Alignment of CSR Strategies with Business Objectives in IT Sector, Focusing on the Competitive Advantage

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Abstract: While numerous researchers have focused on examining the impact of Corporate Social Responsibility (CSR) on various aspects of business in different industries, there still remains a research gap in conducting comprehensive analyses of CSR strategies in Information Technology (IT) sector. Therefore, this study aims to address this gap by evaluating the effects of CSR on competitive advantage in the IT companies. In order to analyze data, AMOS structural equation modeling (AMOS-SEM) method was applied, and data were collected during February-April 2023 from 143 Iranian IT firms where CSR has not been appropriately dealt within theoretical as well as practical terms. The findings reveal that among the four components of CSR—legal, ethical, economic, and discretionary dimensions have the most positive impact on competitive advantage, respectively. Taken together, these findings suggest a significant role for CSR in enhancing the level of competitive advantage in IT companies. In addition to the knowledge contribution, this study holds significant practical implications for IT company managers to strengthen their decision-making processes and develop effective CSR strategies.

Keywords: Corporate Social Responsibility, Information Technology, competitive advantage, Iran.

1. INTRODUCTION

The concept of business social responsibility, also known as corporate social responsibility (CSR), has its origins in the business world over a century ago [1]. The work by Bowen in the 1950s marked the beginning of CSR implementation in U.S. companies [2]. Since then, CSR has been reinforced and evolved due to factors such as globalization, accelerated economic activity, increased ecological awareness, and technological advancements [3].

This has led CSR to garner significant attention in the business world. As a result, numerous researchers focused on examining the impact of CSR on various aspects of business in different industries. For instance, in industries of Agriculture and Agribusiness [4], Manufacturing [5], Construction [6], Financial Services [7], Healthcare and Pharmaceuticals [8], Hospitality and Tourism [9], Energy and Utilities [10]. While these studies have provided valuable insights in the area of CSR, there remains a research gap in conducting comprehensive analyses of CSR strategies in IT companies. Since CSR could be equally important in IT sector, and may enable them to demonstrate social responsibility, enhance their reputation, attract top talent, foster customer loyalty, and contribute to long-term sustainability and competitive edge; this article aims to address this question and gap by highlighting the need for more comprehensive research that evaluates the overall CSR strategies and their alignment with business objectives, specifically focusing on the competitive aspect in IT sector.
2. LITERATURE REVIEW

A. CSR and IT sector

Corporate Social Responsibility (CSR) has become increasingly important in the IT industry, as businesses aim to balance economic success with social and environmental responsibility [11]. IT companies, driven by innovation and digital transformation, must recognize the profound impact of CSR on their operations. Engaging stakeholders, including customers, employees, investors, and the community, through CSR practices is vital for building brand reputation, fostering customer loyalty, and ensuring long-term sustainability [12]. Moreover, CSR initiatives play a crucial role in talent attraction and retention by enhancing employee satisfaction and creating a positive work culture [13].

In addition to stakeholder engagement, CSR serves as a risk management strategy for IT companies. By identifying and mitigating potential risks, such as legal, reputational, and operational risks, companies can ensure compliance with ethical and legal standards [14]. Furthermore, CSR promotes responsible innovation in the IT industry. Companies that integrate CSR into their practices stimulate creativity, drive sustainable product development, and offer technological solutions that address societal challenges [15]. Empirical evidence demonstrates the positive impact of CSR on financial performance, customer satisfaction, and long-term business success in the IT sector [16].

Within the IT industry, technology itself plays a vital role in advancing CSR efforts. For example, IT companies have unique opportunities to leverage innovative solutions, such as big data analytics and AI, to enhance CSR practices and drive positive social and environmental impact [17]. By embracing CSR, IT companies can create shared value, achieve sustainable development, and contribute to the well-being of society and the environment. Therefore, understanding and implementing CSR practices are critical for IT companies to thrive in an increasingly socially and environmentally conscious world.

The literature on CSR in the IT sector is relatively scarce, with few studies addressing this important area [16]. This research gap highlights the need for further investigation into the relationship between CSR and the IT sector, especially in a developing country in Asia like Iran which is facing a notable dearth of research studies on CSR in this sector. To address this gap, our study aims to examine the impact of CSR practices within the IT sector, specifically focusing on the competitive aspect of the organization in the market. By filling this void in the literature, our study contributes to a deeper understanding of the role of CSR in the IT sector and its implications for relevant stakeholders and industry.

B. CSR and competitive advantage in IT sector

Numerous studies have indicated a positive association between CSR and competitive advantage in various industries [5, 18]. In the IT sector, firms that embrace CSR initiatives can gain several distinct advantages. Firstly, CSR activities enhance the reputation and brand image of IT companies, which in turn increases customer loyalty and trust [19]. Positive brand perception, built upon responsible practices, enables firms to differentiate themselves from competitors and attract socially conscious customers.

Moreover, CSR initiatives contribute to stakeholder engagement, including employees, investors, and communities [20]. IT companies that prioritize employee well-being, diversity and inclusion, and ethical business practices tend to attract and retain top talent. Engaged and satisfied employees drive innovation and productivity provide competitive edge in a highly dynamic industry [21]. Besides, investors are increasingly considering CSR performance as a criterion for investment decisions, favoring companies with strong environmental, social, and governance practices [14].

Likewise, Energy-efficient practices, waste reduction, and responsible supply chain management caused by CSR not only reduce environmental impact but also improve resource utilization and reduce expenses [22]. These sustainable practices align with the industry's growing emphasis on environmental stewardship enable companies to lower costs while enhancing their competitiveness [23]. Accordingly, CSR initiatives may promote operational efficiency and cost savings in the IT sector as well.

Furthermore, CSR can foster partnerships and collaborations, leading to knowledge sharing and innovation. IT companies that engage in socially responsible initiatives often attract like-minded partners and stakeholders [24]. Collaborative efforts in addressing societal challenges and advancing sustainability goals create new opportunities.
for joint innovation and knowledge exchange. This collaborative advantage enhances the competitiveness of IT firms by expanding their reach and capabilities.

According to the available studies, in the IT sector, the adoption of CSR practices can significantly contribute to competitive advantage. [25, 26]. However, despite its potential significance, there is a lack of sufficient studies examining the relationship between CSR and competitive advantage in this specific context [27]. This research gap presents an opportunity to explore the unique dynamics and opportunities within the IT industry.

Positive brand reputation, stakeholder engagement, operational efficiency, and collaborative advantage are among the key benefits that IT companies may derive from CSR initiatives. By investing in responsible and sustainable practices, organizations in the IT sector can differentiate themselves, attract top talent, enhance brand value, and build long-term relationships with stakeholders. As the IT industry continues to evolve, embracing CSR as a strategic approach will be essential for organizations seeking a sustainable competitive advantage in the dynamic and socially conscious marketplace [25, 27]. Therefore, this study aims to fill the existing research gap by examining the effects of CSR on competitive advantage in the IT sector and providing valuable insights for practitioners and researchers alike.

In the context of Iran's IT sector, the importance of CSR and its potential impact on competitive advantage becomes even more critical. Despite the growing significance of CSR in global business practices, there is a notable lack of studies specifically exploring the relationship between CSR and competitive advantage in Iran's IT industry. This research gap indicates a need to investigate the unique dynamics and challenges faced by Iranian IT companies in their pursuit of CSR-driven competitive advantage.

By conducting this study in Iran, we can uncover valuable insights into the specific strategies and outcomes of CSR implementation within the country's IT sector. This research will contribute to filling the existing knowledge gap and provide practical recommendations for Iranian IT organizations aiming to enhance their competitive position through CSR initiatives. Accordingly, this study set out to investigate the impact of CSR on competitive advantage in Iranian IT organizations.

In order to have a comprehensive analysis of CSR, this study considers all four dimensions of CSR separately as a separated hypothesis as below:

H1: Economic dimension of CSR has significantly positive effect on competitive advantage in Iranian IT organizations.
H2: Legal dimension of CSR has significantly positive effect on competitive advantage in Iranian IT organizations.
H3: Ethical dimension of CSR has significantly positive effect on competitive advantage in Iranian IT organizations.
H4: Discretionary dimension of CSR has significantly positive effect on competitive advantage in Iranian IT organizations.

3. METHOD

A. Sample and data collection

In order to select samples and CSR measurement, various sources such as Fortune's Most Admired Companies, annual reports, and Kinder, Lydenberg and Domini (KLD) ratings have been commonly used by different studies [28-30].

Since this study has focused on Iran and databases like KLD and Fortune's Most Admired Companies are not accessible, the survey method is considered suitable for data collection. Consequently, a survey was developed based on an extensive literature review as the initial stage of data gathering.

The only firms which are included and relevant to this study are those in IT sector. 143 IT firms are listed for this study.

Because of having first-hand knowledge on organizational improvement processes and being involved directly in the management of organizational affairs, top managers are chosen as respondents in this study. The overall response rate was 43.7%.
In order to test non-response bias, early versus late respondents were compared on all variables. The reason of such examination is that late respondents are more similar to the broad population in comparison to early respondents. After having an independent sample t-test, between variables in this study, no significant differences are revealed.

**B. Variable measurement**

Maignan, Ferrell, and Hult in 1999 and later Maignan and Ferrell again in 2000 enhanced instrument presented by Carroll in 1979 for evaluating CSR [31].

Carroll's instrument focuses on evaluating CSR activity, which is the objective of the present study. The current research asserts that Carroll's most comprehensive CSR framework developed by Maignan and Ferrell in 2000 comprises all four interrelated factors in CSR (ethical, economic, discretionary, and legal) which shows the most favorable fit. Consequently, this study adopted the CSR measurement modified and utilized by Maignan et al. to gauge IT firms' perception of each CSR dimension mentioned above. A Likert scale consisting of 29 items on a 5-point scale was employed to cover all four CSR dimensions (ranging from '1=strongly disagree' to '5=strongly agree').

A measurement approach was utilized by Flynn, Sakakibara, and Schroeder [32] to measure competitive advantage by considering five key factors. Their instrument later was adopted by Dunk [33] and Saeidi, et al., [5] to investigate how competitive advantage could be affected by the quality of product and service and CSR. Among different studies, some dimensions of competitive advantage measurement have been commonly used by researchers. These dimensions include the quality of products or services, corporate image, market position, differentiation and diversity, growth of the company, and market leadership. According to the objective of the study, the current study selected these dimensions to test the level of competitive advantage perceived by managers in participant firms. A total of 11 items were used to measure these dimensions, utilizing a five-point scale ranging from 1 (indicating "strongly disagree") to 5 (indicating "strongly agree").

**4. ANALYSIS AND RESULTS**

The evaluated levels of root mean square (RMR), comparative fit index (CFI), and goodness of fit index (GFI) was demonstrated by measuring the mean, standard deviation (SD), and correlations.

Values measured for RMR, lower than 0.05 and for CFI and GFI higher than 0.90 are deemed acceptable. In order to assess the psychometric properties of the constructs, this study through using SPSS, conducted confirmatory factor analysis (CFA).

According to Hair, Money, Samouel, and Page [34], an alpha value below 0.6 indicates weak reliability, while a value above 0.7 is considered strong and preferable. The calculated Cronbach's alpha value for a group of constructs, as shown in Table 1, approaches 1.0, indicating good reliability (Sekaran, 2003). Therefore, all constructs in the study demonstrated sufficient reliability, surpassing the benchmark of 0.70. Furthermore, the study provides support not only for convergent validity but also for discriminant validity.

<table>
<thead>
<tr>
<th>variable</th>
<th>Mean</th>
<th>SD</th>
<th>Internal consistency</th>
<th>Cronbach's alpha</th>
<th>GFI</th>
<th>CFI</th>
<th>RMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical</td>
<td>3.34</td>
<td>0.52</td>
<td>0.82</td>
<td>0.73</td>
<td>0.93</td>
<td>0.97</td>
<td>0.02</td>
</tr>
<tr>
<td>Economic</td>
<td>4.84</td>
<td>0.62</td>
<td>0.88</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discretionary</td>
<td>3.97</td>
<td>0.71</td>
<td>0.76</td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal</td>
<td>3.12</td>
<td>0.58</td>
<td>0.90</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitive advantage</td>
<td>0.82</td>
<td>0.91</td>
<td></td>
<td>0.95</td>
<td>0.91</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

According to the results gained from running the model in AMOS, there is a positive and significant relationship between all CSR dimensions and competitive advantage. Table 2 and Figure 1 show that Ethical CSR with a path
coefficient of 0.32 has the mayor positive effect on competitive advantage in IT firms. After that, Legal CSR, with 0.15, economic CSR with 0.12, and Discretionary CSR with 0.08 path coefficient (p<0.001), and the basic fits of (CFI=0.98; GFI=0.96; RMR=0.02) have mayor positive effects on competitive advantage in Iranian IT firms.

**TABLE 2. Main effects of variables (unstandardized beta values).**

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical → Competitive advantage</td>
<td>0.424</td>
<td>0.187</td>
<td>2.267</td>
<td>***</td>
</tr>
<tr>
<td>Economic → Competitive advantage</td>
<td>0.263</td>
<td>0.134</td>
<td>1.963</td>
<td>***</td>
</tr>
<tr>
<td>Discretionary → Competitive advantage</td>
<td>0.195</td>
<td>0.151</td>
<td>1.291</td>
<td>***</td>
</tr>
<tr>
<td>Legal → Competitive advantage</td>
<td>0.468</td>
<td>0.139</td>
<td>3.367</td>
<td>***</td>
</tr>
</tbody>
</table>

*** p < 0.001

**Figure 1.** Framework and main effects test (standardized beta values).

5. **DISCUSSION AND CONCLUSION**

This article tried to address the existence gap by highlighting the need for more comprehensive research that evaluates all four dimensions of CSR strategies and their alignment with business objectives, specifically focusing on the competitive aspect of the IT companies in the market.

The gained results of this investigation show that competitive advantage is affected positively y significantly by all four dimensions of CSR in IT companies located in Iran.

The positive effect of Ethical dimension of CSR on competitive advantage shows that the ethical dimension of CSR is not just a desirable attribute but an essential aspect of success for IT companies in a competitive industry. By prioritizing ethical behavior and integrating CSR practices, IT companies enhance their reputation, attract top talent, foster customer loyalty, and promote long-term sustainability. Embracing ethical CSR practices aligns with societal expectations and provides a strategic advantage in an increasingly ethical business landscape. Therefore, IT companies must recognize that ethical CSR practices are no longer optional but crucial for achieving and sustaining success.

The economic dimension of CSR in IT companies offers significant benefits and positively impacts their competitive advantage. By incorporating economic considerations into their CSR strategies, IT companies can achieve improved financial performance, cost efficiencies, access to capital, and customer loyalty. Prioritizing economic sustainability aligns with market demands, investor expectations, and customer preferences. As the business landscape becomes increasingly conscious of economic responsibility, embracing CSR principles not only enhances the company's
economic viability but also provides a strategic advantage. The economic dimension of CSR is no longer an option but a necessity for IT companies to thrive in a competitive industry.

In terms of discretionary CSR, the discretionary dimension of CSR offers significant benefits and positively impacts the competitive advantage of IT companies. By voluntarily engaging in activities that go beyond legal and ethical obligations, IT companies can enhance their reputation, engage stakeholders, foster innovation, and ensure long-term sustainability. Embracing the discretionary dimension of CSR is not only a moral responsibility but also a strategic choice that differentiates IT companies from their competitors. It becomes an essential element for IT companies to thrive and succeed in a competitive industry by building strong relationships, attracting customers and talent, and staying ahead of emerging societal and environmental challenges.

Al final, the gained results show that the legal dimension of CSR offers significant benefits and positively impacts the competitive advantage of IT companies as well. By adhering to legal obligations, IT companies can enhance their reputation, mitigate legal risks, attract stakeholders, and foster long-term sustainability. Compliance with legal requirements not only builds trust and credibility but also differentiates IT companies from competitors in the market. The legal dimension of CSR becomes an essential element for IT companies to thrive and succeed by ensuring legal compliance, mitigating risks, attracting stakeholders, and promoting long-term sustainability. Embracing the legal dimension of CSR is not only a legal obligation but also a strategic choice that provides a competitive advantage in the ever-evolving business landscape.

The present study has confirmed the findings of Saeidi, et al. [5], Frynas [35] Abubakar, et al. [18] which showed that CSR has positive effects on competitive advantage. However, this finding is contrary to some previous studies [11, 36] which have claimed that the fast-paced, competitive nature of the IT industry may prioritize other strategic priorities over CSR. In addition, fulfilling diverse stakeholder expectations through CSR initiatives may be costly and compromise meeting other stakeholder demands. This work contributes to existing knowledge of CSR on competitive advantage in IT companies in Iran by providing empirical evidence that CSR has positive effects on competitive advantage. In addition to the knowledge contribution, this study holds significant practical implications for IT company managers in Iran. Managers can leverage this knowledge to strengthen their decision-making processes and develop effective CSR strategies. By actively engaging in CSR initiatives, IT companies can enhance their competitive position, improve financial performance, attract, and retain top talent, foster customer loyalty, and enhance their overall reputation. The study offers practical insights into the specific areas where CSR activities can have the greatest impact on competitive advantage. This knowledge can guide managers in allocating resources, setting priorities, and designing CSR programs that align with the unique needs and dynamics of the Iranian IT industry. By leveraging the practical contributions of this study, IT company managers in Iran can enhance their strategic decision-making and drive sustainable competitive advantage in a socially responsible manner.

6. REFERENCES


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DOI: https://doi.org/10.15379/ijmst.v10i4.2232
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