**Examining the impact of absorptive capacity and organizational learning on international strategic performance: Can the two go together?**

**Abstract**

The main purpose of this study is to examine empirically, in one model, the impact of absorptive capacity (ACAP) and organizational learning (OL) on international strategic performance. Moreover, it aims to answer the question: can ACAP and OL go together?

Based on *dynamic capability theory*, the study investigates the effects of marketing and innovation capabilities on two organizational processes (ACAP and OL). These affect international strategic performance. Structural equation modeling (SEM) analysis was used as a tool to test questionnaire data from 304 senior managers among international companies in Israel.

The findings show that marketing and innovation capabilities both affect ACAP and OL, which in turn impact international strategic performance. However, although there is a similarity in the conceptualizations of ACAP and OL, the findings show a surprising phenomenon and, contrary to expected, reveal that ACAP and OL are not working together in the same direction. Therefore, the main conclusion of this study is that ACAP and OL in one model produce opposite effects on international strategic performance. Managers should treat these two organizational processes carefully when they pursue knowledge acquisition in order to gain a competitive advantage.

**Keywords:** marketing capability, innovation capability, absorptive capacity, organizational learning, international strategic performance

**Summary statement of contribution:** This article’s unique contribution to marketing science is reflected in how managers should operate in global business environments. This article sharpens the ways in which companies acquire knowledge about their international markets and help them to gain a competitive advantage against their rivals. In this article, the contribution of the authors is equal.

**Introduction**

Firms’ performance depends on the level of knowledge they possess. Companies that wish to maintain a continuous advantage over competitors must create and implement regulated processes of knowledge acquisition. Thus, to the extent that organizations aspire to adapt to changes in their competitive environment, they need organizational processes for identifying, assimilating, and applying new knowledge effectively (Camisón and Forés, 2010). Accordingly, it is important to understand what processes affect managerial decision-making concerning the acquisition and application of new external knowledge that eventually helps companies to achieve competitive advantages over their rivals.

The literature provides an extensive list of processes that enable the creation and assimilation of new knowledge within organizations, such as R&D intensity (Belderbos *et al*., 2003; Cohen and Levinthal, 1989) and IT innovation (Chao and Chandra, 2012; Moore and Benbasat, 1991). We focus on two processes of knowledge acquisition, namely, absorptive capacity (ACAP) and organizational learning (OL). We chose these processes because of their central role in many marketing studies conducted over the last two decades.

ACAP refers to “a firm’s ability to recognize the value of new external knowledge, assimilate it, and apply it to commercial ends” (Flatten *et al*., 2011, p. 100). The ACAP concept involves a wide range of organizational processes that support and encourage transfers of knowledge throughout organizational subunits (Cohen and Levinthal, 1990). Such knowledge sharing is considered crucial for organizations pursuing innovation performance (Lin, 2007).

According to García-Morales *et al*. (2012, p. 1041), OL reflects the “capability within an organization to maintain or improve performance based on experience.” Zahra (2005) argued that international new ventures appear to learn about new technological trends and competencies from foreign markets. Conversely, senior managers strive to fit the knowledge gained into their organizations.

ACAP and OL are particularly crucial in the context of an organizations’ international activities. Both processes involve knowledge acquisition, which is an important resource for international firms, whose markets are characterized by competitive and technological changes. Organizations need to respond rapidly to these changes if they are to thrive. Implementation of ACAP and OL processes allows firms to achieve competitive advantage what making them become essential resources.

Kande (2015, p. 23) noted that ACAP is relevant for “born-global” firms, and added that “an organization should be able to recognize, anticipate and consequently take action in response to market shifts or new technological developments in a manner that is superior to its competitors.” For its part, in the context of international marketing management, OL includes skills and insights about how to acquire knowledge based on a firm’s past international experience, a view referenced by many marketing researchers. For example, Yeo (2005) argued that OL levels can be determined by establishing how members of organizations utilize experience to generate and disseminate new knowledge.

While it may seem that ACAP and OL processes overlap conceptually and the distinction between them is blurred, a deeper look shows that there are still substantial differences between the two. They differ most significantly in their suggested sources of new organizational knowledge. For ACAP, new knowledge is external in origin, and knowledge acquisition requires sifting through the many indicators generated by external issues and processes to identify those that are beneficial and worth assimilating. On the other hand, for OL, knowledge comes ultimately from individual members within the organization (Kim, 1993), and is acquired through a multilevel process that begins with individual learning, continues through group learning, and ultimately leads to organizational learning (Crossan *et al*., 1999).

The study of ACAP and OL has generated vast bodies of research. However, for the most part, scholars have investigated each process separately. Some scholars may have examined the advantages or disadvantages of some antecedents of ACAP and OL, but have not generated an integrative model designed to examine either the antecedents or the impact of ACAP and OL on corporate performance simultaneously (Flatten *et al*., 2011; Jiménez-Jiménez and Sanz-Valle, 2011). Thus, the potential conceptual overlaps of ACAP and OL have effectively been overlooked, thereby blurring understanding of the precise differences and similarities between them.

In order to strengthen the theoretical grounds for this study, we reviewed the marketing literature and conducted a thorough search (using Google Scholar) for studies that examined both ACAP and OL. This concentrated on studies that integrated both processes in a single model, in an international context. Unfortunately, the search did not yield any results, confirming a gap in the literature and one that we seek to fill.

A few studies have discussed the overlap between ACAP and OL, and have recommended that further research be conducted to explore this overlap. For example, Sun and Anderson (2010, p. 130) stated that “the concept of absorptive capacity has been closely linked with notions of organizational learning. Yet the precise nature of the relationship between these two concepts has never been established.” They went on to argue that “there is a need to consider empirically the extent of overlap between ACAP and OL” (Sun and Anderson, 2010, p. 147). Roberts *et al*. (2012) reviewed the differences between ACAP and OL from several perspectives (construct versus concept, active versus passive, and external versus internal knowledge), but did not do so in an integrative model. This same gap was highlighted by Miles (2012, p. 22), who called for future research to “explore and empirically test the similarities and differences among organizational learning and absorptive capacity models.”

Against this background, and in response to the calls of Miles (2012) and other researchers, we have developed an integrative model (as presented in Figure 1) that incorporates dynamic capabilities, organizational processes, and corporate performance, and provides a framework with which to examine how marketing and innovation capabilities affect ACAP and OL processes, and the impact of these processes on international strategic performance.

Accordingly, this study seeks to answer two research questions. First, is the relationship between these two theoretical mechanisms synergetic, or does using one preclude the use of the other? Second, when considering these two structures as predictors in the research model, are their impacts on international firm performance manifested in different ways?

Given the above, the major aim of this study is to make several important contributions to the marketing literature. First, this study seeks to fill a gap that exists in the literature that has not yet been empirically tested. By combining ACAP and OL in one common model, an opportunity is created to emphasize the similarities and differences between these two structures, something that has not been done before. Second, it explores the impact of ACAP and OL on international corporate performance through the use of one integrative model, something that has never been hypothesized or tested before.

Third, based on dynamic capability (DC) theory, this study seeks to discuss the importance of organizational resources and shows how to utilize them in an optimal way. ACAP and OL processes are reflected as organizational resources, and the way an organization invests its resources is critical to its success. Therefore, this study enables managers to determine which of these two processes is preferable in terms of international performance and provides decision makers with information on how their organizational resources should be utilized effectively in order to gain a competitive advantage.

**Theoretical framework**

This research draws on a well-known theoretical framework, that of DC theory. Teece *et al*. (1997, p. 516) defined dynamic capability as “The firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.” Firms that seek to achieve competitive advantage and cope with changing environments, especially in the global marketplace, must leverage such competencies.

In this study, we have chosen two important dynamic capabilities, namely, marketing capability (MC) and innovation capability (IC). Both play a role as antecedents for ACAP and OL.

Fang and Zou (2009, p. 744) defined marketing dynamic capability as “the responsiveness and efficiency of cross-functional business processes for creating and delivering customer value in response to market changes.” Hadjimanolis (2000) noted that IC can be regarded as a subcategory of dynamic organizational capabilities. The notion of dynamic capabilities complements the premise of the resource-based view (RBV) of a firm (Wang and Ahmed, 2007). So, those capabilities must be valuable, rare, hard to imitate, and hard to substitute (Barney, 1991).

Furthermore, ACAP and OL can also be considered as organizational dynamic capabilities because they are based on knowledge acquisition processes that are dynamic in nature and affected by frequent environmental changes.

From a theoretical point of view, the ability to utilize external knowledge is a critical component and is affected by a firm’s innovation and marketing capabilities . Wang and Ahmed (2007, p. 39) developed this notion further, arguing that “absorptive capability and innovative capability, conceptually, are the most important component factors of dynamic capabilities and underpin a firm’s ability to integrate, reconfigure, renew and recreate its resources and capabilities in line with external changes.” On the basis of DC theory, we developed the research model represented in Figure 1.



**Figure 1.** Research model

**Literature review**

**Absorptive capacity**

ACAP is a dynamic capability that allows firms to create value as well as gain and sustain competitive advantage through the management of external knowledge (Camisón and Forés, 2010). Originally, it was perceived narrowly as relating to a firm’s ability to identify, assimilate, and apply external information. Over time, the construct’s meaning has broadened and now includes a firm’s overall capacity for learning, implementing new knowledge, disseminating new knowledge internally, and making use of new resources (Gray, 2006). Over the past two decades, ACAP has been studied extensively in the organizational literature, a reflection of the crucial role played by knowledge resources in corporate performance.

Cohen and Levinthal (1989) were the first to conceptualize ACAP as the ability to learn from external knowledge through the processes of knowledge identification, assimilation, and exploitation. They held that ACAP is a by-product of an organization’s R&D efforts and, more importantly, considered it a key factor in OL. Subsequently, newer studies refined and redefined the concept. Mowery and Oxley (1995) positioned ACAP as a broad array of skills reflectingtheneed to deal with tacit components of transferred technology, as well as the frequent need to modify foreign-sourced technology for domestic application. Gray (2006, p. 347) defined it as follows: “ACAP is a function of the organization’s existing resources, existing tacit and explicit knowledge, internal routines, management competences, and culture.”

Cadiz *et al*. (2009) sought to tighten the definition of the concept and defined ACAP as the ability to transform new knowledge into usable knowledge through the processes of assessment (identification and filtering of valuable information), assimilation (conversion of new knowledge into usable knowledge), and application (using the knowledge). Still later, Yu (2013) described ACAP more clearly and simply as a firm’s ability to understand, absorb, and apply new knowledge obtained from external sources.

Over the years, ACAP has been variously considered to have either three or four dimensions, with researchers yet to reach a uniform agreement. In the current study, we have adopted the ACAP definition proposed by Flatten *et al*. (2011, p. 100): “ACAP refers to a firm’s ability to recognize the value of new external knowledge, assimilate it, and apply it to commercial ends.” We regard the operationalization of ACAP as having four dimensions (knowledge acquisition, assimilation, transformation, and exploitation), as also proposed by Flatten *et al*. (2011).

**Organizational learning**

In contrast to ACAP, which introduces external knowledge to a firm, OL represents the development of knowledge within the organization itself in a manner such that behavioral changes occur to improve the organization’s performance (Crossan *et al*., 1999; Fiol and Lyles, 1985). The OL term has existed in the organizational lexicon since it was introduced by Cangelosi and Dill (1965) half a century ago. Thereafter, scholars have developed and conceptualized OL in different ways, although most definitions of OL have features in common. Some typical descriptions follow: organizations that engage in OL encourage their employees to continually acquire new knowledge, learn new skills, and try new and innovative processes (Goh, 2003); OL is a foundation for gaining a sustainable competitive advantage and a key factor in the amplification of organizational performance (Fiol and Lyles, 1985); OL is the process whereby knowledge is created, distributed across the organization, communicated among organization members, and integrated into the strategy and management of the organization (Duncan, 1979). Although these differ in their chosen terminology for the sub-processes involved, and in their associated causes, effects, and domains, it is clear that many scholars regard OL as consisting of multiple dimensions or sub-processes (Miller, 1996).

Most recent OL studies have adopted an understanding of the OL construct based on four dimensions, namely, knowledge or information *acquisition*, *distribution*, and *interpretation*, and *organizational memory*. However, Flores *et al*. (2012) conceptualized OL more broadly, along five dimensions, adding the *integration* of information to the four above.

Crossan *et al*. (1999) conceptualized OL in a slightly different fashion and named it the “four I’s model,” involving four related sub-processes: intuiting, interpreting, integrating, and institutionalizing. They also maintained that OL is a multilevel process: it begins with individual learning, continues to group learning, and finally arrives at OL. In this current study, we follow Jiménez-Jiménez and Sanz-Valle (2011), who conceptualized and operationalized OL along the four dimensions of knowledge acquisition, knowledge distribution, knowledge interpretation, and organizational memory.

**Organizational capabilities**

Organizational capabilities are an organization’s accumulated knowledge and skills that enable it to enhance the value of its resources (Murray *et al*., 2011). They are the mechanism by which a firm absorbs knowledge from external sources and blends the different technical competencies that develop into different company departments as necessary (Cohen and Levinthal, 1990). This study focuses on two such capabilities, namely, marketing and innovation.

Several studies in the marketing literature have examined the relationship between organizational capabilities and absorptive and learning abilities. Some have claimed that AC and IC help to explain ACAP and OL (Bilan *et al*., 2020; Day, 1994; Wu, 2013; Zahra and George, 2002), while others have argued that ACAP and OL are two organizational constructs that improve organizational capabilities such MC and IC (Aliasghar *et al*., 2023; Waruwu *et al*., 2020). In the spirit of DC theory, this study treated MC and IC as two important corporate capabilities that serve as antecedents for ACAP and OL, rather than vice versa.

*Marketing capabilities*

MC are based on market knowledge and involve past experience of customers’ needs (Day, 1994). The importance of MC to a firm’s performance is underscored in the literature. Murray *et al*. (2011) identified three MC as being particularly critical in allowing firms to achieve a competitive advantage and boost their performance: pricing, new product development, and marketing communications. Morgan *et al*. (2009) described numerous MC that help firms gain a competitive advantage, namely, pricing, product management, distribution management, marketing communications, selling, marketing planning, and marketing implementation. They found that these MC have a direct impact on both return on assets (ROA) and perceived corporate performance. Similarly, Vorhies and Morgan (2005) reported that MC are associated with superior business performance. In this study, we consider MC as antecedents of ACAP and OL.

*Innovation capabilities*

Most firms competing within a given industry demonstrate similar levels of managerial ability within their various organizational departments, be it operations, human resources, marketing, or strategy (Liao *et al*., 2007). Given such uniformity across companies, many firms regard innovation as the key to achieving a competitive advantage over their rivals.

Following Lawson and Samson (2001, p. 384), we identify IC as reflecting a firm’s “ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders.” Previous studies have divided IC into several categories. For example, Samson (1991) classified innovation in terms of product innovation, process innovation, and managerial and systems innovation, while Hortinha *et al*. (2011) distinguished between exploitative and exploratory innovation. IC are important because they assist a firm in obtaining a competitive advantage and, consequently, improve corporate performance. In this study, as with MC, we consider IC as antecedents of ACAP and OL.

**International strategic performance**

International strategic performance (PERF) represents a firm’s overall activity in global markets and is focused mainly on export performance. Keupp and Gassmann (2009) defined international performance as the strength or opportunity of international operations at a corporate level. Peng (2001) noted that the RBV approach suggests that, to achieve superior performance in an international market, a firm needs to develop a competitive advantage by creating value through unique products or services that satisfy foreign customers. According to Shoham (1996), export performance is defined as the composite outcome of a firm’s international sales. Zou *et al*. (1998) developed the EXPERF scale to measure export performance as a three-dimensional construct involving *financial performance*, *strategic performance*, and *satisfaction*.

Most researchers conceptualize and examine corporate performance in terms of financial performance. Katsikeas *et al*. (2016) have challenged this phenomenon and recommended the conceptualization of other aspects of performance. In this study, we have followed the lead of Katsikeas *et al*. (2016) and distilled strategic performance dimensions from Zou *et al.* (1998), going on to define international strategic performance as reflecting a firm’s ability to meet strategic goals such as improved competitiveness, increased market share, and a strengthened strategic position. We wish to emphasize that the study focuses on international performance and the data is based on organizational outcomes concerning a firm’s most important product line in its most important international market.

**Hypotheses development**

**MC and ACAP**

From a theoretical perspective, the ability to absorb knowledge within an organization is based, among other things, on the resources and capabilities embedded within the organization. Key antecedents of ACAP include prior related knowledge, which usually involves basic skills and experience, and organizational factors such as communication structures and mechanisms for the distribution of knowledge (Flatten *et al*., 2011).

MC have been recognized as organizational capabilities that enable firms to surpass their competitors and provide superior value to customers (Day, 1994). Because ACAP is a process that is built on the grounds of acquisition, assimilation, transformation, and exploitation of knowledge (Zahra and George, 2002), MC may contribute to this process. Several studies have provided evidence for a relationship between MC and ACAP. For example, Day (1994) claimed that MC serve as an integrative process that is designed to apply the collective knowledge, skills, and resources of a firm.

The main purpose of dynamic MC is to help firms absorb market knowledge to integrate it into the rest of the organization (Barrales-Molina *et al*., 2014). Wu (2013) noted that the MC of a firm reflects its ability to translate the nature of customer needs through effective information acquisition, and then to respond through marketing planning. MC are developed when a firm’s marketing employees repeatedly apply their knowledge and skills (both of which are intangible resources) to transform marketing inputs into outputs (Vorhies, 1998). Thus, it can be anticipated that:

***H1a:*** *MC positively affects* *ACAP.*

**IC and ACAP**

Innovation is a complex activity in which new knowledge is applied for commercial ends (Fosfuri and Tribó, 2008). The relationship between IC and ACAP has been investigated in several studies. Cohen and Levinthal (1990) argued that ACAP is an organizational structure based on IC, which enable firms to identify, assimilate, and exploit external knowledge. Lawson and Samson (2001, p. 384) stated that IC are “the ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders.” Tsai (2001) showed empirically that an organizational unit’s ACAP is positively related to its innovation. Lane *et al*. (2006) argued that the magnitude of innovation can have implications for future ACAP, and that revolutionary innovation is likely to create ACAP in valuable new areas. Therefore, it can be anticipated that:

***H1b:*** *IC positively affects* *ACAP.*

**MC and OL**

The only way in which an organization can maintain its competitive advantage is to learn faster than its competitors. Therefore, as a process of knowledge acquisition, OL may be demonstrated by an organization’s MC (De Geus, 1988). The relationship between MC and OL has been examined previously by scholars. Liu and Ko (2011, p. 3) identified this relationship as particularly significant and argued that “to deploy resources in ways that are appropriate to charity retailing, the charity retailer needs to develop marketing capabilities through operational learning.”

With respect to the screening, use, and dissemination of market information, MC can represent another valuable functional source of knowledge (Day, 1994). Grinstein’s (2008) findings suggest that market orientation (as an abstract concept of MC) is strongly correlated with learning. Jaworski and Kohli ( 1993) argued that market-oriented organizations possess the ability to generate, disseminate, and respond to information about market forces and these competencies are achieved by learning what buyers want. New learning is a product of a firm’s combinative capabilities (such as MC), which are expected to lead to economic value and generate new applications from existing knowledge (Kogut and Zander, 1992).

Market research can be considered to be a type of OL. It must be leveraged by the development of successful marketing programs built around capabilities in pricing, channel management, and promotions management (these are all MC), carefully coordinated and managed for success (Vorhies *et al*., 1999). So, it can be anticipated that:

***H2a:*** *MC positively affects* *OL.*

**IC and OL**

From a theoretical point of view, working, learning, and innovating are closely related to ongoing human activities within the organization (Brown and Duguid, 1991). The learning process depends on the organization’s ability to be unique in comparison to its rivals. Levinthal (1991) argued that OL is effective when firms enhance their organizational capabilities, and Grant (1996) added that the application of new organizational knowledge contributes to the promotion of such learning. Here, specifically, we focus on IC as antecedents of OL.

Several researchers have given much thought to the relationship between IC and OL. For example, Stata (1989) stated that OL is the principal process by which innovation occurs, while Goes and Park (1997) claimed that learning climate and corporate innovation are highly correlated. Calantone *et al*. (2002) argued that innovation is closely related to OL, and an organization that is committed to learning can enhance its IC. Hurley and Hult (1998, p. 47) claimed that “organizational learning, when viewed from a behavior change or implementation perspective, is equivalent to innovation.” Thus, it can be anticipated that:

***H2b:*** *IC positively affects* *OL.*

**ACAP and PERF**

ACAP is a construct that is essential to a firm’s performance (da Costa *et al*., 2018), and its impact has been examined in the marketing literature.For example, Tsai (2001) argued that higher ACAP is associated with better business performance. Ali *et al*. (2016) concluded that organizational innovation mediates the relationship between ACAP dimensions (i.e., knowledge acquisition, assimilation, exploitation, and transformation) and organizational performance. Kale *et al*. (2019) tested this relationship and found that ACAP positively affects corporate performance. Xie *et al*. (2018) also found that these four dimensions of ACAP have a positive relationship with firms’ innovation performance. Thus, it can be anticipated that:

***H3:*** *ACAP positively affects* *PERF.*

**OL and PERF**

OL is an important capability for establishing competitive advantage and a key source of improvement in organizational performance (Brockman and Morgan, 2003). In addition, strategic performance is an important outcome of explorative and exploitative learning (Chung *et al*., 2015). The relationship between OL and PERF has been reviewed in the marketing literature.For example, Jiménez-Jiménez and Sanz-Valle (2011) have shown that OL has a positive effect on performance and innovation, while Patky (2020) reviewed the OL literature and concluded that the most important outcomes of OL are innovation and performance. Mutahar *et al*. (2015) report that OL has a positive effect on organizational performance, and Akhtar *et al*. (2011) have shown likewise. Thus, it can be anticipated that:

***H4:*** *OL positively affects* *PERF.*

**Methodology**

**Data collection and questionnaire**

The data of this study were collected via *iPanel* (a data panel company in Israel) and involved two steps. First, we pretested the survey instrument on a sample of 33 managers who were asked to answer several questions and provide feedback on the clarity and relevance of the items therein. Based on their responses, we made a few minor adjustments to arrive at a final version of the main questionnaire, the execution of which represented the second step of our data collection.

The questionnaire had two parts, the first containing preliminary demographic and screening questions (e.g., age of respondent, primary occupation, company size, organizational role), intended to filter out participants unlikely to be relevant to our study. Specifically, two filter questions (measured on 7-point scales) sought to ensure that respondents were sufficiently knowledgeable and confident to answer questions about their company’s issues (based on Barnes *et al*., 2010). Only respondents who indicated a value of four or above on both were deemed sufficiently informed to participate in the study. To further establish respondents’ credentials, the questionnaire also contained three questions regarding job seniority and the amount of time and experience the respondents had had as managers in their companies. Additional filter questions were designed to reduce potential bias. The second part of the questionnaire, which addressed the capabilities, processes, and performance outcomes of interest, consisted of multi-item questions, using seven-point Likert-type scales (1 = Strongly disagree, to 7 = Strongly agree).

**Scales and items**

All multi-item scales were based on previous studies to ensure their validity and reliability. The original *Assimilation* and *Transformation* scales (dimensions of the ACAP construct) each contained four items, with one item in each being a double-barreled item; we split these into two differentiated items in order to make the questionnaire clearer and more precise. Table I presents a list of all of the study’s scales including their label, the number of items, mean and standard deviation, and their sources used in this study. Also, Appendix 1 describes the items of each scale and their loadings, respectively.

**Table I.** Scale measures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | S.D | Mean | # Items | Label | Scale |
| DeSarbo *et al*. (2005) | 1.00 | 5.27 | 6 | MC | Marketing capabilities |
| Merrilees *et al*. (2011) | 1.10 | 5.31 | 4 | IC | Innovation capabilities |
| Flatten *et al*. (2011) | 1.331.341.101.24 | 5.064.895.235.12 | 35a5b3 | ACAPACASTREX | Absorptive capacity:*Acquisition**Assimilation**Transformation**Exploitation* |
| Jiménez-Jiménez and Sanz-Valle (2011) | 1.231.371.101.30 | 4.944.625.434.98 | 3334 | OLKAKDKIOM | Organizational learning:*Knowledge acquisition**Knowledge distribution**Knowledge interpretation**Organizational memory* |
| Zou *et al*. (1998) | 1.13 | 5.16 | 3c | PERF | International strategic performance |

a The original scale included 4 items; b The original scale included 10 items ; c The original scale included 9 items.

**Measurement model specification**

In SEM analysis, there are two types of latent construct measurement models: *reflective* and *formative* (Freeze and Raschke, 2007). The researcher should determine what type of model they wish to use. The fundamental difference between reflective measurement and formative measurement is displayed in the direction of the relationship between the constructs and their indicators. The reflective model describes the flows from the construct to its indicators so that for each change in the construct, there will be a change in the indicators as well (Hanafiah, 2020). In contrast, the formative model describes the flows from the indicators to the particular construct so that for each change in the indicators, there will be a corresponding change in the construct (Hanafiah, 2020).

In this study, we used the reflective method from several reasons. First, most scholars, especially in marketing research, assume that the relationship between a construct and its indicators is reflective (Coltman *et al*., 2008). Second, all the variables in this study are latent variables, and in almost in all cases these latent variables are measured using reflective indicators (Diamantopoulos and Siguaw, 2006). Finally, from a theoretical perspective, this study’s model is defined as an effect model that aims to examine relationships between variables. Therefore, it is more fitting to use the reflective model rather than the formative model in this research (Coltman *et al*., 2008).

**Sample statistics**

The study’s sample comprised 304 managers who satisfied all of the conditions of the filter questions and answered the entire structured questionnaire. In terms of demographics, the average age of respondents was 41.8 years, and 55.9% were male. Employment-wise, 58.9% were intermediate-level managers, 32.6% were senior managers, 4.9% were vice general managers, and 3.6% were general managers.

The main activities of these managers were varied, and the sample included several decision-making authorities: 44.7% in relation to marketing, 61.5% for general management, 37.5% in relation to business development, 49.7% for finance, and 33.9% for sales (respondents could indicate more than one form of authority). In terms of organizational seniority, the managers were experienced in their areas of responsibility and current companies (the average range was between 6.34 and 9.57 years). In addition, the answers to questions designed to assess their knowledge and confidence demonstrated that the managers were, indeed, knowledgeable and confident about the international operations of their companies.

It should be noted that this study involved only Israeli companies with international activities, of which 58.2% dealt mainly with products and 41.8% with services. None of the companies were classified as startups, although 48.4% competed in high-tech industries. In terms of firm size, 51.3% of the companies employed more than 100.

**Reliability and validity**

*Reliability*

In the research literature, most studies document reliability by using Cronbach’s alpha coefficient (α). However, this measure has several limitations, one of which is the erroneous assumption that all items contribute equally to reliability (Bollen, 1989). When examining models in structural equation modeling (SEM), especially concerning reflective measurement, a better way to evaluate reliability is to assess composite reliability (CR), which is based on the standardized loadings and measurement error for each item (Shook *et al*., 2004). Here, we calculated both α and CR to strengthen the argument for the reliability of our scales regardless of the estimation method.

**Table II.** Values of Cronbach’s α and composite reliability (CR)

|  |  |  |  |
| --- | --- | --- | --- |
| ‏CR | α | # Items | Scale |
| 0.90 | 0.89 | 6 | Marketing capabilities |
| 0.88 | 0.88 | 4 | Innovation capabilities |
|  |  |  | Absorptive capacity: |
| 0.86 | 0.85 | 3 | *Acquisition* |
| 0.93 | 0.93 | 5 | *Assimilation* |
| 0.93 | 0.93 | 5 | *Transformation* |
| 0.87 | 0.86 | 3 | *Exploitation* |
|  |  |  | Organizational learning: |
| 0.80 | 0.78 | 3 | *Knowledge acquisition* |
| 0.85 | 0.84 | 3 | *Knowledge distribution* |
| 0.83 | 0.83 | 3 | *Knowledge interpretation* |
| 0.87 | 0.87 | 4 | *Organizational memory* |
| 0.95 | 0.96 | 3 | International strategic performance |

Based on Nunnally (1978), the generally accepted rule-of-thumb threshold for reliability is 0.7. As can be seen in Table II, the values of α and CR are fairly similar, and all exceeded this 0.7 threshold. Thus, we conclude that all of the scales employed were reliable.

*Construct validity*

Construct validity is “the extent to which indicators of a construct measure what they are purported to measure” (Bagozzi and Yi, 2012, p. 18). Many years ago, Cronbach and Meehl (1955) argued that construct validity is assessed not only by specific investigative procedures but also by accounting for the orientation of the researcher. In this context, to ensure the validity of our research, we followed several preliminary processes. First, we reviewed relevant literature and scales to become familiar with the domain of each construct, and then we selected existing scales with established reliability from the marketing literature.

Second, we conducted a pretest with a sample of 33 managers to examine whether the questions were clear and understandable, as well as to establish content validity. This pretest data served as a preliminary test of construct validity and demonstrated strong reliability. Moreover, as already highlighted, managers were found to be knowledgeable and confident about their organizational activities, especially concerning international operations, which lent further strength to our validation.

*Discriminant validity*

Discriminant validity is “the extent to which any latent variable ‘A’ discriminates from other latent variables” (Farrell, 2010, p. 324). To assess the discriminant validity, we conducted two statistical tests. First, we calculated a 95% confidence interval for the correlation between ACAP and OL. The limits of this confidence interval ranged between 0.78 and 0.85. Because the confidence interval excludes the value of 1, it indicates that there is adequate discrimination between ACAP and OL.

Second, we used the method of Fornell and Larcker (1981) and compared the average variance extracted (AVE) with the shared variance (SV). AVE is defined as “the average amount of variation that a latent construct is able to explain in the observed variables to which it is theoretically related,” while SV is defined as the “amount of variance that a variable is able to explain in another variable and [is] represented by the square of the correlation between any two variables” (Farrell, 2010, p. 324). According to this method, if the AVE for each construct is greater than its SV, discriminant validity is supported. Table III presents Pearson’s correlations (below the diagonal), average variances extracted (AVEs; on the diagonal), and shared variances (SVs; above the diagonal) for each pair of constructs.

**Table III.** Fornell and Larcker test

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | Scale |
| 0.40 | 0.27 | 0.27 | 0.21 | 0.12 | 0.24 | 0.25 | 0.22 | 0.32 | 0.38 | **0.59** | **1. Marketing capabilities** |
| 0.31 | 0.24 | 0.21 | 0.24 | 0.21 | 0.35 | 0.29 | 0.24 | 0.31 | **0.64** | 0.62 | **2. Innovation capabilities** |
| 0.19 | 0.26 | 0.32 | 0.30 | 0.26 | 0.37 | 0.28 | 0.38 | **0.67** | 0.56 | 0.57 | **3. Acquisition** |
| 0.19 | 0.29 | 0.42 | 0.40 | 0.30 | 0.35 | 0.34 | **0.73** | 0.62 | 0.49 | 0.47 | **4. Assimilation** |
| 0.20 | 0.20 | 0.45 | 0.29 | 0.27 | 0.22 | **0.73** | 0.58 | 0.53 | 0.54 | 0.50 | **5. Transformation** |
| 0.19 | 0.26 | 0.19 | 0.30 | 0.35 | **0.68** | 0.47 | 0.59 | 0.61 | 0.59 | 0.49 | **6. Exploitation** |
| 0.14 | 0.26 | 0.22 | 0.35 | **0.57** | 0.59 | 0.52 | 0.55 | 0.51 | 0.46 | 0.35 | **7. Knowledge acquisition**  |
| 0.26 | 0.35 | 0.28 | **0.65** | 0.59 | 0.55 | 0.54 | 0.63 | 0.55 | 0.49 | 0.46 | **8. Knowledge distribution** |
| 0.23 | 0.27 | **0.62** | 0.53 | 0.47 | 0.44 | 0.67 | 0.65 | 0.57 | 0.46 | 0.52 | **9. Knowledge interpretation** |
| 0.26 | **0.62** | 0.52 | 0.59 | 0.51 | 0.51 | 0.45 | 0.54 | 0.51 | 0.49 | 0.52 | **10. Organizational memory** |
| 0.69 | 0.51 | 0.48 | 0.51 | 0.38 | 0.44 | 0.45 | 0.44 | 0.44 | 0.56 | 0.63 | **11. International strategic performance** |

Notes: AVE = average variance extracted; SV = shared variance. Correlations are below the diagonal, SV are above the diagonal, and AVE estimates are presented on the diagonal. The correlations of all pairs were found to be significant (*p* < 0.01).

As seen in Table III, for each pair of constructs, the AVE values are greater than the SV values (except for two cases in which the gap between AVE and SV is marginal and not significant). Thus, we conclude that there is discrimination between the constructs.

**Correlations between the constructs**

Before calculating the correlation matrix, we determined the averages of the constituent items for each construct. Table IV presents the correlation matrix of all pairings, where it can be seen that the correlations of all pairings were positive and significant (*p* < 0.01).

**Table IV.** Correlation matrix of the constructs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Construct | 1 | 2 | 3 | 4 | 5 |
| 1. ACAP | 1.00 |  |  |  |  |
| 2. OL | 0.82 | 1.00 |  |  |  |
| 3. MC | 0.61 | 0.57 | 1.00 |  |  |
| 4. IC | 0.66 | 0.59 | 0.62 | 1.00 |  |
| 5. PERF | 0.54 | 0.58 | 0.63 | 0.56 | 1.00 |

\* The correlations of **all** pairs were found to be significant (*p* < 0.01).

**Multicollinearity**

Multicollinearity in marketing research refers to a statistical phenomenon where two or more independent variables in a regression model are highly correlated, making it difficult to isolate the individual effects of each variable on the dependent variable. Multicollinearity can pose challenges and complications when analyzing data and drawing meaningful conclusions in marketing studies. According to Niemelä-Nyrhinen and Leskinen (2014), multicollinearity, especially in SEM analysis, refers to high correlations between the latent exogenous variables. Recognizing and addressing multicollinearity is crucial in marketing research to ensure the reliability of findings and the validity of marketing strategies derived from SEM analysis.

One of the tools to detect multicollinearity is correlation analysis: the calculation of correlation coefficients between pairs of independent variables. High correlation values may indicate multicollinearity. As can be seen in Table IV, the correlation between ACAP and OL is quite high (0.82), which could raise the suspicion of multicollinearity.

**Controlling common-method bias**

*Common-method variance* (CMV) is the “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff *et al*., 2003, p. 879). This variance is mainly due to the systematics of data collection. CMV may generate a bias among the research participants. There has been much discussion of this issue in the international business research literature and several negative influences of CMV on research have been noted. For example, Conway and Lance (2010) showed that CMV inflates the relationships between variables measured by self-reports, and MacKenzie and Podsakoff (2012) showed that CMV affects estimates of construct validity and reliability, thereby having an impact on the relationship between different constructs.

In order to minimize and control CMV, we used both *ex-ante* and *ex post* strategies. These practices enable us to control the data collection process and provide some remedies for potential CMV. The *ex-ante* strategy included several preliminary actions: first, this study began with a pretest that provided feedback on the items and enabled us to design the final questionnaire to be clearer and more relevant; second, the research design contained scale measures from other information sources to ensure independence between items (Chang *et al*., 2010); third, all of the scale items derived from previous studies were carefully back-translated into Hebrew (the native language of our sample) to maintain their clarity; fourth, the questionnaire was prepared in two versions, both of which had the same questions, but in a different order. Half of the respondents were given one version, and the other half were given the second version. The reason for building two versions is to reduce the possibility of bias among the respondents. For the fifth element of the *ex-ante* strategy, we incorporated “marked”items (items that are theoretically unrelated to the other items and “planted” within the measured items) into the questionnaire (Lindell and Whitney, 2001). This technique is designed to interrupt a systematic answering sequence, as well as support subsequent *ex post* tests. Finally, before the participants answered the questionnaire, they were assured that their answers would remain confidential and anonymous, thus encouraging them to answer freely and fearlessly.

The *ex-post* strategy included several statistical analyses. First, we conducted Harman’s single-factor test. This method loads all of the items from each construct into one single factor (Chang *et al*., 2010), and SEM is then used to conduct a confirmatory factor analysis of the one-factor model. The results of the model-fit indices were χ2 = 1802.37, degrees of freedom (DF) = 823, *p* = 0.00, incremental fit index (IFI) = 0.50, comparative fit index (CFI) = 0.50, and root mean square error of approximation (RMSEA) = 0.10. These results indicate an unsatisfactory model fit, showing that no one single factor emerges and, thus, it is possible to claim that there is no CMV. Second, following‏ Lindell and Whitney’s (2001) recommendation, we calculated the correlations between the “marked items” and the other measured scales. The correlations were relatively low (ranging from 0.06 to 0.33), and most were not significant. Again, these results indicated that CMV was not a factor.

**Analyses and results**

The analyses of the research model were done using SEM and based on the maximum likelihood method using IBM SPSS Amos 24 software. We used Anderson and Gerbing’s (1988) two-step approach to achieve parsimonious models and to assess the fitness of the constructs in the model. The first step includes the estimation of the measurement model as a confirmatory assessment, which (re)specifies the relations of the latent variables to the underlying constructs. This step is a preliminary test that is intended to establish several psychometric properties of the measures and to provide both theoretical and statistical justification for the substantive models of this study. The second step comes after estimating the measurement properties and includes the substantive model. We estimated several indices of goodness of fit and examined the hypothesized paths of this study.

**Measurement model**

We specified the measurement model and estimated several goodness-of-fit indices. The results suggest that the model represents a good fit to the data, withχ2 = 1858.96, DF = 783, χ2/DF = 2.16, *p* = 0.00, IFI = 0.93, TLI = 0.91, CFI = 0.92, SRMR = 0.05, and RMSEA = 0.06. Moreover, Appendix 1 describes all loading levels of the measurement scales. The findings show that all loading levels are high except for one item, which was relatively low. Accordingly, we can argue that the measurement model is satisfactory and enables us to continue to the second step of the analysis.

**Substantive model**

First, we ran the substantive model (Figure 2) and refined measurement errors to achieve a model of optimal parsimony. Then, we estimated the goodness-of-fit indices for the model. The results suggest that the model represents a good overall fit to the data, withχ2 = 1534.33, DF = 783, χ2/DF = 1.96, *p* = 0.00, IFI = 0.92, TLI = 0.92, CFI = 0.92, SRMR = 0.06, and RMSEA = 0.06. These results indicate that the substantive model is a parsimonious one that has been found to be satisfactory and adequate for the data.



**Figure 2.** Substantive model

**Tests of hypotheses**

After examining the measurement model and establishing the psychometric properties of the measures, we tested the research hypotheses. Table V presents the final results of the hypotheses tests for each path and includes statistical summaries of standardized (beta) coefficients (std. β), *t* values, *p* values, and the final outcome in relation to each hypothesis path.Therefore, hypotheses H1a, H1b,H2a, H2b, H3, and H4 are found to be supported.

**Table V.** Hypotheses results

| Hypothesis | Path | Std. β | *t* value | *p* value | Outcome |
| --- | --- | --- | --- | --- | --- |
| H1a | MC → ACAP | .42 | 4.86 | .000 | Supported |
| H1b | IC → ACAP | .46 | 6.01 | .000 | Supported |
| H2a | MC → OL | .25 | 3.22 | .001 | Supported |
| H2b | IC → OL | .36 | 4.79 | .000 | Supported |
| H3 | ACAP → PERF | 2.55 | 3.30 | .000 | Supported |
| H4 | OL → PERF | -2.03 | -2.05 | .040 | Supported |

**Discussion and conclusions**

The main purpose of this study was to examine the impact of ACAP and OL on international strategic performance in one integrative model, as well as to assess the influence of two organizational capabilities (marketing and innovation) on ACAP and OL.

Regarding the impact of MC and IC on ACAP and OL, the findings show that both MC and IC have a positive effect on ACAP and OL. However, comparing between the standardized coefficients of MC and IC suggests that MC have a higher impact on ACAP and OL then IC.

When it comes to organizational capabilities, it is important to encourage a variety of capabilities within a firm because this mechanism enables firms to absorb knowledge from external sources and develop competencies within the organization to achieve a stronger competitive advantage (Cohen and Levinthal, 1990). Dynamic capabilities such MC and IC are crucial resources in today’s fast-paced and unpredictable business environment. Organizations that can develop and leverage dynamic capabilities are better positioned to thrive in the face of uncertainty and change.

With respect to the impact of ACAP and OL on international strategic performance, the findings show that ACAP has a positive effect on international strategic performance, while, contrary to expectations, OL was found to affect international strategic performance negatively.

It is obvious that this finding is not consistent with the theoretical model, and this situation raises the question of why ACAP and OL have opposite effects on organizational strategic performance. The answer to this situation is probably related to the *suppression effect* that exists between ACAP and OL. Maassen and Bakker (2001) noted that the suppression effect occurs when two independent variables have a positive zero-order correlation with the dependent variable and correlate positively with each other. Moreover, if one of them receives a negative regression weight, this situation is referred to as a *negative* *suppression* *effect*.

A closer look at the research findings shows that this is exactly the case of a suppression effect. The independent variables (ACAP and OL) had a positive zero-order correlation with the dependent variable (PERF; international strategic performance), and the correlation between ACAP and OL is positive and relatively high (0.82). In addition, OL bears a negative regression weight in relation to international strategic performance. Hence, following Maassen and Bakker’s (2001) determination, this situation may be attributed to a *negative suppression effect* and is probably caused by multicollinearity between ACAP and OL. Hair *et al*. (2010) discussed such situations and argued that multicollinearity may occur when two or more variables are highly correlated (as was the case here).

In order to strengthen our argument about the negative suppression effect of ACAP on OL in relation to international strategic performance, we conducted two post hoc analyses.

**Post hoc analyses**

Post hoc analysis 1 involved re-running the research model without OL. The results showed that all fit indices suggested a good overall fit, with χ2 = 665.82, DF = 354, χ2/DF = 1.88, *p* = 0.00, IFI = 0.95, TLI = 0.95, CFI = 0.95, SRMR = 0.06, and RMSEA = 0.06. In addition, the impact of ACAP on PERF was found to be significant and positive (β = 1.03, *p* = 0.00).

Post hoc analysis 2 involved re-running the research model again, but this time without ACAP. Again, the results showed all fit indices suggestive of a good overall fit, with χ2 = 551.49, DF = 276, χ2/DF = 1.99, *p* = 0.00, IFI = 0.95, TLI = 0.94, CFI = 0.95, SRMR = 0.06, and RMSEA = 0.06. In addition, the impact of OL on PERF was found to be significant and positive (β = 1.63, *p* = 0.00).

Comparing the results of the two post hoc analyses with those of the full research model gives a clear outcome: when we examine each of the constructs in isolation, the impact of each on PERF is positive, as expected. However, when we examine both constructs in the same model, the impact of ACAP on PERF is positive while the impact of OL on PERF is negative.

An in-depth examination of this finding leads us to conclude that ACAP suppresses OL, probably because of multicollinearity between them. Therefore, the most prominent and important conclusion of this study is that ACAP and OL as currently conceptualized should not be incorporated into the same model because, in combination, they exert a negative effect on a firm’s international strategic performance.

The meaning of these results is clear: ACAP and OL cannot exist together in the same model if optimum results are desired. Hence, based on Maassen and Bakker’s (2001) recommendation, it is advisable to remove one of the two variables from the model for reasons of parsimony. In this particular model, it seems that the OL construct should be discarded. ACAP and OL were both incorporated into this model as constructs that involved processes of knowledgeacquisition, assimilation, transformation, and exploitation. However, the findings showed that one of the constructs suppresses the other.

**Differences between ACAP and OL**

Over the past 20 years, marketing research literature has focused on these two constructs separately and has not considered the possibility of their integration. Thus, the question that prompted this study was whether ACAP and OL represent similar processes of knowledge acquisition or whether they are fundamentally different constructs.

In terms of their similarities and differences, both ACAP and OL constructs reflect a similar process of how to acquire knowledge and manage it within an organization. However, although ACAP and OL can be conceptualized in terms of very similar dimensions and operationalized by similar components, there are still differences between the two in some respects, and there is much discussion in the marketing literature regarding these differences and how fundamental they are. For example, Roberts *et al*. (2012) noted that the differences are reflected through three issues: construct versus concept, active versus passive, and external knowledge versus internal knowledge.

Substantively, the main difference between ACAP and OL concerns the type of knowledge acquired by an organization. ACAP is primarily concerned with creating *new knowledge* based on the adaptation to the organization of *external knowledge*; Miles (2012) described ACAP as a firm’s ability to find new knowledge and use it for commercial ends. OL focuses on *internal knowledge* that already exists in an organization, and how it can be exploited for the organization’s benefit. OL is a mechanism that encompasses a variety of learning processes within the organization that enables it to adequately implement and exploit such current knowledge.

As mentioned earlier, this study tried to answer two research questions. First, is the relationship between ACAP and OL synergetic, or does using one preclude the use of the other? Second, when considering these two structures as predictors in the research model, are their impacts to international strategic performance manifested in different ways?

The answers to our research questions are quite clear. ACAP and OL are two theoretical mechanisms with a high positive correlation to one another. However, when we integrate them into a common model, we find that ACAP is the more dominant and has a higher impact on international strategic performance than OL. In other words, when both are present, ACAP overshadows OL and can actually suppress it.

**Theoretical and managerial implications**

The findings of this study provide several insights and contributions to the marketing literature. They also have implications for businesses at both the theoretical and managerial levels.

From a theoretical perspective, there are several implications. First, the marketing literature to date has not provided tools for distinguishing clearly between ACAP and OL. This study identifies and organizes the similarities and differences between ACAP and OL, particularly in regard to their impact on international strategic performance. Managers should treat these two organizational processes carefully when they pursue knowledge acquisition in order to gain a competitive advantage.

Second, the beneficial effects of OL and ACAP illustrated in the findings suggest that firms should actively create a learning process for the acquisition of new external knowledge and, similarly, should develop a mechanism whereby they successfully preserve accumulated knowledge, thus ensuring corporate longevity and enabling a competitive advantage.

From a managerial point of view, there are also several implications. First, managers need to develop and adopt unique capabilities and consistently benchmark their practices with their rivals in order to preserve their superiority. Practically, openness and flexibility in integrating relevant ideas from a variety of areas may help managers to find the best trajectory when it comes to developing organizational capabilities. Second, this study shows that both MC and IC affect ACAP and OL and, in turn, international strategic performance, suggesting that managers should develop and maintain organizational capabilities that are superior to those of their rivals (Feng *et al*., 2017) if they wish to establish and maintain a competitive advantage.

**Limitations and future research**

Despite its contributions to the marketing literature, the current study does suffer from a number of limitations. Some of these are technical while others are theoretical.

From a technical perspective, there are several issues that future research should take into account. First, the research adopted a quantitative approach, and further insights could be afforded by a complementary approach that also makes use of qualitative data, such as interviews with managers. Thus, we recommend that further research combines quantitative and qualitative methods to gain more in-depth knowledge in relation to managerial mindsets regarding the study’s central issues. Second, the study sampled small- and medium-sized firms in a variety of industries without focusing on any specific one. While this approach makes it easier to generalize the study’s findings in some respects, it would be interesting to test whether the results hold for specific industries (e.g., high-tech or medical). Third, owing to time limitations, this study was designed as cross-sectional. A longitudinal study could usefully examine the implementation of ACAP and OL processes within an organization over time.

From a theoretical standpoint, there are several limitations. First, the dimensions of ACAP and OL used in this study are somewhat close. Future research should examine different definitions of these dimensions with a view to making them as different from one another as possible. Second, the entire managerial sample was associated with Israeli firms, and it would be both desirable and worthwhile to empirically examine this research model in other cultures and territories to determine the generalizability of our findings. Third, the study focused on two key organizational capabilities (marketing and innovation) and treated them as antecedents for ACAP and OL. These capabilities are core organizational activities that can result in sustained advantage (Krasnikov and Jayachandran, 2008), and the examination and integration of other types of organizational capability, such as R&D and operational capabilities, would offer interesting possibilities for future research.

Overall, the findings of this study reveal surprising results regarding the research model that indicate that ACAP and OL cannot work together in one integrative model. The post hoc tests showed that the effect of ACAP and OL separately on the international strategic performance of the organization was better. Both the findings of this study and its technical and theoretical limitations offer a variety of opportunities on which to base future research.