

Research Article

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Strategic Flexibility and Organizational Ambidexterity: The Mediating Role of Critical Thinking

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ABSTRACT

The purpose of the present research was to investigate the effect of strategic flexibility on organizational ambidexterity and the mediating role of critical thinking in the sporting goods industry. Data was collected using a questionnaire distributed online among the employees of this industry, and 203 questionnaires were collected over a period of six months. The results showed that strategic flexibility is a significant positive predictor (0.63) of organizational ambidexterity. In addition, critical thinking significantly moderates the effect of strategic flexibility on organizational ambidexterity. The results of this research can help industry managers apply critical thinking to achieve organizational ambidexterity and strengthen the outcomes of strategic flexibility.

Introduction

Manufacturing industries have recognized the importance of ambidexterity and the ability to adapt to the environment to maintain alignment and innovation while focusing on cost cutting and stabilization of processes. Organizational ambidexterity is the ability of an organization to pursue both exploratory and exploitative innovation (O'Reilly & Tushman, 2004; Junni et al., 2013). Ambidexterity, along with strategic flexibility, is crucial for manufacturing companies. These

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companies need to balance cost leadership and innovation in order to remain competitive in different markets. The firms which have local employees face additional challenges as different cultures for international business and national laws that create different contexts to adapt to, which is especially relevant for manufacturing companies in Iran. Iranian manufacturing companies must adopt flexible competitive strategies and use different operational approaches to implement them. For example, Iranian exporters may choose to compete for lower prices in one region and focus on developing new products in another region. The need for flexibility given the large-scale sanctions against Iran must be a key consideration for managers of Iranian companies. In addition, challenges caused by bureaucracy and the scarcity of resources needed for production within the country highlight the importance of organizational efficiency, optimal resource allocation, and stabilization. As such, Iranian companies must inevitably become ambidextrous in order to survive and succeed.

Culture is a key factor in balancing ambidexterity and organizational strategies. According to Kwon and Farndale (2020), national culture has a significant impact on organizational values and policies and, consequently, on the organization's performance. In addition, organizational culture affects creative and innovative behavior in organizations (Taha et al., 2016). Culture is one of the factors that can foster creativity in employees (Hermida et al., 2019). In manufacturing companies, employee creativity at all organizational levels plays a key role in competition with other companies that have similar or different cultures. Therefore, companies need to strike a balance between the contextual factors that hinder creativity and innovation by increasing their strategic flexibility. In doing so, managers must heavily rely on critical and creative approaches, which is difficult to achieve in the context of Iran's organizational culture. According to Knoll et al. (2021), Iran has a high ranking in silence motives as an indicator of employees' reluctance to express diverging opinion, and critical thinking does not occur in silence (du Plessis, 2022). Critical thinking can help organizations eliminate inhibiting cultural factors and simultaneously pursue innovation and efficiency. Ambidexterity enables the organization to survive in the face of changing market conditions by developing the capabilities necessary to compete in new markets and technologies (O'Reilly & Tushman, 2008).

The purpose of the present research is to help the managers of exporting manufacturing companies in countries with organizational cultures that inhibit innovation to not only prevent possible strategic mistakes by establishing and strengthening a climate of critical thinking, but also benefit from organizational ambidexterity in order to achieve their innovation goals.

Strategic flexibility and organizational ambidexterity

In the management literature, strategic flexibility is a type of dynamic capability that is facilitated by the use of innovative technologies (Chen et al., 2017; Haarhaus & Liening, 2020; Van de Wetering, 2021; Warner & Wäger, 2019). It is defined as an organization's capability to identify major changes in the external environment (Shimizu & Hitt, 2004). Strategic flexibility enables organizations to respond quickly and appropriately to rapid changes in the internal and external environment (Shimizu & Hitt, 2004).

According to Eisenhardt et al. (2010), strategic flexibility plays a vital role in continuous development, recombination, and adaptive use of organizational resources. It allows organization

to scan the environment and respond to changes and threats in a timely fashion. While some structure is needed to guide actions (efficiency), organizations should be able to adjust actions in real time in response to actual events (flexibility).

O'Reilly and Tushman (2019) argue that the key to organizational ambidexterity is the ability to sense and seize new opportunities through simultaneous exploration and exploitation. Therefore, this concept is closely linked to two key components of strategic flexibility, i.e., innovation/innovative use of technology and identification of opportunities.

According to Gutiérrez and Perez (2010), strategic flexibility involves quick reformulation of strategies and modification of products/services in response to market conditions while utilizing economies of scale and adopting efficient actions to deal with environmental changes.

Sanchez (1995) decomposes strategic flexibility into resource flexibility and coordination flexibility. Resource flexibility is the organization's ability to apply a resource to a broader range of alternative uses given the cost, time, and difficulty involved. Coordination flexibility is the organization's ability to reformulate strategies and reconfigure and redeploy resources.

Strategic flexibility strengthens the positive effects of technological capability on exploration, that is, when strategic flexibility is high, greater technological capability leads to more explorative innovation (Zhou & Wu, 2010).

The flexible use of resources and reconfiguration of processes enables organizations to gain competitive advantages in dynamic environments. Therefore, the first hypothesis assumes that:

H1: Strategic flexibility is positively associated with organizational ambidexterity.

Mediating effect of critical thinking

Scriven and Paul (1987) define critical thinking as "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action". Critical thinking is the use of cognitive skills or strategies that increase the probability of a desirable outcome (Halpern, 2003, p. 43). It is also defined as a cognitive process that involves understanding problems and ideas, drawing conclusions, and proposing solutions as a result of analysis and judgment (Felder & Brent, 2003). Ghanizadeh et al. (2022) indicated the positive significant mediation effect of organizational ambidexterity on relationship between psychological capital and organizational performance which is done in Public sector in Ardabil. As psychological capital is associated with critical thinking, therefore this result may support that critical thinkers rigorously question ideas and assumptions instead of taking them at face value. They always try to determine whether the ideas, arguments, and findings represent the whole picture and are open to new findings. Such ability helps individuals have a better understanding of phenomena and events, and could increase their readiness to adopt appropriate behaviors.

Organizational ambidexterity is influenced by both organizational factors and individual characteristics (Raisch et al, 2009). According to Gibson and Birkinshaw (2004), four organizational attributes play a role in ambidextrous behavior within the organization, i.e., discipline, stretch, support, and trust. Lubatkin et al. (2006) argue that appropriate and quality

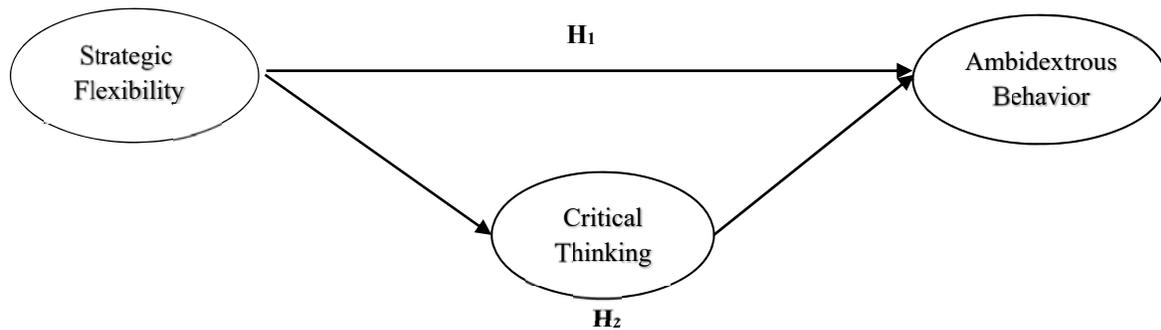
communication throughout the organization is a key factor in behavioral integration. High-quality communication, especially from the top management, shows what is expected of the employees and can help promote ambidextrous orientation in the organization. Furthermore, a climate that supports critical thinking can increase the organization's ability to better respond to changes in the environment. The ability to communicate openly and critically can foster creative or diverging ideas and help the organization exhibit innovative behaviors. Such a climate could potentially mediate the relationship between organizational ambidexterity and strategic flexibility. Leaders with opening behaviors are more likely to give employees room for independent and critical thinking, which can promote exploratory and innovative behaviors (Zacher et al., 2016). In addition to innovation, critical thinking can help the organization to improve its efficiency and welcome new experiences. Therefore, the second hypothesis assumes that:

H2: Critical thinking mediates the relationship between strategic flexibility and organizational ambidexterity.

Given this background, the present study follows the conceptual model shown in Figure 1.

Figure 1.

Conceptual model



Method

Sample and procedure

This research was conducted in Tanin Peak Sabalan manufacturing company, a leading producer of sports balls in the world, which is located in Ardabil in northwestern Iran and is culturally religious and conservative. Data was collected using a questionnaire. Among the 443 workers of this company, 286 were randomly selected and were asked to complete the questionnaire online. The participants were ensured of the confidentiality enter their opinions in an online system for the confidentiality of the answers. In total, with a response rate of 74%, 211 questionnaires were answered, out of which only 200 were fully completed and usable.

The participants were asked to specify their age, gender, education, and experience. Among the participants, 138 (69%) were male and 59 (31%) were female (three individuals did not specify their gender). Workers' age ranged from 22 to 50 years, with a mean age of 31.22 years (SD = 6.45; two participants did not specify their age). 94 (47%) had a high school diploma and 105 (52.5%) held a graduate university degree (one person did not specify their education). Most participants

had less than 4 years of experience (84.5%) and only 10% had higher than 15 years of experience in the company.

Measures

Organizational ambidexterity

Ambidexterity is considered a paradox whereby its components, i.e., exploration and exploitation, create persistent and conflicting demands on an organization (Koryak et al., 2018). Organizational ambidexterity was captured by items adapted from the exploratory and exploitative innovation scale of Jansen et al. (2006). This scale consists of 10 items, 5 for exploration and 5 for exploitation, and is rated on a 7-point Likert scale from 1 for “Strongly Disagree” to 7 for “Strongly Agree”. A Cronbach’s alpha of 0.77 was obtained for this subscale. Examples of items in this section are “We frequently utilize new opportunities in new markets”, and “We regularly implement small adaptations to existing products and services.”

Strategic flexibility

Following Sanchez (1995) and Zhou and Wu (2010), our measure of strategic flexibility focuses on the resource flexibility and coordination flexibility in response to changing environments. The participants were asked to specify the extent to which they agree with the 6 items, ranging from strongly disagree and strongly agree as end points. A Cronbach’s alpha of 0.82 was obtained for this subscale.

Critical thinking

Critical thinking skill/ability is defined as the competency level of utilizing the components of critical thinking. UF-EMI was used to measure workers’ critical thinking disposition. This instrument consists of 26 items rated on a 5-point Likert scale, and measures three constructs of critical thinking, i.e., engagement, cognitive maturity, and innovativeness (Irani et al., 2007). A Cronbach’s alpha of 0.90 was obtained for this subscale.

Method validation

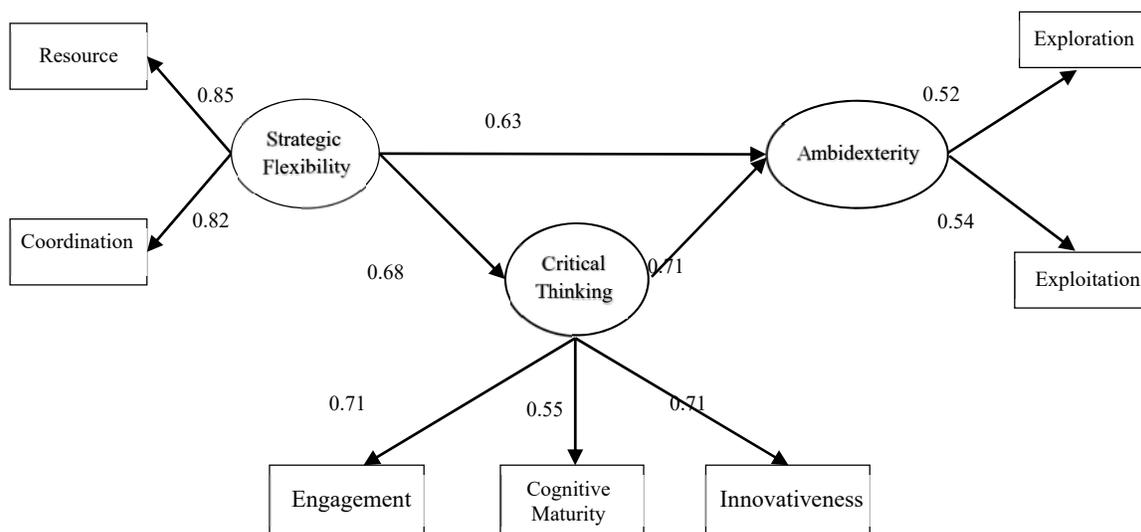
Harman’s single-factor test was performed to assess common method bias (Podsakoff & Organ, 1986). In addition, following Podsakoff et al. (2003), we controlled for unmeasured latent variables. Both these tests indicated that common method bias was not a serious problem. In sum, we used ex ante procedural methods in the study design to reduce potential common method bias, and ex post statistical analyses indicate that common method bias is not likely in this study.

Results

As shown in Figure 2, the coefficient obtained for the effect of strategic flexibility on organizational ambidexterity is 0.63 with a t-value of 5.39. Moreover, the path coefficient of the mediating effect of critical thinking on organizational ambidexterity is 0.71 with a t-value of 8.39. The results of path analysis (Figure 2) show that strategic flexibility (0.63) and critical thinking (0.71) together explain 44% of the variance in organizational ambidexterity. Therefore, the null hypotheses are

rejected at the 99% confidence interval (CI), and strategic flexibility has a significant positive effect on organizational ambidexterity and this relationship is strengthened by critical thinking.

Figure 2.
Path analysis



Chi-Squared=67.99; df=87; P-Value=.008; RMSEA=0.018

Table 1 shows the fit values for the estimated model. The results indicate that the chi-square value is significant at the 5% error level for all the measurement models. Moreover, the chi-squared to degree of freedom ratio (χ^2/df) indicates a good fit. The RMSEA values for all the measurement models are within the acceptable range, indicating the acceptable error value of the measurement models. The values of CFI, GFI, AGFI, NFI and NNFI for all the measurement models also indicate a good fit. Therefore, according to the results of the measurement models, it can be said that all the models fit the data well.

Table 4.
Goodness-of-fit indices

Index	Value	Acceptable Range	Result
Chi-squared to degree of freedom (χ^2/df)	0.78	< 3	Good fit
Root mean square error of approximation (RMSEA)	0.01	< 1	Good fit
Root mean square residual (RMR)	0.082	Close to 0	Good fit
Normed fit index (NFI)	0.92	> 0.9	Good fit
Non-normed fit index (NNFI)	0.93	> 0.9	Good fit
Comparative fit index (CFI)	0.94	> 0.9	Good fit
Incremental fit index (IFI)	0.94	> 0.9	Good fit
Relative fit index (RFI)	0.91	> 0.9	Good fit
Goodness-of-fit index (GFI)	0.93	> 0.9	Good fit
Adjusted goodness-of-fit index (AGFI)	0.91	> 0.9	Good fit

Discussion and conclusion

Based on the findings, our hypotheses are confirmed and strategic flexibility has a significant effect on organizational ambidexterity, with critical thinking playing a mediating role. Ambidexterity is a challenge for organizations that operate in a competitive environment. It directly and indirectly affects both the strategic flexibility (Moghadam et al., 2019) and strategic agility (Clauss et al, 2021) of organizations. In fact, research has shown that organizational ambidexterity likely affects the implementation of organizational strategies in various ways (Wei et al., 2014). This includes the use of strategic capacities, the use of human resources, or performance indicators such as market capacities.

Although many studies have investigated the effect of the exploration dimension of organizational ambidexterity on organizational performance in various contexts such as public sector (Ghanizadeh et al., 2022), it must be noted that exploitation plays a more significant role in efficient implementation of strategies, especially in for profit companies. Nonetheless, the issue of balancing exploration and exploitation still remains a challenge, and we argue that critical thinking can be effective in creating this balance by strengthening the effect of strategic flexibility on organizational ambidexterity. Critical thinking can challenge the organization's excessive focus on either exploitation or exploration, and thus promote ambidextrous orientation within the organization.

The present research provides a better understanding of the effect of organizational ambidexterity on organizational indicators, especially in the manufacturing sector, by highlighting the need to not only focus on efficiency and productivity, but also to foster a critical intellectual climate. This is especially crucial in societies that do not have a culture conducive to critical thinking, since manufacturing companies can use critical thinking as a mediating and balancing factor to pursue both innovative and exploratory activities and achieve better organizational performance.

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Conflict of Interests

No, there are no conflicting interests.