How Does Organizational Learning Contribute to Corporate Social Responsibility and Innovation Performance? The Dynamic Capability View

Abstract

Purpose – Innovative organizations are increasingly facing challenges in a dynamic market to address corporate social responsibility (CSR) issues; however, research on how organizational learning (OL) contributes to organizations' social responsibility and innovation remains sparse. The current study attempts to bridge the gap in previous research and examines how OL and dynamic capabilities (DCs) act as drivers of CSR performance (CSRP) and innovation performance.

Design/methodology/approach – This study is survey-based and uses time-lagged, multisource data from 151 pharmaceutical industry-related companies in Iran. Structural equation modeling was applied to test the validity of the measurement model, and hierarchical regression was used to test the key hypotheses.

Findings – DCs mediate the relationship between OL and CSRP. Moreover, CSRP significantly mediates the relationship between OL and innovation.

Originality – Drawing on the perspective of DCs, this research is among the first to offer new insights in a new context on what antecedent conditions lead to successful implementation of organizational CSRP and how CSRP would, in turn, lead to subsequent innovation performance improvement.

Keywords – Organizational learning, Innovation performance, Corporate social responsibility, Dynamic capabilities, Pharmaceutical Industry

1. Introduction

In today's dynamic business market, it is widely acknowledged that a firm's better and faster learning ability, compared with its rivals, is one of the main origins of competitive advantage (Pérez López *et al.*, 2004). In a rapidly changing business environment, learning should become an integral part of a firm's daily operations. Thus, firms have become increasingly interested in continuous learning as evidenced by their use of existing knowledge and competencies to generate new knowledge (Ingelgård *et al.*, 2002). Organizational learning (OL), an essential factor in gaining and maintaining competitive advantage, is important in achieving superior performance (Jiménez-Jiménez and Sanz-Valle, 2011). OL brings a systematic change in corporate behavior because of the organization's capability to create new knowledge through sharing prior experience (Andreou *et al.*, 2016). An organization's ability to utilize and absorb new knowledge enables efficient management of production and operational activities (Ooi 2014) and making the right decision when needed. Additionally, as competition intensifies and globalization accelerates, innovation is frequently considered a foremost source of success in a competitive environment. OL acts as a capability to process knowledge and comprehend required sustainable development for an organization (Hermelingmeier and von Wirth 2021) and enables organizations to efficiently modify current processes, which in turn leads to better innovation performance (INP) (Jerez-Gómez *et al.*, 2019).

While maintaining competitiveness and profitability, companies should also be accountable for the environmental and social impacts of their business operations (Dicle and Köse, 2014; Wenzel and Will, 2019). Companies are under tremendous pressure from the community and society at large to implement corporate social responsibility (CSR) and to respond to emerging

concerns and social issues surrounding their operations (Jaime *et al.*, 2019; Lin and Wu, 2014; Ramachandran, 2011; Wu and Duan, 2014; Broadstock et al., 2020). Due to the outbreak of the COVID-19 pandemic worldwide, this has become particularly crucial for pharmaceutical companies. Hence, to alleviate environmental and social issues while maintaining competitiveness, it is imperative for firms to concentrate on processes and technologies conducive to ecologically oriented innovation (Jordaan *et al.*, 2017). Through such a process, companies can reinforce their competitive capability while better addressing their impacts on society through implementing innovative solutions (Halkos and Skouloudis, 2018). Therefore, firms should establish a suitable connection between their CSR practices and innovative solutions.

With respect to improving sustainable operational performance, there is an increasing number of recent studies on the impacts of OL on both CSRP (Fortis *et al.*, 2018; Valdez-Juárez *et al.*, 2019) and INP (Ghasemzadeh *et al.*, 2019; Jiménez-Jiménez and Sanz-Valle, 2011; Tamayo-Torres *et al.*, 2016). This body of research highlights that learning and the flow of knowledge are instrumental in both sustainable strategies such as CSR and sustainable operations such as innovation. OL offers insights into how organizations leverage information from their environment to expand their potential citizenship behavior, thereby creating new methods to do business (Haarhaus and Liening, 2020). Earlier research suggests that the understanding and conceptualization of OL processes underlying CSR development should not be framed only in terms of the organization and how it learns through direct past experience but should also explicitly integrate the way in which organizations modify their knowledge base by learning from their external environment (Zhao *et al.*, 2019).

However, the body of research on the relationship between OL and CSRP is fragmented and subject to an ongoing debate as to the types of capabilities developed by OL and how those

capabilities affect CSRP and innovation. This void in the literature demonstrates the need for more research on how OL contributes to CSRP. On the one hand, Fortis *et al.* (2018) stated that organizations often lack the capabilities, knowledge, and competencies needed to deal with CSR-related matters. On the other hand, to be innovative, companies have to consider the social and ecological impacts of their activities, encourage creativity among their employees, and cooperate with their customers, suppliers, and other stakeholders to design and develop innovative services and products (Rexhepi *et al.*, 2013). In this stream of research, some scholars have called for further research to explore how OL affects CSRP (Jiménez-Jiménez and Sanz-Valle, 2011). To address this call, we posit that dynamic capabilities (DCs) that enable firms to deal with changing business environments (Li et al., 2020; Darawong, 2018; Singh and Rao, 2016; Teece, 2007) would play a vital role in the association between OL and CSRP. Teece *et al.* (1997, p. 516) defined DCs as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments." OL can happen through organizational learning processes such as stakeholder engagement. Such engagement would assist organizations in learning about the social environmental needs of their stakeholders (Mahmoudian *et al.*, 2021). The learning is then internalized through DCs. More specifically, in line with the DC view (DCV), organizations that learn have a better chance of developing organizational capabilities that meet social concerns and deliver better INP compared with their rivals.

In this study, the pharmaceutical sector, with its high innovative context, was selected as the target population to test the research hypotheses. Pharmaceutical companies play a critical role in the global economy by conducting research and developing and delivering innovative medicines, which makes them highly accountable to society (Leisinger, 2009; Volodina *et al.*, 2009). However, there are very limited studies on CSR in the pharmaceutical sector (LaVan *et al.*, 2021),

and most of these are related to the CSR reporting system rather than studying CSRP as a strategic tool (Cook *et al.*, 2018). Moreover, the main traits associated with knowledge-based organizations can be attributed to the pharmaceutical companies and, therefore, the relevant knowledge for sustainable operation is more complicated for this sector than other research-intensive ones (Ghasemzadeh *et al.*, 2019; Mehralian *et al.*, 2018). Consequently, OL, CSR, and innovation are all highly interrelated and relevant in this industry, making this sector an ideal context for study. As such, this study used time-lagged, multisource data from pharmaceutical industry-related companies in Iran. Structural equation modeling was then applied to test the validity of the measurement model, and hierarchical regression was used to test the key hypotheses. Based on the results, DCs mediate the relationship between OL and CSRP. Moreover, CSRP significantly mediates the relationship between OL and innovation.

This research is among the first to offer new insights in a new context on what antecedent conditions lead to successful implementation of organizational CSRP and how CSRP would, in turn, lead to subsequent improved innovation performance. Further, the current research provides some important contributions to the literature: First, it provides a theoretical contribution by demonstrating the mediation effect of DCs on OL in relation to CSRP. In other words, when organizations are learning-oriented, they are more capable of developing organizational capabilities, which in turn leads to better innovation performance. Second, this study provides some practical contributions by helping firms gain further insights into the role of CSRP in a constantly changing business environment. In other words, this study provides support for the critical role of CSRP in fostering organizational innovativeness. Third, the study was conducted in the context of a developing country where the economy has faced unexpected sanctions during the last few decades. This highlights how OL and DCs could help organizations meet social

challenges and become innovative when confronted with unprecedented conditions in their business environment.

The study's conceptual model is illustrated in Figure 1. The remainder of this paper is organized as follows. The following section highlights the theoretical foundations and advances the hypotheses. Then, the variables used, sampling, and data collection procedures are described. Subsequently, the results and discussion are presented. Finally, practical implications, theoretical contributions, limitations, and suggestions for future research are discussed.

[Insert Figure 1 around here]

2. Theoretical Background and Hypotheses Development

The conceptual model proposed in this research is based on the DCV. Singh *et al.* (2019) argue that the DCV provides a more comprehensive theoretical lens to investigate how firm resources should be utilized to improve environmental performance and gain competitive advantage.

DCs are a set of strategic and organizational practices in which managers acquire, integrate, and reform resources to generate competitive advantage (Garriga and Melé, 2004). DCs represent the organizational capacity to modify, integrate, and reconfigure the current and acquired competencies in response to changes in the marketplace (Rodrigo-Alarcón *et al.*, 2018; Teece *et al.*, 1997). This is mainly accomplished by rejuvenating resources in accordance with market conditions (Darawong, 2018; Haarhaus and Liening, 2020). Firms that develop their own DCs are better equipped to sustain competitive advantage (Hung *et al.*, 2009). DCs systematically resolve

problems, thus enabling the firm to make well-timed and market-oriented decisions (Fainshmidt *et al.*, 2016).

As CSR requires the management of social and environmental aspects of business operations and the integration of environmental and social issues in organizational procedures and routines (Malik and Kanwal, 2018; Tsai *et al.*, 2015; Wang *et al.*, 2018), DCs would advance firms' capacity to renew, recompose, and reconstruct their resources, capabilities, and core competencies to respond to changes in the environment (Cepeda and Vera, 2007). CSR requires an organization's commitment to improving the community's well-being by conducting ethical business activities (Abbas, 2020). It also requires the alignment of corporate resources to ensure the company's long-term sustainability (Buiūnienė and Kazlauskaite, 2012). In this vein, since DCs develop and maintain a firm's capabilities over time, they are change-oriented and different from functional capabilities, thereby placing the organization in a better position to deal with social concerns (Lan *et al.*, 2019). CSR is no longer perceived as a slogan, but is used as a core element of business strategy and operations (Simon *et al.*, 2015). More than ever, firms are accountable for all aspects of their performance (i.e., not just their profitability and financial results but also their social and environmental performance) (Cramer, 2005). Taking the viewpoint of stakeholders, some scholars argue that organizations should proactively respond to external opportunities by engaging in CSR initiatives and constantly evaluate how corporations cope with stakeholders and the environment (Costa *et al.* 2015; Herrera, 2015). This theory has been increasingly used to explore why firms' CSR activities are related to economic outcomes (Zhou and Wang, 2020). According to Ferauge (2013), for innovation to happen, macro-environment assessments are deemed crucial to be continually considered by organizations. Hence, building on this theory, we believe that if

systemically implemented and evaluated, CSRP plays a pivotal role in translating OL capabilities to innovation performance.

In recent years, companies have increasingly sponsored social, environmental, and philanthropic efforts to improve their image within society (Boccia and Sarnacchiaro, 2018). Among them, the pharmaceutical industry is rapidly developing as markets change (Min *et al.*, 2017). This dynamic industry deals with a diverse group of stakeholders, such as patients, regulators, health professionals, and shareholders, all of which require a particular coverage. Globally, pharmaceutical companies are placed in the hearth of conducting cutting-edge research and developing and delivering novel medicines to society (Leisinger, 2009; Volodina *et al.*, 2009). Providing people with affordable medicines has been particularly crucial for developing countries during the last two decades. As a result, pharmaceutical companies have significantly increased their CSR initiatives to address social concerns. What makes CSR efforts particularly important for pharmaceutical companies is their day-to-day operations that directly affect human well-being. Epidemiological shifts have magnified pressures on this industry to actively work to promote societal well-being. In a changing context, biopharmaceutical firms have come under considerable pressure to give up intellectual property rights, reduce prices compatible with the low purchasing power of patients living in low- to middle-income countries, and reallocate research capacities to incorporate neglected tropical diseases. All these demands are discussed today under "social responsibility" arguments. Failure to give in to such pressures results in negative public perceptions about the industry's willingness to meet its responsibilities toward society.

2.1. OL and CSRP

In today's competitive environment, firms are forced to look for novel methods to improve their performance (Mehralian and Shabaninejad, 2014). Organizations and individuals who are

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good at learning have a better chance of comprehending trends and opportunities in the business environment. Hence, learning-oriented organizations are more adaptable in facing upcoming challenges than their rivals (Jiménez-Jiménez and Sanz-Valle, 2011). Firms face pressures not only to acquire knowledge and skills and to modify and adapt them but also to practice ethically in a reasonable manner to meet various stakeholders' expectations. Hence, many firms make tremendous efforts to become learning-oriented firms (Rus *et al.*, 2014).

Many scholars have suggested that organizations should develop certain learning features to improve CSR performance (CSRP) (Van Hoof, 2014; Osagie, 2016). For example, Hevina (2012) stated that certain types of learning are essential for implementing or improving CSR. Fortis *et al.* (2018) conducted an extensive review of the field of OL and argued that OL has continuously been demonstrated as a vital factor in the successful implementation of CSR. For instance, Fenwick and Bierema (2008) indicated that the most important logistical problems reported in CSR execution are linked to education and learning. Moreover, the integration of CSR requires an organization to continuously acquire and use new knowledge that meets stakeholder demands (Cramer, 2005; Mehralian et al., 2016). As stated by Blackman *et al.* (2012), for CSRP to occur successfully, learning is a key factor to change the mindset and motives of employees, leading to an increase in their commitment to the efficacy of CSR initiatives. In line with different views, OL is considered instrumental in CSR adoption and execution (Valdez-Juárez *et al.*, 2019).

However, in the implementation of CSR, managers face multiple challenges that make OL very crucial. These significant challenges consist of the need to recognize a variety of complex issues and to comprehend and convert these issues into organizational effort, and achieve the beneficial application of internal and external knowledge (Siltaoja, 2014). Accordingly, calls for advancing related research on the relationship OL between CSR have recently been made (Fortis

et al., 2018; Siltaoja, 2014). Building on the preceding line of reasoning, the first hypothesis is proposed as follows:

H1: There is a positive association between OL and CSRP.

2.2. OL and DCs

Despite some similarities between OL and DCs, they have some distinctions when examined in relation to capability development. OL is a key source for developing DCs because of the very nature of learnin. In addition, while DCs are attributed to structured, persistent, and planned activities that help the evolution of operational routines, OL can be more creative, unpredictable, and disruptive (Zollo and Winter, 2002). However, OL can potentially become "second-order" DCs when learning mechanisms in an organization have become systematic (Collis, 1994).

Learning is crucial to bring about novel ideas and consequently influence the development of organizational capabilities (Shahzad *et al.*, 2020). Learning enhances a firm's DCs by building up experiences and creating knowledge across the entire firm (Chien and Tsai, 2012; Jiao *et al.*, 2010). The integration capacity is the foundation for the capability-building process and helps firms integrate and collect shared knowledge of individuals at a collective or team level (Darawong, 2018; Iansiti and Clark, 1994). In addition, since DCs are complex, they emerge from the path dependency on existing resources inside the company, and their evolution depends on the firm's investment in learning processes (Hamid Hawass, 2010). This path dependency is a learning procedure, because whatever the organization learns depends on its current knowledge (Chien and Tsai, 2012; Eisenhardt and Martin, 2000). Hence, it has been argued that a firm's learning capability must be dynamic and will assist in coping with the complexity of knowledge creation and distribution within firms (Ingelgård *et al.*, 2002).

In this regard, several studies have demonstrated the role of learning in developing DCs and provided compelling evidence that OL helps refine and integrate DCs (Curado *et al.*, 2018; Farzaneh *et al.*, 2020). According to Easterby-Smith and Prieto (2008), DCs take on a relatively stable, expected, and analytic form, and depend strongly on current knowledge of the reconfiguration of assets, skills, and routines. As Hung *et al.* (2010) proposed, knowledge management and organizational learning culture can generate organizational core competencies and DCs. Wang et al. (2015) pointed out that learning strengthens every aspect of a corporation's ability to sense and capture opportunities and reconfigure capabilities. SubbaNarasimha (2001) maintained that organizational planning, human resource management, and learning would stimulate the development of DCs. Thus, OL can constantly adjust to new conditions and renew itself according to the marketplace demands and expectations (Liao *et al.*, 2008). As such, the second hypothesis is advanced as follows:

H2: OL and DCs are positively associated.

2.3. OL, DCs, and CSRP

Nowadays, companies are under growing pressure to renew and strengthen their competencies and reconfigure their knowledge, skills, and capabilities to cope with external turmoil (Raj and Srivastava, 2016). Recent research shows that CSR is becoming part of the core strategy as companies aspire to gain stakeholders' satisfaction by creating a positive image within the market (Kim *et al.*, 2014). For instance, Ayuso *et al.* (2013) maintain the notion that both large and small and medium enterprises are under pressure to execute CSR initiatives. Firms that do not consider stakeholders' demands and expectations will gradually diminish their market value (Ratajczak and Szutowski, 2016). When companies are deliberate on CSR activities, they pursue

specific mechanisms or methods to implement CSR (Wu and Duan, 2014). Firms should improve their DCs to address the emerging needs of several stakeholders (Wu and Duan, 2013). In a constantly changing business environment, sustainable CSR implementation is derived from firms' DCs (Wu and Duan, 2014).

As Wu and Duan (2014) stated, the development of DCs for CSR implementation requires considerable change in practices through which companies can continuously align internal resources and capabilities with external CSR needs and expectations. A firm's DCs act as a key component in developing CSR strategies (Hart and Sharma, 2004) and enable organizations to prioritize and scan critical CSR demands by various stakeholders prior to the positioning of CSR strategies. Making essential changes to unsustainable actions and routines through DCs would enable organizations to take on emerging opportunities for sustainable development (Wu and Duan, 2014). For example, in a recent study (Choi *et al.*, 2019), it was empirically illustrated that DCs play a significant role in implementing CSR practices. It was argued that DCs would enable organizations to proactively respond to market needs (e.g., consumer preference) by executing CSR practices.

Some studies have demonstrated that OL does not directly influence CSRP (e.g., Martinez-Conesa *et al.*, 2017). These studies argue that OL affects CSR through the augmentation of organizational capabilities in general. For example, Zahra et al. (2018) reported that OL allows companies to gain experience and obtain the necessary capabilities and knowledge to arrange resources as they attempt to reconfigure themselves in response to changes in the market. Hamid Hawass (2010) argued that if firms are continuously involved in learning procedures and adjust their existing capabilities, they can respond better to technological changes. In this condition, the reconfiguration capability is seen as a learning procedure that promotes the deepening of the

organization's existing capabilities by reconnecting current organizational systems to enhance technological advancements. As stated above, dynamic capabilities, in particular, are derived from OL. Moreover, effective development of the integrative learning processes of internal knowledge boosts DCS, thereby promoting the company's CSRP (Hung *et al.*, 2010; Sher and Lee, 2004). Additionally, Cui and Jiao (2011) argued that firms that can notice environment or market trends in a timely manner by interfacing with various stakeholders and reconfigure rapidly to line up their resources with the demands of the business environment will perform with a competitive advantage. Hence, OL could help firms develop their competencies and capabilities to address social concerns. Based on these arguments, this study proposes the following hypotheses:

H3: DCs are positively associated with CSRP.

H4: DCs mediate the association between OL and CSRP.

2.4. OL, CSR Performance, and Innovation Performance

Innovation has been described as the utilization of existing knowledge to generate new knowledge (Zhou *et al.*, 2017). In today's business environment, innovation is increasingly regarded as a leading factor of long-term success (Cegarra-Navarro *et al.*, 2016; Cillo et al., 2019). OL has often been analyzed as a capability to improve performance and achieve a competitive advantage. In fact, nearly all businesses that compete in dynamic markets view OL as a key factor in maintaining competitiveness and innovation (Guo *et al.*, 2020; Jiménez-Jiménez and Sanz-Valle, 2011; Naqshbandi and Tabche, 2018; Tamayo-Torres *et al.*, 2016). According to Cegarra-Navarro et al. (2016), creative firms can solve market challenges better and faster than others. In a recent study, Ghasemzadeh et al. (2019) empirically confirmed that OL contributes to the INP of companies in the pharmaceutical industry.

In addition, Martinez-Conesa et al. (2017) indicated that CSR activities can help companies maintain their most qualified and knowledgeable personnel who are needed to maintain industry leadership and enhance innovative capacity. Companies must consider the social consequences of their operational procedures, motivate their personnel's creativity, and collaborate with their customers, suppliers, and other stakeholders in planning and developing new products and services to become more successful and innovative (Rexhepi *et al.*, 2013). The association between social responsibility and firm performance and innovation has received considerable attention over the past decade (Husted and Allen, 2007; Van Beurden and Gössling, 2008: Herrera, 2015; Ratajczak and Szutowski, 2016). For example, Gallego-Álvarez and García-Sánchez (2011) indicated that CSR practices provide the current available opportunities for businesses to gain greater success through new products and technologies. According to Ratajczak and Szutowski (2016), organizations recognized as socially responsible recruit creative personnel. Mishra (2017) stated that companies with high research and development (R&D) expenses invest more in CSR initiatives since they pursue a product differentiation strategy.

CSR establishes a reputation and maintains an image that indicates honesty, integrity, and reliability, and helps differentiate a firm's products (Mishra, 2017). CSR is an ethical framework for successful innovation. When CSR is used strategically, it enables firms to develop innovative paths to create valuable and new methods of performing operations that make productive and efficient use of resources (Rexhepi *et al.*, 2013). More investment in CSR activities leads to the development of a relationship-oriented innovation culture that can leverage knowledge from both external and internal resources (Donate and Guadamillas, 2010). Ratajczak and Szutowski (2016) pointed out that CSR could contribute to sustainable development and that it is a key driver of innovation and may simultaneously enhance the competitive potential of an organization. From

this viewpoint, the contributory effect of inter-organizational learning builds up the organization's essential diversity and enhances the variety of knowledge perception from which the firm actors initiate innovative ideas and offer creative solutions to deal with existing complexities. By doing so, companies explore social issues in their learning process and become aware of the unfulfilled needs of stakeholders. This can help organizations find solutions and reach out to markets, where addressing social issues matters. Thereby, a high level of CSR could strengthen employee engagement and learning capability within an organization, leading to improved innovation outcomes (Guadamillas-Gómez and Donate-Manzanares Mario, 2011). Accordingly, we develop the fifth hypothesis as follows:

H5: CSRP mediates the association between OL and INP.

3. Research Method

3.1. Sample and Data

The survey instrument used in this study was constructed to examine the suggested model and research hypotheses between 2018 and 2019. A back translation of the questionnaire from Persian into English was undertaken, and inconsistencies in the translations were resolved to ascertain the validity of the translations from English to Persian. Furthermore, it was ensured that important elements of the original questionnaire were not missed. Moreover, prior to the distribution of the survey to the participants, a number of interviews with various chief executive officers (CEOs) were conducted to ensure that the instrument was sufficiently valid to proceed to the study's next steps. Companies in the Iranian pharmaceutical industry were targeted because of the critical role of social responsibility and innovativeness in this industry in achieving organizational goals. The Iranian pharmaceutical sector comprises approximately 180 companies

involved in the production of pharmaceutical products, either finished products or active pharmaceutical ingredients. The main criterion for sample selection was that the firm should have produced a minimum of a new product each year over the three preceding years. Hence, the survey was handed out to 165 of these companies to collect the required data. Furthermore, to minimize common methods and single-source biases, data were collected from a diverse group of respondents.

To ensure rigorousness of the analysis and control for cross-sectional bias, the research was carried out at two time periods. Over the first time period (T1), firm information such as age and size and data on OL and DCs were collected from CEOs. To measure CSRP, 1,000 midlevel managers were asked to assess the degree of CSRP in the firm. The second time period (T2) survey was distributed six months after the T1 survey . In the second stage (T2), the INP data of each firm were collected from R&D managers. We collected 151, 653, and 158 completed surveys from CEOs, mid-level managers, and R&D managers, respectively. On average, four mid-level managers from each firm participated in the study to mark the level of CSRP. The CSRP scores were calculated at the firm level by averaging the CSRP scores of all participating middle managers of each firm. Once data cleaning and matching were finished, surveys from 151 companies were deemed complete(a response rate of 90%). The data for OL, DCs, CSRP, and innovation were collected in 2018, 2018, early 2019, and late 2019, respectively.

About 60 percent of the participants had MSc degrees and 40 percent had Pharm.D or Ph.D. degrees. In terms of job experience, approximately 40 percent of the participants had 3 to 10 years of experience. As for companies' profiles, the age of companies ranged from 5 to 63 years and their size from 60 to 896 employees.

3.2. Variable and Construct Definition

The following steps were taken to define and measure the questionnaire items: First, the available measures in the extant literature regarding OL, DCs, CSRP, and INP were intensively reviewed to develop each of the research constructs. Then, the validity of each initial measure was evaluated through interviews with subject matter experts. To measure the questionnaire items, we used a 1–5-point Likert-type scale that ranged from very low to very high.

There are a number of measurement scales in the literature for OL. For the present study, drawing on (Jiménez-Jiménez and Sanz-Valle, 2011; Pérez López *et al.*, 2004), OL comprised 13 items grouped into knowledge acquisition, knowledge distribution, knowledge interpretation, and organizational memory constructs. The surveyed CEO participants were asked to respond to the questions related to OL within their respective organizations. CEOs are in the best position to respond to the questionnaire items related to OL within their respective firms and their environment. OL, as a multidimensional construct, was measured as a second-order factor with a composite reliability of 0.83. Thus, OL was evaluated using the four first-order constructs mentioned above. A three-dimensional construct was utilized to measure dynamic capabilities, drawing on the extant literature (Lin and Wu, 2014; Singh and Rao, 2016). Four items were used to measure each dimension of learning, integrating, and reconfiguring capabilities. Altogether, 12 items were used to assess the three-dimensional constructs. Utilizing these three first-order constructs, DCs were evaluated by asking CEOs to demonstrate the degree to which their firm had developed DCs.

INP can be measured in several ways. In this study, product, process (Hung *et al.*, 2011; Prajogo and Sohal, 2003), and objective measures of innovation (Wei and Lau, 2010) were used to measure innovation performance. To increase the reliability and validity of the results, INP was

measured subjectively through participants' awareness of product innovation and process innovation in a follow-up survey in the subsequent year (2019) and objectively by gathering data through publicly available archival resources for the following year. The Iranian Ministry of Health provides access to information on the number of registered patents and new products in the country by each pharmaceutical company available to the public. As shown in Table I, product and process innovation was determined by asking the respondents about their perceptions of these types of innovation in their relevant organizations. Process and product innovation were investigated using four and five questionnaire items, respectively. However, the objective measure of performance was determined based on data gathered on how many new products were launched and patents were registered by each company in 2019. To account for cross-sectional bias, R&D department managers were asked to respond to our questions about the process and product INP of the firms in 2018. Thus, INP included a one-year later objective innovation measure and a subsequent one-year subjective measure of product and process innovation.

The CSRP scale utilized in the present study comprises 20 items that have been validated in earlier studies (Galbreath, 2010; Maignan *et al.*, 1999), on the four key dimensions of economic, ethical, legal, and discretionary CSR. This variable was measured as a second-order construct by asking mid-level managers to assess the degree of CSRP in their respective firms. To aggregate the data at a higher level of analysis, interclass correlations (ICCs) were calculated, with the use of ICC1 (0.07) and ICC2 (0.42) to represent the variance mapped for group membership and the reliability of the group mean. In addition, the multiple-item r wg(j) was used to illustrate the aggregation of the data at the individual level and showed a mean of 0.79. All statistics showed a good level of validity in accordance with the recommended levels of agreement (Bliese, 2000).

Various variables can impact the levels of CSRP and INP. We controlled for the companies' years of operation (age), the number of employees on the payroll (size), and objective innovation in 2018.

3.3. Reliability and Validity of the Data

The following steps were taken to validate the data. Cronbach's alpha was determined to check the internal consistency reliability criterion for each observed variable. Coefficient alpha implies an approximation of reliability due to the inter-correlations between the observed variables. The findings indicate that the Cronbach's alphas for all scales all exceeded 0.70. Hence, the coefficients confirmed the construct reliability. Consistent with Kaiser (1958), an eigenvalue of more than one and an absolute threshold value of 0.50 for factor loadings were applied as factor selection criteria. Moreover, to investigate each dimension's convergent validity and reliability, a confirmatory factor analysis was performed. The significance of the t-values and factor loadings was used to assess convergent validity. All multi-item constructs met the suggested threshold, and the factor loadings were significantly associated with their underlying factors (t-values greater than 1.96 or less than -1.96). There was only one exception concerning an item under the ethical responsibility construct; one measurement item (number 4) was under the desirable threshold and had a factor loading of 0.44. As mentioned earlier, given the fact that these measurement items were already validated and largely used in previous studies, we first removed this item and ran the analysis again with the four measurement items that exceeded the suggested threshold. The results did not show a significant difference with or without measurement item number 4. Hence, we decided to keep the item in our analysis to keep the construct consistent with previous research.

To ascertain convergent validity, a threshold of 0.50 is suggested for the average variance extracted (AVE), and the factor loadings should be higher than 0.60 (Hair, 2011). Furthermore,

discriminant validity as proposed by Fornell and Larcker (1981) was assessed. Thus, every AVE was contrasted with the squared correlation coefficients between the construct and each of the other constructs. The findings represented discriminant validity for all latent variables. Table 1 shows the mean, standard deviations, factor loadings, Cronbach's alpha, and AVE for each construct.

[Insert Table I around here]

4. Results

Confirmatory factor analyses (CFAs) were first carried out to test the psychometric properties of the constructs. CFA was performed using the software LISREL 8.5 to assess the unidimensionality of the measurement scales and to evaluate the fit of the overall study model. To ensure sufficient convergent and discriminant validity among all constructs, we first analyzed a four-factor CFA model, in which OL, DCs, CSR performance, and INP were entered. The model provided an acceptable fit to the data: χ^2 (667) = 1120.586, p < 0.001; RMSEA = 0.067; CFI = 0.92 (Browne and Cudeck, 1992). The three-factor model included the combination of OL and DCs as one factor along with CSRP and innovation performance. Within the two-factor model, OL, DCs, and CSRP were combined as one factor along with innovation performance. For the one-factor model, all four constructs were combined. By comparing a four-factor model with three-, two-, and one-factor models, we found that a four-factor CFA model has a better fit than the alternative models, resulting in the discriminant validity of the constructs.

Table II presents the means, standard deviations, and bivariate correlations between the main study variables. OL was positively associated with product (β =.71, p < .01), process (β =.73, p < .01), and objective innovation (β =.12, p < .01). OL and DCs were positively correlated with CSRP (OL, β =.80, p < .01; DCs, β = .22, p < .01). A hierarchical regression analysis was employed

to examine the study's hypotheses (see Table III). As Table III shows, the effect of the control variables on each dependent variable was factored in the analyses.

[Insert Table II around here]

[Insert Table III around here]

Supporting our baseline prediction (H1) that OL improves CSRP, model two (M2) revealed that OL is positively and significantly associated with CSRP (β = .39, p < .001). The results for M5 also indicated significant positive effects of OL on DCs (β = .32, p < .001). This implies that H2 is supported. As it can be seen, a significant and positive association between DCs and CSR (β = .07, p <.1) was observed (M3). This means that the results support H3. We also examined changes in the effect of OL on CSRP when the DC variable was added to Model 3. The results show that when the DC variable was entered, the relationship between OL and CSRP was still significantly positive (β = .36, p < .001). This means H4 is supported, and DCs partially mediate the impact of OL on CSR performance. The PROCESS macro bootstrapping method was also used to analyze the moderated and mediated effects (Hayes, 2012). With 2,000 resamplings, it was found that the indirect effect of OL on CSRP (CI= 95%, [.038, .41]) through DCs was significant (not including zero).

As Table III shows, there was a significant and positive effect of OL on product (β = .38, p < .001), process (β = .43, p < .001), and objective innovation (β =.28, p < .001). Moreover, there was a significant and positive relationship between CSRP and product innovation (β = .28, p < .001), process innovation (β = .43, p < .001), and objective innovation (β = .19, p < .001). Finally, M8,

M11, and M14 were used to examine the mediating impact of CSRP in the relationship between OL and INP. After entering CSR, OL still positively influenced product (β =.36, p < .001), process (β =.36, p < .001), and objective innovation (β =.21, p < .001). Thus, H5 is supported, and the effect of OL on INP is partially mediated by CSRP. More specifically, using the PROCESS macro bootstrapping method showed that the indirect effect of OL on product innovation (CI= 95%, [.031, .39]), process innovation (CI= 95%, [.029, .34]), and objective innovation (CI= 95%, [.019, .31]) through CSRP was significant (not including zero).

5. Discussion

Firms are increasingly being called upon by their stakeholders to display behaviors in their businesses that are considered socially responsible (Cantrell *et al.*, 2015). Building on the DCV, in this study, an attempt was made to examine how OL and DCs act as CSRP drivers leading to innovation performance, and five main hypotheses were developed and examined based on data from the pharmaceutical sector. Theoretically, this study contributes to OL research and how it enables companies to convert their resources to organizational capabilities through DCs over time, leading to improved CSRP and innovation.

The findings illustrate a significant and positive association between OL and CSR performance. In other words, CSRP requires integrated procedures and an understanding of human learning and organizational evolution. Hence, OL is critical for CSRP as it helps organizations challenge traditional ways of thinking and acting and aligning them with social responsibility. To some extent, this relationship has been investigated by other scholars in different contexts. For instance, Zeimers et al. (2019) found that the capacity to monitor technological trends continuously, to absorb external knowledge, and to recognize the importance of tactical knowledge

helps firms identify their social responsibilities and enhance their awareness of CSR, which in turn would lead to improved performance. They argued that OL and CSR should be considered interrelated, as CSRP improvement requires continuous learning and dissemination of this learning to employees. These findings shed light on the theoretical argument that suggests learning-oriented organizations offer firms more opportunities to be socially responsible. This argument would be particularly applicable to the pharmaceutical industry, as providing societies with healthy medical products is a core responsibility in this sector. The findings also show that OL has positive and significant effects on DCs. Prior studies (e.g. Chien and Tsai, 2012) indicated that learning processes are essential for developing DCs. Chien and Tsai (2012) highlighted the importance of learning practices in improving DCs and suggested that future studies should gain further insights into the development of DCs. Easterby-Smith and Prieto (2008) also stated that DCs manifest when a company concurrently explores and exploits its knowledge, skills, and competencies. Similarly, Hung et al. (2010) argued that the value of an organization's knowledge and learning can only be perceived by effectively integrating that knowledge into business processes, while Jiao et al. (2010) showed that DCs are derived from highly deliberate learning processes, which enhance organizational operations regularly and boost the development of organizational capabilities. Furthermore, DCs, which are considered as complicated routines that occur from the path dependency on existing capabilities and resources in the organization, necessitate learning mechanisms because what an organization learns relies absolutely on the existence of past knowledge. The results support the view that OL can convert organizational resources into the capabilities they require.

The findings also show that DCs are positively associated with CSR performance. These results are consistent with some arguments in earlier studies. For instance, Jenkins (2009)

explained that DCs would create innovative solutions to changing demands in business marketplaces. He maintained that CSR should not be an externality, but must be merged and integrated into business operations. Additionally, in a situation in which stakeholder demands become more active and complex, DCs will enable firms to gain opportunities to answer or alter routines with the aim of improving their mutual relationships with stakeholders (Teece *et al.*, 1997; Wu and Duan, 2013). As a result, the current research emphasizes that DCs help firms respond appropriately to market demands by motivating the progressive integration of knowledge and facilitating the transformation and configuration of organizational assets with the aim of providing ethically oriented responses.

Consistent with H4, several earlier studies provide theoretical support (e.g., Cui and Jiao 2011). Furthermore, Wu and Duan, (2013) stated that better knowledge integration capability enables companies to be more conscious of CSR investment opportunities, and these companies are more likely to become involved in CSR practices and consequently improve CSR performance. Theoretically, these findings enrich the view on how an organization's knowledge assets can be first converted to organizational capabilities, which enables organizations to become more socially responsible. In other words, the results show that if organizations intend to be socially responsible, they have to circulate knowledge within the organization, integrate existing knowledge, and reconfigure them as the environment changes. This substantially helps organizations develop internal capabilities that equip them with a greater chance of staying competitive and socially responsible.

The results provide support for earlier research that has investigated the mediating impacts of CSRP on the relationship between OL and various innovation performance. The results are aligned with prior studies such as Blackman et al. (2012), who stated that OL provides the foundations

required to enable CSR through the diffusion of power and ideas, which play a pivotal role in resolving conflicts and tensions between organizational stakeholders. CSR can affect INP in the long term as a leading prospect of organizational strategies that are promoted not only by recent technologies, the development of engineering skills, and customer demands but also by the notable international importance of CSR issues. Moreover, the results of the study are consistent with prior studies such as Hamid Hawass (2010), who demonstrated that cooperation with a variety of partners, educational institutions such as universities, customers, suppliers, and rivals enhances the level of innovativeness in new product development processes. Furthermore, our findings support the research that shows, to learn and innovate, an organization must eagerly be involved in inter-organizational cooperation where new areas of knowledge can be learned and combined with the organization's current knowledge stocks.

6. Theoretical propositions and practical implications

The current research provides several recommendations for both scholars and practitioners. As for its theoretical contribution, this study broadens the scope of research on how OL contributes to both CSR and INP through DCs. Following the call for more research on OL, we analyzed new explanatory elements that advance our understanding of the processes by which a company develops CSRP through OL. Prior research has not clearly unraveled the process through which OL impacts CSRP and innovation (Fortis, *al et.*, 2018). Drawing on the viewpoint of DCs, in this study, an attempt was made to uncover how OL leads to CSRP and innovation performance. Specifically, DCs help establish a link between OL, CSRP, and INP. In other words, theoretically, we propose that OL enables companies to convert their resources to organizational capabilities over time and enables them to improve CSR performance. In addition, it is largely discussed that OL influences organizational competitiveness through innovation; however, there is an ongoing

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debate as to how an organization can be more innovative through OL (Mehralian *et al.*, 2019). Building on the stakeholder view, the present research has extended our understanding of the relationship between OL and innovation and has dived deeper into the cause-and-effect mechanism. Theoretically, our findings contribute to the viewpoint of DCs and stakeholders by adding new insights to better understand the relationship between OL, DCs, CSRP, and how their interactions result in innovation.

In addition, the present study provides some practical implications for managers. First, if it is well implemented, improved CSRP would create a positive image of firms in the long term. To achieve CSR performance, managers should encourage employees to learn the skills they require and upskill existing ones. In fact, OL facilitates communication with stakeholders with different values and views. As DCs offer organizations a greater chance of reconfiguration, practitioners should monitor the market meticulously and discover what the market really needs at any point in time. This helps managers fulfill customers' needs proactively and create closer collaboration with stakeholders who possess different values and views.

Moreover, with respect to innovation performance, the execution of OL in promoting CSR initiatives would help organizations gain competitive advantages through developing high added-value products and finding new markets for their products. Subsequently, managers should involve OL in their day-to-day operations and social concerns. Furthermore, the implementation of CSR beyond what is legally required may increase R&D investments, which in turn could lead to product and process innovations. Finally, OL helps managers adjust and spread novel attitudes, competencies, and ways of working within the organization, individuals, and teams.

In sum, from a practical perspective, this study proposes the following implications in the context of developing countries with the OL–CSR-based capabilities model: 1) To gain

competitive advantage, firms should continuously reconfigure and reconstruct internal capabilities and resources to adjust to the changes in a dynamic marketplace (Cui and Jiao, 2011). To do so, it is imperative that managers continue to pursue collective learning models to increase creativity, innovation, and social responsibility actions; 2) companies should continue to adopt sustainable models to meet the expectations of stakeholders; and 3) business owners and managers should channel knowledge and learning not only to learn and adjust themselves to new knowledge, but also to have the capability to share and apply past knowledge.

7. Future Research and Limitations

The sample selected for this research consists of pharmaceutical firms in the knowledge-based industry. Future studies should evaluate the integrated model of OL, DCs, CSRP, and INP in other knowledge-based sectors. To conclude, we believe that the survey instrument enables researchers to expand this study to other industries. Nevertheless, this study was conducted in a developing country; future research can be conducted in other knowledge-based industries as well as in other countries. Based on the nature of procedures in pharmaceutical manufacturing firms, service innovation was not used in this study; thus, it was not considered as an INP dimension. Further research in other segments could consist of service innovation among INP measures. Finally, it should be mentioned that the current research puts more emphasis on DCs and CSRP as mediating factors; therefore, we suggest that future studies be conducted on other possible mediating variables.

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Table I. Research Items and Construct Statistics

Measures	Mean	Factor Loading	Standard Deviation	Cronbach's Alpha	AVE	t-value
Knowledge Acquisition						
On a regular basis, employees attend exhibitions.	3.08	0.73	1.01			
R&D policy is comprehensive and includes many resources.	3.36	0.86	1.00	0.75	0.67	13.42
There are opportunities to experiment with news approaches and ideas for continuous performance improvement.	2.94	0.84	0.10			
Knowledge Distribution						
There is a formal process to ensure sharing the best practices among all the divisions across the company.	2.95	0.79	0.93			
There are employees who participate in cross-functional teams and help share the best practices	3.19	0.78	1.01	0.71	0.63	13.04
Several individuals are involved in facilitating and sharing employees' suggestions from different functional areas across the company.	2.89	0.79	1.11			
Knowledge Interpretation						
All organizational members are committed to the same organizational objectives.	3.53	0.84	0.9			
Organizational members share their experience and knowledge with colleagues.	3.26	0.86	0.93	0.82	0.74	14.89
Teamwork is prevalent across divisions.	3.18	0.87	1.01			
Organizational Memory						
The company has a directory that helps to identify an expert to resolve any related issue at any time.	2.69	0.74	1.10			
The company keeps an updated database of its customers.	3.03	0.86	1.05	0.85	0.71	13.90
There are some networks such as Lotus Notes and Intranet that help gain access to organizational databases and documents.	3.16	0.87	1.06			
Databases are continuously updated.	3.13	0.88	1.04			
Learning Capability				0.89	0.76	14.23

There are frequent scheduled knowledge learning workshops.	3.12	0.85	0.97		
There are numerous internal opportunities for educational training.	3.03	0.87	0.89		
There are several groups with which to share and learn knowledge.	2.86	0.9	0.98		
There are frequent cross-functional learning programs.	2.94	0.87	0. 97		
Integration Capability					
There are mechanisms for client information collection and market scanning.	3.32	0.78	0.87		
There are continuous updates on the industry to inform managers' decision making.	3.15	0.85	0.85	0.86	0.71	12.20
There is utilization of the industry's leading technologies to develop new products.	3.47	0.86	0.91		
There is the existence of historical records to help when encountering and solving issues.	3.31	0.87	0.90		
Reconfiguration Capability					
There is a clear process for reallocating human resources.	3.04	0.76	0.92		
There is organizational preparedness for quick responses to market changes.	3.16	0.90	0. 96	0.87	0.72	12.45
There is organizational preparedness for quick response to rival's actions.	3.21	0.89	1.01		
There is effective and efficient communication means with cooperative organization.	3.39	0.84	0.88		
Economic Responsibility					
We have had success in maximizing profitability.	3.33	0.74	1.01		
We continuously endeavor to lower operating costs.	3.65	0.79	0.92	0.79	0.62	11.32
We closely monitor the productivity of employees.	3.21	0.82	1.03		
Senior management sets long-term strategies for our company.	3.60	0.80	0.99		
Legal Responsibility				0.78	0.55	
Managers are aware of the related environmental laws.	3.78	0.73	0.85			11.06

Company managers comply with the law.	3.77	0.77	0.88			
Our company follows all laws with respect to hiring and setting employee benefits.	3.56	0.67	1.20			
Our company has programs that encourage workforce diversity.	2.92	0.76	1.00			
There are internal policies that prohibit discrimination in compensation and promotion.	2.84	0.75	1.08			
Ethical Responsibility						
Professional standards are followed by all employees.	3.33	0.79	0.87			
Our company is trustworthy.	4.00	0.76	0.80			
We always treat coworkers and business partners fairly, and employees are evaluated on how they have treated others fairly.	3.36	0.81	0.87	0.66	0.52	10.97
There is a confidential process that allows employees to report work-related misconducts.	3.12	0.44	1.86			
Employees and salespeople are mandated to disclose accurate information to all clients.	3.65	0.72	0.93			
Discretionary Responsibility						
The paid salaries at our company are more than the average salary in the industry.	2.57	0.63	0.91			
Employees who desire to achieve higher education are supported.	2.88	0.74	1.06			
We have flexible policies that encourage work–life balance.	2.79	0.75	0.95	0.80	0.51	10.84
Our company often donates to charities.	3.23	0.73	0.99			
Our company has a program to minimize energy and waste.	3.19	0.74	0.98			
Our company supports community cultural activities and sports.	3.17	0.66	1.14			
Product Innovation						
The speed of our R&D activities is more than that of competitors.	2.98	0.86	0.98	1.04	0.74	11.63
Production improvements happen more quickly compared with our competitors.	3.1	0.88	0.89			

R&D has helped to improve product innovation skillsets.	3.11	0.87	0.96			
In our company, production is customized more based on the customers' needs than those of the competitors.	3.39	0.81	0.97			
Compared with competitors, our products are known to be more innovative.	3.16	0.86	0.93			
Process Innovation				0.81	0.64	10.23
Innovative technologies are used constantly to improve quality and pace of production and services.	3.17	0.84	0.94			
The most recent human resource best practices are used in our company.	2.88	0.81	1.03			
Innovation in organizational structures and routine is more flexible than those by the competitors.	3.04	0.77	0.97			
The pace of logistical innovation is faster than that of the competitors.	3.07	0.76	0.91			

Table II. Descriptive Statistics and Correlations Matrix

No.	Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1	Number of employees	400.68	212.75									
2	Years of activity	37.08	18.21	.37**								
3	Objective innovation (2018)	4.1	1.14	.33**	.11**							
4	Organizational learning	3.11	.67	-.18**	-.05	.29**	**.69**					
5	Dynamic capabilities	3.19	.78	-42**	-19**	.33	.42**	**.73**				
6	CSR performance	3.32	.62	.15**	.06	.46**	.59**	38**	**.56**			
7	Product innovation	3.15	.88	.26**	.06	.26**	.57**	.37**	.57**	**.74**		
8	Process innovation	3.04	.82	.22**	.06	.28**	.58**	.32**	.56**	.51**	**.64**	
9	Objective innovation (2019)	5.32	1.21	.47**	-16**	.68**	.46**	.58**	.53**	.36**	.39**	

**Denotes P <0.01 level of significance (2-tailed)

*Denotes P <0.05 level of significance (2-tailed)

Diagonal. AVE of the second-order constructs

Table III. Statistical (regressions) Results for Hypotheses Testing [a]

Variables	CSR performance			Dynamic Capabilities		Innovation								
						Product			Process			Objective (2019)		
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
Number of employees	-.09*	-.02	-.01	-.05	-.09	.04	.03	.03	.02	.01	.02	-.03	-.04	-.02
Years of activity	-.20**	-.05	-.02	-.23***	-.27***	-.28***	-.15**	-.15**	-.23***	-.10*	-.10*	-.26***	-.28***	-.25***
Objective Innovation (2018)	.19**	.17**	.16**	.15**	.21***	.16***	.22***	.14**	.14**	.21**	.17**	.18**	.31**	.18**
Organizational Learning		.39***	.36***		.32***		.38***	.36***		.43***	.36***		.28***	.21***
Dynamic Capabilities			.17**											
CSR Performance								.28***			.43***			.19**
R²	.06	.65	.65	.19	.21	.07	.52	.55	.05	.53	.64	.23	.24	.23
Adjusted R²	.05	.64	.65	.18	.20	.07	.52	.55	.05	.54	.64	.22	.23	.22
ANOVA F	15.25***	302.23***	230.42***	29.53***	28.29***	24.21***	232.42***	194.67***	17.31***	248.97***	285.05***	41.66***	37.69***	36.74***

t-statistics are reported in parentheses below each coefficient. *, ** and *** indicate 10%, 5%, and 1% levels of significance, respectively