistic (Cameron & Quinn, 1999).

Consistent with the contextual ambidexterity view, researchers have focused on the role of both macro- and micro-level paradoxes in organizations that enable the pursuit of opposing realities and competing demands. Among the most frequently analyzed dualities are formalization and centralization (Al-Atwi *et al.*, 2019), cultural norms of diversity and sharedness (Wang & Rafiq, 2014), and structural and relational behavioral orientation of firm members (Caniëls & Veld, 2019; Zhang *et al.*, 2015). Balancing exploration and exploitation priorities (Khan & Mir, 2019), AOC recognizes that external adaptation and internal integration are two fundamental concerns, which can be solved by developing task- and relationship-oriented norms and values (Schein, 2010).

We build on Wang and Rafiq's (2014) conceptualization of AOC, which suggests that organisational diversity and shared vision are values that reinforce each other to create AOC. While organizational diversity fosters receptivity to differences and encourages diversity in perspectives, skills and knowledge (Ferner *et al.*, 2005), shared vision reflects the active involvement of firm members in the development, dissemination and implementation of corporate goals (Wang & Rafiq, 2014). Organisational diversity encompasses norms and values that nurture creativity and entrepreneurial behaviour in employees and inspire novelty in solutions. Yet, for successful innovation, companies do not only need to generate novel

ideas, but also evaluate diverse perspectives so that a balanced and objectives-aligned point of view may emerge (Spraggon & Bodolica, 2017). In the presence of shared vision, corporations are enabled to relate different viewpoints to the existing knowledge and pursue creative ideas that are consistent with firm goals.

IBC

Organizational capabilities refer to complex bundles of skills and collective learning that allow firms to effectively make use of their resources and set them apart from competitors (Daugherty *et al.*, 2009). By building IBC, organizations may have an edge in the international marketplace. IBC comprises four capabilities – international orientation, international innovativeness, international market orientation, and international marketing skills (Knight & Kim, 2009). International orientation is a firm's overall inclination to operate globally and assign resources to international activities (Sørensen & Madsen, 2012). According to Knight and Kim (2009, pp. 260-262), international innovativeness is a firm's "capacity to develop and introduce new products, services or ideas to international markets"; international market orientation is "the extent to which the firm's international business activities are oriented toward customers and competitors, and the extent to which these activities are coordinated across functional areas in the firm"; and international marketing skills refer to "a firm's ability to create value for foreign customers through effective segmentation and targeting, and through integrated international marketing activities".

Figure 1 about here

In this paper, we draw on the resource-based view (Barney, 1991) and contingency theory (Baskarada *et al.*, 2017) to examine the role of AOC in fostering IBC and the influence of IBC on innovation performance under various levels of environmental dynamism. The resource-

based view, which states that firm competitiveness originates from unique resources and assets, provides the basis for examining the role of AOC as an antecedent of IBC that is necessary for doing business across borders. The same view sheds explanatory light on the relationship between IBC and innovative performance, in which IBC may influence firms to perform well in innovation (Spraggon & Bodolica, 2020). Many empirical studies in the resource-based tradition examined the consequences of possessing valuable, rare, and inimitable resources in organizations. Prior literature analyzed the role of intangible resources, such as reputation, knowledge, and organizational culture (Spraggon & Bodolica, 2012; Zheng *et al.*, 2010), in the development of intra-firm capabilities that could have competitive implications. An ambidextrous culture requires ample time to develop and is less likely to be imitated (Gibson and Birkinshaw, 2004), thereby acting as an important intangible resource. Similarly, IBC constitutes a distinctive capability that, being difficult to duplicate, gives an organization an edge over its competitors (Escandon-Barbosa *et al.*, 2019; Gerschewski *et al.*, 2015).

The contingency theory offers an explanatory grounding for our expectation regarding the contingent effect of environmental dynamism in the relationship between IBC and innovation performance. The contingency lens suggests that the influence of a firm's internal characteristics on their outcomes (Baskarada *et al.*, 2017) may depend on the level of stability or dynamism in the organizational environment. Consistent with this view, several studies find that strategies designed to achieve innovation performance are contingent upon external factors (Gibson & Birkinshaw, 2004; Jansen *et al.*, 2006).

AOC and IBC

International markets are characterized by intense rivalry among competing firms coupled with ever-changing customer demands (Bhatt *et al.*, 2010). Thus, global environments often make for a higher degree of complexity and dynamism (Gooderham *et al.*, 2013) and firms that have

the capacity to handle such uncertainties can reap the benefits of internationalization (Vermeulen & Barkema, 2002). To reach out to foreign customers and achieve global success, companies should have the ability to invest resources in their international activities, find new methods of market entry (Jantunen et al., 2008), and produce superior goods and services (Knight & Kim, 2009). Operating in global or novel contexts requires achieving a balance between efficiency and innovation to compete in mature markets and develop new products for emerging markets, respectively (Tushman & O'Reilly, 1996). This requires a paradox-based lens to better understand how to deal with increasing uncertainties that often involve competing possibilities.

Past research suggests that ambidextrous organizations may position themselves more effectively in complex environments (Zhang *et al.*, 2015). AOC embodies the dual aspects of exploration and exploitation that provide a milieu for organizations to balance these opposing activities. By espousing both diversity and sharedness, such a culture engenders norms of variability to explore opportunities in international markets and, at the same time, shared values to utilize existing competencies to thrive in international contexts. Thus, we argue that cultural ambidexterity will foster a firm's international focus, by boosting its ability to operate in various markets and continuously updating itself in terms of new products, services, and ideas. This implies that global businesses need to both transform their resources to commercial ends and continuously renew and expand their knowledge base (Andriopoulos & Lewis, 2009), which may be facilitated by a culture of diversity and sharedness.

Organizational diversity espouses values that encourage autonomous and innovative thinking and behavior, and the generation of multiple perspectives that prompt creative solutions, which have beneficial effects on the development of IBC (de Vasconcellos *et al.*, 2019). According to Knight and Cavusgil (2004), an entrepreneurial cultural orientation fosters global technological competence, quality focus, and global distribution skills. Runyan *et al.*

(2008) also argue that being flexible and externally oriented fosters a sense of exploring new market opportunities. Yet, to achieve global objectives, companies need to both promote a culture of promoting novel ideas and socialize firm members to share a common vision about how to succeed in international markets. Thus, valuing organizational sharedness is equally important for translating diverse ideas into actions in line with organizational goals (Calantone *et al.*, 2002). Therefore, we hypothesize the following relationship:

H1: AOC positively influences IBC of organizations

IBC and innovation performance

Supporting the idea that internationalization leads to innovation, Drucker (1993) argued that “innovation starts with the analysis of opportunities”, which may ensue from the internal capabilities of firms. Prior research shows that companies with an international orientation exhibit a greater willingness to take risks in their pursuit of new markets (Kuivalainen *et al.*, 2007; Martin *et al.*, 2018). They could operate across various territories and increase their innovative capability by utilizing knowledge from multiple countries and scientists (Kafouros *et al.*, 2008). The internationalization of business activities also provides access to superior technical expertise, which improves the ability to innovate (Cheng & Bolon, 1993). According to Kotabe *et al.* (2002), the primary aim of firms is to minimize the costs associated with innovation, and internationalization may play a vital role in reducing such costs.

Because internationalization helps businesses develop networks that enable a continuous flow of information (Kafouros *et al.*, 2008; Kimberly & Evanisko, 1981), firms with high levels of IBC possess better chances of getting access to information (Knight & Kim, 2009). Sørensen and Madsen (2012) assert that firms high on such competences are better skilled at compiling and interpreting key data related to international markets. These companies have greater capacity to capture strategically important information across borders, and they leverage

informal networks and global contacts to disseminate the information throughout the entire organization (Bartlett & Beamish, 2018). This information flow consists of market or scientific knowledge and tends to enhance the innovation capacity of organizations (Jaffe, 1986).

Firms with high IBC are characterized by a superior ability to control marketing activities and greater competence in targeting individual markets that may help them seize opportunities to offer innovative solutions. When a sudden increase in customer demand occurs or a revolutionary technology appears, firms with higher IBC can grasp such opportunities more quickly than competitors with lower IBC (Bartlett & Beamish, 2018). High IBC companies also have a better understanding of the environment they face, which ensures faster response to competitor initiatives and customer needs, and more creativity in new product development. Knight and Kim (2009) argue that a firm's accumulated knowledge and market intelligence are important for developing international innovativeness. High IBC firms may accumulate a better knowledge of international markets for adapting to dynamic market conditions, which may help identify innovative solutions and facilitate the acquisition of new knowledge leading to a greater capacity to innovate (Boso *et al.*, 2013; Cavusgil & Knight, 2015). Consequently, we suggest the following hypothesis:

H2: IBC is positively related to firm innovation performance

Mediating role of IBC

Prior research shows that organizational ambidexterity generates positive implications for innovative performance (Hafkesbrink & Schroll, 2014; He & Wong, 2004). Firms exploring new knowledge and exploiting existing competences simultaneously, tend to achieve high performance in innovation (Gibson & Birkinshaw, 2004; Katila & Ahuja, 2002; Mladenka *et al.*, 2015; Simsek *et al.*, 2009). This indicates a positive relationship between organizational ambidexterity and innovativeness, but it is not clear if such an association is mediated by other

variables. More recently, scholars have specifically focused on AOC, arguing that it influences innovation indirectly by fostering contextual ambidexterity (Khan & Mir, 2019; Wang & Rafiq, 2014). This suggests that AOC may affect innovation via other organizational variables, such as the development of IBC.

Earlier studies suggest that factors, such as culture, structure or leadership, affect superior performance by providing a context that allows certain capabilities to flourish. Distinct sets of capabilities develop gradually over time through the interaction of various features of an organization's context (Gibson & Birkinshaw, 2004). Being a unique organizational capability, IBC tends to have a complex and time-consuming process of development (Escandon-Barbosa *et al.*, 2019; Gerschewski *et al.*, 2015) and may require a supportive firm environment to proliferate. According to Gibson and Birkinshaw (2004), market orientation is a complex capability that needs high-quality market intelligence prerequisites in order to develop. In the same vein, the capacity to introduce new products, services or ideas to international markets results from the internal accumulated knowledge and external market intelligence (Knight & Kim, 2009). Thus, we expect that AOC geared towards integration of exploration and exploitation will provide an appropriate context for IBC to develop, which will then contribute to innovation by directing firms to diversify, adapt and renew themselves to meet the changing conditions in the international business environment. Consequently, we suggest the following relationship:

H3: IBC mediates the relationship between AOC and innovation performance

Moderating role of environmental dynamism

Environmental dynamism refers to the extent of unpredictable change in an organization's external context (Goll & Rasheed, 2004; Seo *et al.*, 2020). In dynamic environments, products become obsolete at a rapid pace raising the need for new ones (Pertusa-Ortega & Molina-

Azorín, 2018), which requires firms to be innovative and explore new market opportunities.

Therefore, businesses operating in dynamic environments ought to improve their capabilities (e.g., knowledge management) to have a better sense of the ambiguous environment and take the right course of action to obtain greater innovation value (Spraggon & Bodolica, 2008).

Cavusgil et al. (2007) argue that under dynamic conditions the requirement of firms to develop and deploy particular capabilities tends to increase. This may be the case for IBC in view of the higher need for companies to frequently analyse the environment for clients and competitors' actions and to develop competences that support international activities (Dimitratos & Plakoyiannaki, 2003; Escandon-Barbosa *et al.*, 2019). Past research suggests that firms operating internationally are often active in turbulent markets that also brings beneficial outcomes for such firms (Boso *et al.*, 2013). When faced with dynamism, they dedicate additional resources to increase their capacity to explore more business opportunities and innovate at a higher rate through greater product adaptation and development (Escandon-Barbosa *et al.*, 2019). This suggests that the effect of IBC on innovation performance will be most evident at high levels of environmental dynamism. We argue that the relationship between IBC and innovative performance will be stronger when the external environment is more dynamic. Thus, the following hypothesis is suggested:

H4: Environmental dynamism positively moderates the IBC–innovation performance relationship, such that the relationship becomes stronger when the environmental dynamism is high

Methods

Sample and data collection

The data for this study was collected from firms in the Norwegian seafood industry. This industry is specifically relevant in the context of IBC because its market is global and, in the

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context of the Norwegian economy, the seafood industry is second only to the gas and petroleum industry in generating export revenues. About 180 online questionnaires were distributed to senior managers via e-mail. A total of 76 participants completed the survey, but after cleaning and screening data, a final sample of 71 responses remained for data analysis. In the final sample, 86% of participating firms fell in the age category of 1–50 years, 6% were in the category of 51–100 years, and 8% fell in the 101–150 years category. Moreover, 83% of sample firms had 50 or less employees, while firms with over 50 employees accounted for 17% of the sample firms. Finally, to measure the intensity of spending on research and development (R&D), the survey asked respondents to rate their firm at either a low, medium, or high level. 45% of respondents rated their firm’s intensity of spending on R&D as low, 44% – as medium, and 11% – as high.

Measurements

We assessed all the study constructs based on scales used in prior literature (see Appendix A). IBC was operationalized as a second-order higher construct of four dimensions (first-order constructs) using the scale developed by Knight and Kim (2009). The four first-order constructs included international orientation, international marketing skills, international innovativeness, and international market orientation.

To measure ambidexterity, two different approaches have often been used in previous research. Ambidexterity was treated either as a bi-polar construct of exploration and exploitation (Simsek *et al.*, 2009), or as a construct composed of these two distinct dimensions (Gibson & Birkinshaw, 2004). The latter approach prevails in the literature, with the common usage of multiplication techniques to account for the simultaneous occurrence of exploration and exploitation (Al-Atwi *et al.*, 2019; Gibson & Birkinshaw, 2004; Lee *et al.*, 2019). There are also instances of assessing ambidexterity using reflective (Khan & Mir, 2019) and

formative (Pertusa-Ortega & Molina-Azorín, 2018) measurements. Nevertheless, the reflective approach is irrelevant for cultural ambidexterity because organizational diversity and sharedness are two separate and non-substitutable cultural dimensions (Caniëls & Veld, 2019), while the formative measurement received a lot of criticism due to the issues of interpretational confounding and external consistency (Howell *et al.*, 2007). In this study, we adopted the dominant approach to measuring AOC by creating a multiplicative interaction term for shared vision and organizational diversity using the scales developed by Wang and Rafiq (2014).

We measured innovative performance based on the works of Vera and Crossan (2005) and Alegre and Chiva (2008), in which innovative performance is assessed on a composite scale consisting of both product/service and process innovation. To estimate environmental dynamism, we employed the scale developed by Li and Liu (2014). We used a 7-point Likert scale with 1 and 7 representing ‘strongly disagree’ and ‘strongly agree’ responses, respectively, to gauge the items for all constructs. We controlled for the effects of firm age, size, and level of spending on R&D.

Analytical procedure

The analysis was conducted using SmartPLS, which is a partial least squares path modeling technique that simultaneously tests measurement (relationship between indicators and their constructs or latent variables) and structural model (relationship between constructs). PLS is useful for exploring new theoretical relationships and for model estimation purposes, when the sample size is small and when the model is complex, involving many constructs, indicators and relationships (Hair *et al.*, 2016). In our study, the use of PLS is appropriate because our sample is relatively small, our model is complex with many constructs to be examined, and the hypothesized relationships have been implied but not explicitly tested in the extant literature.

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Findings

Assessment of the measurement model

The measurement model attempted to confirm whether the manifest variables capture the theoretical constructs. We assessed the measurement model with respect to individual item reliability, internal consistency, and discriminant validity. To accept item loadings, we used the minimum level of 0.05 (Green *et al.*, 1995). Only one item from the environmental dynamism (EDM3) construct was deleted from subsequent analysis due to poor loading. The loadings for the rest of the indicators exceeded 0.70, suggesting an adequate correlation between the indicators and their respective constructs. Moreover, all the composite reliability (CR) ratios were above 0.70, which indicates adequate internal consistency of the measures. To assess convergent and discriminant validity, Fornell and Larcker’s (1981) criterion was used in which convergent validity is confirmed if average variance extracted (AVE) exceeds 0.50. The AVE for all the constructs was above 0.50, which establishes the convergent validity of the latent constructs. The results also confirmed the existence of discriminant validity among the constructs. The discriminant validity is confirmed if the square root of AVE for all variables is greater than the correlation between pairs of constructs. Table 1 reports loadings, CR, and AVE values. Discriminant validity coefficients are presented in Table 2.

Tables 1 & 2 about here

Assessment of higher-order constructs

IBC was assessed as a second-order construct of its four dimensions as first-order constructs. The reliability and validity assessment of the higher-order construct draws on its relationship with its lower-order components (Sarstedt *et al.*, 2019). The first-order constructs were interpreted as indicators of a second-order construct. The reflective relationships between the higher-order construct and its lower-order components were interpreted as loadings.

All four first-order constructs exceeded the benchmark value, suggesting an adequate correlation between first-order and higher-order constructs. A composite reliability (CR) value above 0.70 indicated adequate internal consistency of measures, while at the same time, the value of AVE above 0.50 confirmed the convergent validity of the construct.

The reliability and validity assessment of AOC was not relevant as it was operationalized as a multiplicative interaction term of shared vision and organizational diversity. The reliability and validity of interaction term constructs are meaningless because the cross-product indicators do not stem from one specific conceptual domain and are simply an auxiliary measurement to facilitate the interaction term generation (Sarstedt *et al.*, 2019). Table 3 shows loadings, CR, and AVE values for IBC.

Table 3 about here

Common method variance

Since we collected data from a single source using a cross-sectional method, common method variance (CMV) issues might arise. To address this concern, we conducted Harman's (1976) one-factor test, which assumes that CMV may occur if the unrotated factor solution results in a single factor or one factor explains most of the variance in the variables (Podsakoff & Organ, 1986). An exploratory factor analysis revealed that the largest factor explained only 24.21% of overall variance, suggesting the absence of CMV concerns.

Assessment of the structural model

The significance of path coefficients was assessed with bootstrap analysis in SmartPLS. Figure 1 shows the path estimates of the model's structural main direct effects between the latent variables. Table 4 presents path coefficients, *t*-values, effect size, and variance inflation factor (VIF) scores.

Table 4, 5, & 6 about here

The estimation of the inner model revealed that it explains 39% of IBC variance and 31% of innovative performance. Further, the path coefficients show a positive association between AOC and IBC ($\beta = 0.523, p < 0.001$), finding that corroborates Hypothesis 1. The analysis also provides evidence in support of Hypothesis 2, which states that IBC has a positive effect on innovative performance ($\beta = 0.314, p < 0.05$).

We also proposed that IBC would act as a mediating mechanism between AOC and innovative performance. The results illustrate that AOC has an indirect effect on innovative performance via IBC. The bootstrapping estimations support the indirect effect of AOC on innovative performance ($t > 1.96$, two-tailed, $p < 0.05$). The mediation effect was assessed following the approach of Preacher and Hayes (2004) and Zhao *et al.* (2010), which further suggests evaluating confidence intervals to confirm mediation. If the 95% confidence interval for indirect effect does not straddle a zero, the presence of a mediation effect is supported. In the case of AOC, the 95% confidence interval (0.093–0.406) further confirms the mediation effect as there is no zero in between the interval end points, thus supporting Hypothesis 3. Table 5 shows the results of significant indirect effects.

Contrary to our expectations, the results of the structural model assessment offered no support ($\beta = 0.154, p > 0.05$) for Hypothesis 4, which proposed that environmental dynamism would moderate the relationship between IBC and innovation performance.

Moreover, R&D spending was the only categorical variable with a significant relationship to both endogenous variables – IBC and innovative performance. To examine whether this categorical variable acts as a control variable, we ran the analysis in SmartPLS again without R&D as an independent variable to assess whether the strength of relationship between the constructs of interest would be influenced by the absence of R&D variable. The

PLS algorithm in the absence of R&D revealed that the beta value (β) increased from 0.523 to 0.564 for the relationship between AOC and IBC. Similarly, the strength of relationship between IBC and innovative performance was also influenced by the absence of R&D as the beta value increased from 0.314 to 0.410, indicating that R&D spending acts as a control variable and influences the strength of relationships in the model.

Discussion

This study explored the impact of IBC on innovative performance and the contingent role that environmental dynamism plays in this relationship. We also assessed whether AOC nurtures IBC and if this beneficial effect is transmitted onward by IBC to boost the innovation performance of organizations. Our findings demonstrate that IBC has a significant impact on innovative performance regardless of the level of dynamism in the external environment. The results further reveal that AOC acts as an antecedent of IBC, and IBC mediates the relationship between AOC and innovative performance.

Theoretical implications

The current literature offers valuable insights on the beneficial effects of IBC, but the focus has generally been on export performance capturing IBC with a single competence, such as international orientation (Escandon-Barbosa *et al.*, 2019). Our current understanding of how such a capability can be internally fostered is limited. By considering IBC as a meta-capability of a set of competences (Knight & Kim, 2009), our study contributes to the literature by showing that firms equipped with IBC can excel in innovation, and organizational culture can be leveraged to develop such competences. We emphasize crafting of an ambidextrous cultural context for nurturing IBC, which in turn acts as a unique capability for meeting new trends in

international markets. This is consistent with the general view that intangible resources tend to have an important role in organizational success (Barney, 1991).

The significant relationship between IBC and innovation performance supports past studies, which unveil the gains brought about by IBC in international operations of organizations (Gerschewski *et al.*, 2015; Ruokonen & Saarenketo, 2009). Our findings indicate that firms that have a strong international orientation, focus on customer needs and competitor moves, reach out customers in mature and emerging markets, and respond to the fast-changing trends in international markets, are able to achieve superior innovation performance. This suggests that IBC can be added as a source of innovation to the existing repertoire of organizational capabilities that have been reported to have beneficial effects on innovation performance (Park Hong *et al.*, 2019; Liao & Li, 2019).

This finding is also relevant to our study context. In the Norwegian seafood industry, most companies are small and medium enterprises (SMEs), and by virtue of their size, these firms may lack tangible resources and assets compared to larger businesses. Thus, developing IBC to achieve diverse sources of knowledge and expertise is of great utility to enhance innovative performance. This is consistent with prior assertions that the internal capabilities are the most important aspects for small firm success in international markets (Knight & Cavusgil, 2004; Zahra *et al.*, 2000). Thus, developing IBC means greater probability of successful internationalization with positive implications for innovation (Genc *et al.*, 2019), which is also supported by Norwegian evidence showing that firms with strong international connections are highly innovative (Frøystad, 2014).

The finding that AOC is an antecedent of IBC aligns with the broader consensus in the literature that organizational ambidexterity leads to positive firm outcomes (Cao *et al.*, 2009; Khan & Mir, 2019; Raisch & Birkinshaw, 2008). Our theoretical arguments and the subsequent empirical support for AOC as an antecedent of IBC are fully substantiated. To succeed, firms

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3 need to adopt a two-pronged approach of satisfying existing customers and being futuristic to
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5 explore potential changes in customer bases (Caniëls & Veld, 2019). These activities involve
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7 efficiency and innovation, and organizations with an ambidextrous culture may have the
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9 capacity to simultaneously demonstrate these competing requirements. By embracing the
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11 opposing values of organizational diversity and shared vision, AOC may nurture the capability
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13 to both be attentive to customers' changing preferences and achieve coherence among all the
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15 patterns of activities via effective internal coordination, participation, and communication
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17 (Schein, 2010). Corporate diversity has long been recognized for promoting creativity in
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19 organizations, which impacts IBC through the development of innovative and entrepreneurial
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21 capabilities (de Vasconcellos *et al.*, 2019). Further, AOC may promote common goal orientation
22
23 within organizations, which may ultimately help firms to exploit their existing resources and
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25 capabilities and excel in international markets (Wang & Rafiq, 2014).
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31 Our finding regarding the indirect effect of AOC on innovation performance via IBC is
32
33 also consistent with prior research. Wang and Rafiq (2014) and Khan and Mir (2019) found
34
35 that the influence of AOC on innovation is mediated by contextual ambidexterity. This suggests
36
37 that AOC not only creates a milieu that promotes IBC development, but also enhances the
38
39 innovative performance by nurturing IBC. This is aligned with prior studies that suggest that
40
41 complex capabilities are time consuming to develop and, to achieve performance, companies
42
43 need to carefully craft a supportive internal environment, such as an ambidextrous context, for
44
45 the development of such capabilities (Gibson & Birkinshaw, 2004). This also consistent with
46
47 prior assertions that organizations achieve superior performance through chains of capabilities
48
49 that are distally or more proximally related to performance outcomes (Bhatt *et al.*, 2010; Knight
50
51 & Cavusgil, 2004).
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56
57 Contrary to our expectations, the results did not support the contingent effect of
58
59 environmental dynamism on the relationship between IBC and innovation performance. This
60

is not consistent with the moderating role of environmental dynamism reported in past studies (Mao *et al.*, 2020; González-Zapatero *et al.*, 2019), such as firms become active in dynamic environments and these activities lead to enhanced performance (Boso *et al.*, 2013). One possible explanation is that companies with high levels of IBC are proactive and future oriented, and they invest their energy in innovative actions regardless of the turbulence in the external environment. Firms with high IBC might have sufficiently developed the ability of exploring new opportunities in global markets and the capacity of reconfiguring business activities to meet changing customer demands in the task environment. This means that under dynamic conditions, firms that have already achieved a sufficiently high level of IBC may find it less beneficial for their innovation to dedicate additional resources to further develop such competences. It is possible that low IBC companies conduct their work for controlled reasons (e.g., external contingencies) and depend heavily on the dynamism in their environment to continuously adapt to new market trends.

Practical implications

Our study has important implications for companies engaged in business operations across national boundaries. First, global organizations that strive to remain competitive by maintaining consistently high levels of innovation despite the heightened turbulence in the external environment (Bodolica & Spraggon, 2021) should prioritize the development of their IBC. Second, these types of companies may find relevant to focus on nurturing a culture that is characterized by norms and values emphasizing both sharedness and diversity. Cultivating such an internal culture and encouraging firm members to internalize its values will not only help organizations develop IBC, but also generate sizable innovation-related performance outcomes.

Our findings may specifically benefit entities operating in the Norwegian seafood industry, which is mainly comprised of SMEs. This is important because SMEs possess fewer resources and tangible assets than larger corporations and do not tend to invest heavily in R&D. Fostering a specific type of organizational culture and a set of competences that can contribute to their staying innovative could help compensate for these shortcomings. Consistent with our suggestion, small businesses with a higher level of IBC have been previously found to perform better in foreign markets (Knight & Kim, 2009).

Limitations and future research

Despite its contributions, this study is not without limitations. First, our sample includes a single industry in one national setting, which might affect the generalizability of the findings. For instance, the preference for an ambidextrous firm culture may be a reflection of the societal norms of Norway. Norwegian culture is characterized by institutional collectivism and egalitarianism (House *et al.*, 2004), suggesting a preference for collaboration and equality irrespective of differences that foster sharedness and diversity in organizations. Likewise, the patterns of relationships might be different in industries mainly comprised of large firms in a more dynamic environment than that of the seafood industry. Therefore, future research could verify our findings by using a multi-industry sampling frame that may include both large and small firms that experience various levels of environmental dynamism.

Second, to capture AOC, we focused on how diversity and shared vision complement each other, which assumes a balanced presence of these two culture types. However, it is possible that an organizational culture includes both types, but they vary in their magnitude. Thus, it would be relevant to explore their interaction effects on both IBC and innovation under different scenarios (e.g., high diversity and high sharedness, high diversity and low sharedness, high sharedness and low diversity, and low diversity and low sharedness). This can be done

using a response surface analysis technique. Moreover, further research may corroborate our findings using other approaches to operationalize cultural ambidexterity, such as employing a formative measurement model with ambidexterity as a formative construct of organizational diversity and sharedness.

Third, we confined our study to the ambidexterity of organizational culture, but ambidextrous leadership and ambidextrous structure might also have implications for the development of IBC and innovation. Thus, future studies might examine both the unique and joint effects of these three types of ambidexterity. Our final suggestion relates to the insignificant moderation effect uncovered in our study and the differing assertions in the extant literature about the role of environmental dynamism as a driver of organizational capabilities or a moderator of their effects. A relevant research question which is worthy of further examination is whether companies develop superior IBC under turbulent conditions or when the external environment is stable.

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Appendices

Appendix A. Construct operationalization scales

Appendix A: Scales used to operationalize study constructs
Organizational Diversity
OD1: In our firm, we respect everyone's different view points
OD2: In our firm, we value people from diverse backgrounds with diverse experiences and skills.
OD3: In our firm, we encourage all our employees to generate as many alternative solutions to problems as possible
Shared Vision
SV1: All employees in our firm view themselves as partners in charting the direction of our firm.
SV2: Future direction of our firm is clearly communicated to every employee.
SV3: Everyone one in our firm is well aware of long term plans and direction of our firm
Formalization
FM1: Our work involves a large number of written rules and policies.
FM2: There is a complete written job description for most jobs in our firm.
FM3: Rules and procedures occupy a central place in our firm.
Centralization
CT1: There is a little action taken in our firm until a supervisor makes a decision.
CT2: Even small matters in our firm are referred to someone with higher up for final decision.
CT3: A person who wants to make his / her own decision is discouraged in our firm.
Innovative Performance
IP1: Our company frequently introduces new product/service innovations.
IP2: Our company is able to continuously introduce new products/services to markets before our competitors.
IP3: Our company is able to extend product/service range outside of main product/service field.
Environmental Dynamism
ED1: Product or service in our industry updates quickly.
ED2: The technology in our industry progresses quickly.
ED3: It is difficult to predict the change of customer needs.
International Orientation
IO1: Our top management tends to see the world as our firm's market place.
IO2: Our management continuously communicates its mission to employees regarding success in international markets.
IO3: Management develops human and other resources for achieving our goals in international markets.
International Marketing Skills
IMS1: Marketing planning process
IMS2: Control and evaluation of marketing activities.
IMS3: Skills to segment and target individual markets.
International Innovativeness
IIN1: Our firm is at the leading technological edge of our industry in international market.
IIN2: Our firm is well known for technical expertise among channel members in international markets.
IIN3: Our firm employs most skilled specialists in manufacturing products and offering services.
International Market Orientation
IMO1: All our managers understand how everyone in our firm contributes to create value for customers in market.
IMO2: Top management frequently discusses the strengths and weaknesses of our major competitors.
IMO3: Our business functions are integrated in serving the needs of international markets

Appendix B. Table 1 – Table 6 and Figure 1

Table 1. Loadings, CR and AVE

Table 1: Loadings, CR and AVE				
Constructs	CR	AVE	Indicators	Loadings
International Orientation	0.817	0.599	IOR1	0.712
			IOR2	0.786
			IOR3	0.820
			IMS2	0.865
			IMS3	0.877
International Innovativeness	0.892	0.733	INO1	0.850
			INO2	0.828
			INO3	0.889
International Market Orientation	0.800	0.571	IMO1	0.745
			IMO2	0.745
			IMO3	0.776
Shared Vision	0.906	0.763	SDV1	0.814
			SDV2	0.893
			SDV3	0.911
Organizational Diversity	0.872	0.694	ODV1	0.815
			ODV2	0.832
			ODV3	0.851
Innovative Performance	0.896	0.743	INP1	0.888
			INP2	0.895
			INP3	0.799
Environmental Dynamism	0.919	0.850	EDM1	0.967
			EDM2	0.853

Table 2. Discriminant validity coefficients

Table 2: Discriminant Validity Coefficeints								
	1	2	3	4	5	6	7	8
Environmental Dynamism (1)	0,922							
International Innovativeness (2)	0,232	0,856						
International Marketing Skills (3)	0,074	0,406	0,840					
Innovative Performance (5)	0,214	0,471	0,373	0,276	0,862			
International Orientation (6)	0,030	0,332	0,318	0,444	0,243	0,774		
Organizational Diversity (7)	0,009	0,188	0,402	0,430	0,331	0,417	0,833	
Shared Vision (8)	0,206	0,176	0,458	0,488	0,347	0,517	0,680	0,873

Table 3. Loadings, CR and AVE (for second order construct)

Table 3: Loadings, CR and AVE				
Second Order Construct	CR	AVE	Indicators	Loadings
IBC	0.831	0.553	International Orientation	0.690
			International Marketing Skills	0.791
			International Innovativeness	0.692

Table 4. Path coefficients, effect size and variance

Table 4: Path Coefficients, Effect Size and Variance						
Criterion	Predictor	Beta Values	t-values	Effect Size	VIF	p-values
IBC, $R^2 = 0.395$	AOC	0.523	3.695***	0.400	1.130	0.000
INNOPERF, $R^2 = 0.318$	IBC	0.314	2.399**	0.122	1.183	0.017
	R&D - IBC	0.259	2.855**	0.110	1.007	0.004

*** $p < 0.001$; ** $p < 0.05$ (Two-tailed)

Table 5. Indirect effects

Table 5: Indirect Effects			
Association	Beta Values	t-values	95% Confidence Interval
AOC - IBC - INNOPERF	0.242	2.321**	0.093 - 0.406

** $p < 0.05$ (Two-Tailed)

Table 6. Moderating effects

Table 6: Moderating Effect					
Moderating Variable	Beta Value	t-value	Effect Size	VIF	p-value
Environmental Dynamism	0.154	0.800	0.026	1.275	0.296

Figure 1. Conceptual model

