The Emerging Market Manufacturing Business Groups (EMBGs) and the Interplay between Innovation in Environmental Sustainability, Digitalization, Internationalization and Corporate Governance Structures: The Case of Turkish Holding Companies

By Anıl AR† & Aysun FICICI

Abstract. The purpose of this research is to explore the Emerging Market Manufacturing Business Groups’ (EMBG’s) innovation processes through their internationalization activities and the interplay between innovation in environmental sustainability, digitalization, networks, and corporate governance structures. This study focuses on the business dynamics of manufacturing Turkish Business Groups, namely Turkish Holding Companies. It gives a clear illustration of how manufacturing can be innovative in environmental sustainability while internationalizing and exceling its competitive advantage through utilizing both foreign and domestic resources and digitalization. The paper also demonstrates how these companies share continuous knowledge across subsidiaries and other network systems with the support of their organizational forms and/or corporate governance structures. The study comprises Turkish manufacturing multinationals that operate in the continent of Europe. It examines 15 parent firms and 200 subsidiaries that conduct manufacturing operations in countries, such as United States, Germany, Spain, Italy, Netherlands, and United Kingdom.

Keywords. Emerging market manufacturing business groups, Environmental sustainability, Innovation, Digitalization, Network systems.


1. Introduction

Over the last decade, the experience of fast economic growth, and the transformation to more liberalized market system in emerging market (EM) countries has motivated multinational corporations that originate in these markets to begin and/or to accelerate their investments and internationalization process in host countries in a large geographical scope. With this initiation, the global economy has been witnessing worldwide foreign direct investment (FDI) propelled, more and more, by Emerging Market Multinationals (EMMs), and Emerging Market Business Groups (EMBGs) that originate from EM countries.

These multinationals are becoming more integrated into the global market through their internationalization process, not only in developing countries, but in developed countries with advanced economies as well. Specifically, the investment efforts of EMMs into advanced economy countries have significantly increased (United Nations Conference On Trade and Development, 2015). Hence, EMMs

† Southern New Hampshire University International Business Department, USA.
† Southern New Hampshire University International Business Department, USA.
1.800.668.1249
anıl.ar@snhu.edu
1.800.668.1249
a.ficici@snhu.edu
from emerging markets, such as China, India, Mexico, and Turkey have been embarking diverse operations in developed countries.

Some of the prominent firms that have been undertaking operations in advanced economies are Turkish Business Groups (TBGs), namely Turkish Holding Companies (THCs). These Holding companies have been conducting manufacturing operations in numerous countries of Europe for many decades. In recent years, their operations took on innovation and environmental sustainability as the core principles in order to gain and to sustain competitive advantage. In doing so, they became efficacious in their international operations. However, it must be noted here that this efficacity is also related to their organizational forms and/or corporate governance structures.

Thus, the purpose of this research is to explore the internationalization processes of TBGs and the interplay between these processes and innovation, environmental sustainability, networks, and corporate governance dynamics. This study is descriptive as it focuses on the business dynamics of manufacturing Turkish Business Groups, namely Turkish Holding Companies. It gives a clear illustration of how manufacturing can be innovative and environmentally sustainable while internationalizing. The study is also normative as it provides propositions based on creating ownership advantage and competitive advantage through combining foreign and domestic resources and with the support of their organizational forms and/or corporate governance structures. It also reconnoiters the main reasons and key drivers for innovation, and environmental sustainability while internationalizing.

Deriving from the above research statement the research question can be stated as follows: 1a) What are the types of environmentally sustainable activities TBGs exploit while internationalization and digitalization? 1b) How do corporate governance structures affect these activities? 2) What are the innovative activities TBGs utilize while internationalizing? 3) What are the key drivers behind these innovative and sustainable activities, and how do corporate governance structures affect these activities?

This study employs a dataset of 15 manufacturing parent companies - holding firms, mostly made up of family-controlled business groups consisting of 200 of subsidiaries that conduct cross-border manufacturing in 17 countries mostly in the region of Europe. Data on business groups were obtained from “MarketLine Advantage”, “OneSource”, “DataStream”, and companies’ annual reports. The sample includes some firms listed as ADRs such as Haci Omer Sabanci Holding A.S, Koc Holding, and Zorlu Holding, and those parent companies have at least one subsidiary firm (Arcelik A.S, Teknosalve Dis Ticaret, VestelBeyazEsyaSanayiveTicaret A.S etc.), quoted on the Borsa Istanbul (BI).

The rest of the paper is developed as follows: The following section provides some background information on TBGs and key drivers of their successful operations. The third section encapsulates previous literature; the fourth section illustrates the international innovative and environmentally sustainable activities of TBGs and summarizes findings; the fifth section develops propositions from the literature review and the findings; and the last section concludes and makes sense of the findings, and postulates contributions and limitations.

2. Evolving Configurations of TGBs

For many decades the TBGs have been the drivers of Turkish economy (Bugra, 1994; Önis, 1992, 1995). They have been in the seen since the beginning of the foundation of the Republic of Turkey in 1923 from the ashes of a 600 year old

A few examples of Turkish Business Groups and/or family-owned business groups include Koc Holding, Sabanci Holding, Zorlu Holding AS, Calik Holding, Eczacibasi Holding, and Yazici Holding. These firms are among the largest firms by total assets in the Turkish Market (home-country market) and in the host country markets. Many family groups also have well-established historical presence in their home country market.
Ottoman Empire. Turkish business groups can be identified as family-owned holding companies. They are mostly known as the essential form of large business institutions in the Republic of Turkey (Bugra, 1994; Bugra & Üsdiken, 1995; Önis, 1995).

Their active undertakings, however, came with the industrialization process initiated by the Turkish government in the 1930s (Önis, 1996). Yet, the real acceleration of their activities began with the stabilization program of 1980, which was instilled to correct major economic problems of the late 1970s through macroeconomic policies (Önis, 1992).

Hence, began the liberalization and internationalization agenda. There were three goals for the stabilization program: 1) Reduction of government intervention in business and market activities; 2) Shifting from inward-looking, import-substituting industrialization processes to export-led growth; and 3) Attracting Foreign Direct Investment (FDI), (Önis, 1992). This program actualized what it meant to do in a short time and led to high level of exports of manufactured goods. Acceleration of exports was also enhanced with the entrance of the Republic of Turkey into the Customs Union in 1996 (Sunar, 1996).

As it can be seen, most of the TBGs started as manufacturing firms with the encouragement of incumbent governments. Having had long experiences with manufacturing and exporting they developed innovative and sustainable capabilities over the years. Hitherto, their activities were supported by the incumbent Turkish governments, but most importantly, by their corporate governance structures.

3. Theoritical Discussion and Hypotheses Development
Since the main key drivers behind the innovative internationalization processes of TBGs were government initiatives and corporate governance, it may be crucial to integrate governance related research in the literature review.

3.1. Corporate Governance
Corporate governance is typically perceived by academic literature as dealing with 'problems that result from the separation of ownership and control'. From this perspective, corporate governance would focus on: The internal structure and rules of the board of directors; the creation of independent audit committees; rules for disclosure of information to shareholders and creditors; and, control of the management (Fernando, 2009; Maher & Andersson, 1999).

EMM literature that concentrates on governance suggests that EMMs have intensified their overseas operations. In addition, their role in the global economy has become more prominent during the last decade (Gubbi, et al., 2010). The previous literature examines governance both at the home country and firm level. Firm level analysis illustrates the negative aspects of internationalization processes of these firms. It is indicated that while in advanced economies institutions and market dynamics work efficiently. Yet in emerging market countries, markets as well as institutions suffer from information asymmetry due to institutional voids (Khanna & Palepu, 1997). In this way, agency problems arise within the firms since managers desire to follow their own interests and to create costs to shareholders (Agrawal & Knoweber, 1996). Hence, understanding the emerging market multinationals require understanding the economic and institutional landscape in their home countries.

In emerging market economies there are various number of market and institutional failures. Some of these imperfections are presence of state governance mechanisms, insufficient transparency regulations, lack of intermediary institutions, and financial transparency (Khanna & Palepu, 1997; Leff, 1978; Yiu, Bruton, & Lu, 2005). Organizations, therefore, form conglomerates and business groups to diversify their risk and create balance in their portfolio (Yiu, Bruton, & Lu, 2005; Khanna & Palepu, 1997; Leff, 1978).
Corporate governance mechanisms as well as ownership structure, dividend payout, cost of external finance and market valuations have been significantly impacted due to variations in home country legal structure and the laws designed to protect investors, according to a growing body of literature (La Porta, Lopez-de-Silanes, & Vishny, 1999; Klapper, & Love, 2002). In some countries, firms may decline specific provisions causing investor protection laws to be nonbinding. ADR issuing firms may improve the rights of investors through implementing addition provisions to facilitate increased disclosure, institute more efficient and effective boards, and enact disciplinary action to ensure the rights of minority shareholders.

On the other hand, various studies (Klapper, & Love, 2002) find a positive correlation between corporate governance structures and country level measures of investor protection. In addition, they suggest that it is crucial for firms located in countries with weak legal systems to adopt improved corporate governance practices. Since firms located in developing countries may have weaker rules, Black (2001) suggests that the corporate governance structures may have larger effects. Corporate governance is related to firms and firms from these emerging market countries set standards in the economies of these nations.

In the case of TBGs, government funding and corporate control of families draw minority investors to invest in these holding companies (Khanna & Yafeh, 2005). The previous studies also point out that the internal capital markets created by business groups enable risk-sharing and intra-group financial support, in order to eliminate the problems caused by external capital constraints. In addition, these studies find that group affiliation in emerging markets is associated with better performance (Khanna & Palepu, 2000).

While the issues related to business groups and/or family-owned businesses remain a substance of academic debate, investors continue to invest in these businesses. This is especially the case in the case of TBGs, where investors put high value on their manufacturing operations, even though state controls the largest manufacturing firms (Bugra, 1994; Boratav, Türel & Yeldan, 1996; Önis, 1996). Hence, the impact of family-group affiliation on TBGs’ competitive advantage in innovation and sustainability may be a result of the benefits of concentrated ownership structure and variety of entrepreneurial skills and cultural ties in a family.

3.2. Digitalization and Innovation

In the case of TBGs creating competitive advantage through innovation and environmental sustainability greatly supports their internationalization processes. This is previously stated by previous literature among the studies of various EBGs. For example, numerous studies focus on the characteristic of business’ environment pressure and its influence on firms’ innovativeness. These studies show that different internalization phases or methods of a firm can be supported through digitalization and innovation (Cassiman & Golovko, 2011; Venaik, Midgley, & Devinney, 2005).

The innovative activities of TBGs are encouraged by the Turkish government; this has also been the case historically. They are able to enter into designated sectors through the support of network mechanisms and through instruments like protection from foreign competition, and Government-subsidized bank credits (Bugra, 1994).

In addition, the innovative activities of TGBs are also stimulated by diversification procedures. Diversification, mostly unrelated, has been enabled by ‘technology acquisition’ and ‘project-execution’ capability that they have developed in the process of digitalization over the years (Amsden & Hikino, 1994).

Hence, attaining capability is a crucial factor in a specific economy, as firms compete with each other as a result of conflicting demand and cost pressures in a host country (Venaik, Midgley, & Devinney, 2005). In order to overcome this conflict, firms can tap into international markets. As a result, they learn new
capabilities specific to a firm (FSA) (Dunning, 1988) and leverage these abilities to innovate in home country or innovate across the globe (Gupta & Govindarajan, 1991). Addressing the reason/s of a firm’s tendency to invest in certain markets rather than others is an important component to understand how business groups innovate.

As stated previously in the literature review related to corporate structure, in the process of innovating, firms may face corporate governance specific problems (Luo, Chung, & Sobeza, 2009). The business group affiliated firms are tied to each other in terms of ownership, control, experience, and knowledge flow (Khana & Palepu, 2000; Guillen, 2003). However, the bond among companies may positively (Guillen, 2003; Khana & Palepu, 2000) or negatively (Kim, Kim, & Hoskisson, 2010) affect firms’ ability to adopt and react market changes. Not being able to embrace the changes can cause stagnation in innovation efforts. Therefore, investigating network relations and linkages between business groups and their innovative capabilities is crucial subject to understand business groups.

3.3. Digitalization and Innovation related to Networks and Linkages

Mahmood, Zhu and Zajac propose business groups have different abilities due to variety of member characteristics of business group associate firms (Mahmood, Zhu, & Zajac, 2011). According to the scholars, differently formed business groups have been engaged with different business activities. Therefore, they can sustain their activities in different industries and business fields (Mahmood, Zhu, & Zajac, 2011). However, the business groups’ literature stem fail to provide what kind of business practices would create positivity. Henceforth, understanding and exploring linkage between different capabilities among business groups and how they may provide competitive innovation capabilities through digitalization for their members is crucial.

In Turkish business group structures, the parent companies have strong linkages and network relations with their subsidiaries and their main diversified firms. Network linkages can also be considered from a corporate governance perspective. Most corporate governance structures of Turkish business groups can be described as insider systems, much like the Japanese and the German systems where the firm, the bank and the state have a triangular relationship; hence the firm is financially supported by the state and the bank – within a network system, when necessary.

Networks in TBGs can also be related to family ownership, as these firms create numerous strategies to keepa strong family control in management. Most high-level positions and senior roles are usually reside by family members. The family members can also undertake a multiple managerial roles in the group (Bugra, 1994).

In relation to both network structures and innovation capabilities, it is important note that TBGs value ‘professionalization of the family’ through higher education of their young generations in business studies, and engineering, in prestigious universities abroad or at home (Bugra, 1994). Education received by the young members adds more innovation and value to the international operations of the business groups.

4. Innovation, Environmental Sustainability, and Internationalization Perspective of Turkish Business Groups

It is important to point out here that in the past, most manufacturing EMMs actualized innovation through receiving technology from developed country multinationals and later adapting them to developing country standards, such as what the Indian multinationals did in some of the countries in the continent of Africa (Lal, 1983; Wells, 1983). However, TBGs, upon receiving technology from developed country multinationals, they promptly adapted them to other developed country markets; hence they sustain their ownership and competitive advantages in the manufacturing sector. They now create their innovation through their
imaginative and artistic engineering processes and integrate the environmental sustainability and bring efficacy into their international operations.

In order to better observe their innovative operations, observation of the table below may be helpful. The table below illustrates that these firms are able to innovate as they internationalize.

**Table 1: Parent Company Innovation and Subsidiary Information**

<table>
<thead>
<tr>
<th>Parent Company Name</th>
<th>Industry</th>
<th>Digitalization and Innovation</th>
<th>Environment Centric</th>
<th>U.N. Global Compact Members</th>
<th>Subsidiary Presence in West Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koc Holding A.S</td>
<td>Petroleum Product Manufacturing</td>
<td>Innovative efficient production to create lasting value through sustainability perspective</td>
<td>“Koc holding and Group companies aim to turn risks into opportunities by solving environmental problems with creative and innovative solutions through the practices they pursue with a perspective that brings the priorities of sustainability to the forefront.” Reforestation efforts and TEMA collaboration</td>
<td>Yes</td>
<td>France, Germany, Spain, Italy, Belgium, Ireland, United Kingdom</td>
</tr>
<tr>
<td>Haci Omer Sabancı Holding</td>
<td>Holding/Banking</td>
<td>Achieving innovation-oriented growth via design and production of high technology goods with emphasis of sustainability.</td>
<td>Carbon Disclosure Project (CDJ). The holding aims to produce goods with minimal carbon footprint. The aim of CDJ is reducing greenhouse gas emission through regular investigation and proper investments</td>
<td>Yes</td>
<td>Germany, Belgium, United Kingdom, Spain</td>
</tr>
<tr>
<td>Zorlu Holding A.S.</td>
<td>Holding Companies</td>
<td>Achieving strong market presence through creating and designing innovative technologies</td>
<td>-</td>
<td>Yes</td>
<td>Spain, United Kingdom</td>
</tr>
<tr>
<td>Enkalnmaa veSanayi A.S.</td>
<td>Civil Engineering</td>
<td>Re-examining current industrial practices with innovative engineering mindset to produce solutions and develop better and more efficient industrial techniques.</td>
<td>-</td>
<td>No</td>
<td>Germany, United Kingdom, Netherlands, Portugal</td>
</tr>
<tr>
<td>Anadolu Efes Biracilik veMalt Sanayi A.S.</td>
<td>Beverage Manufacturing</td>
<td>Green Packaging, efficient raw material usage, and reliable neighbor projects. These projects aim to reduce greenhouse gas emissions and contribute to efficient use of raw materials. Besides, Anadolu Efes supports the agricultural projects to attain sustainable raw materials from local farmers.</td>
<td>-</td>
<td>Yes</td>
<td>Netherlands, Germany</td>
</tr>
<tr>
<td>TAV Havalimanları Holding A.S.</td>
<td>Air Transportation Services</td>
<td>TAV reveals its carbon disclosure data to assess, manage, and control the economic and environmental impacts of its activities. Since company highlights sustainability practices as an integral component of organization, it supports numerous environmental sustainability projects.</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>AdilBey Holding A.S.</td>
<td>Holding Companies</td>
<td>The company actively engages with carbon emission reduction projects and reforestation efforts. One of the biggest projects of the company is known as “Eco-friendly Cars”. The company collaborates with the local government at this project to ban car traffic from touristic areas in Denizli. It targets to preserve wild life and cultural heritage of the city.</td>
<td>-</td>
<td>No</td>
<td>Netherlands, Germany</td>
</tr>
<tr>
<td>Cukurova Holding A.S.</td>
<td>Holding Companies</td>
<td>Undertaking actions based on a viewpoint rooted in development and innovation.</td>
<td>United Nations Global Compact (UNGC) and “Agriculture Information Package” contributor. The holding supports eco-friendly agriculture and agriculture related education efforts. The purpose of these efforts is increasing environmental friendly practices</td>
<td>Yes</td>
<td>Spain</td>
</tr>
</tbody>
</table>
The “Table 1” provides insight about Turkish business groups’ digitalization and innovative activities and how they disperse their subsidiaries in West Europe. As it can be interpret from the table, some of the business groups are well diverse than the others. The well diverse ones are mostly “UN Global Compact” members. Henceforth, it can be derived that the affiliation with an international institute assures well-organization structure and corporate practices that support innovation.

<table>
<thead>
<tr>
<th>Turkish Economic Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>in a sustainable production environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Activities</th>
<th>Digitalization and Innovative Activities</th>
<th>Subsidiaries in West Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yazıcılar Holding A.S</td>
<td>Motor Vehicles and Passenger Car Bodies</td>
<td>The company motto is “developing reliable and environmental technologies to fulfill its social responsibilities.”</td>
<td>Yes</td>
</tr>
<tr>
<td>Sahni Holding A.S</td>
<td>Clothing and Apparel Manufacturing</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tekfen Holding A.S</td>
<td>Residential and Commercial Building Construction</td>
<td>Junior Tema Project Sponsor, The company is a big investor to projects that focus on soil erosion prevention and reforestation. Also, the organization provides education to farmers to contribute eco-friendly and sustainable farming. The main focus on education that is provided is usage of fertilizers and agricultural chemicals</td>
<td>No</td>
</tr>
<tr>
<td>Celebi Holding A.S</td>
<td>Holding Companies</td>
<td>The company highlights its approach to environment via following quote: “Celebi’s goal is to be an organization whose practices make it the most environmentally sensitive company in the aviation industry through an approach that safe practices and enhances the quality of its employees and customers.” The organization backs up this premise with investing in environment management system and supporting environment-focused projects.</td>
<td>No</td>
</tr>
<tr>
<td>Calik Holding A.S</td>
<td>Holding Companies</td>
<td>The organization highlights its approach as “To add sustainable values to the lives we touched through our entrepreneurship, innovation, and reliability guided business operations.”</td>
<td>No</td>
</tr>
<tr>
<td>Alarko Holding A.S</td>
<td>Architecture and Engineering</td>
<td>The organization adopt an approach which enables them to meet customer expectations with “innovative products in line with energy efficiency guidelines.”</td>
<td>No</td>
</tr>
<tr>
<td>Eczacibasi Holding A.S</td>
<td>Pharmaceutical Manufacturing</td>
<td>The organization sees innovation as an vital component of their lives which affects its business success directly. According to the company, the most innovative thing is come up with a solution to “a consumer’s real need”. Eczacibasi is known for its ecologic agricultural investments. One of the most well known examples is “Ormanda” project. The project aims to provide organic food to locals with environment friendly practices. In addition, the projects purposes to provide organic herbs to medicine industry and organic fertilizers to farmers.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
It also can be argued that the actively engagement with corporate social responsibility projects provide further market opportunities. It is also important to note here that these operations are actualized through network linkages and support of the corporate governance structure.

Table below “Table 2” illustrates the relationship between good corporate governance structures, diversification in manufacturing, and ownership and competitive advantage.

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Industry</th>
<th>ADR Listing Exchange (America)</th>
<th>ADR Ratio (America)</th>
<th>ADR Listing Exchange (Other Than America)</th>
<th>ADR Ratio (Other Than America)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koc Holding AS</td>
<td>Petroleum Product Manufacturing</td>
<td>Non-Nasdaq OTC (Non-sponsored) (@Kholy)</td>
<td>1:5</td>
<td>Stuttgart (D:KRKA) (STU)</td>
<td>1:5</td>
</tr>
<tr>
<td>Haci Omer Sabanci Holding A.S.</td>
<td>Banking</td>
<td>Non-Nasdaq OTC (-sponsored) (@HOSZY), Non-Nasdaq OTC REG S ADR (@HOSXF), NYSE SPN, ADR REG S(@2097H)</td>
<td>4:1, 4:1, (NA)</td>
<td>London (89044), Berlin (D:HAC1) (NA), 1:250</td>
<td></td>
</tr>
<tr>
<td>Zorlu Holding AS</td>
<td>Holding Companies</td>
<td>Non-Nasdaq OTC UNSP. ADR (54588J)</td>
<td>NA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Enkalisiasstve Sanayi A.S.</td>
<td>Civil Engineering</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AnadoluEles Biracilikve Malt Sanayi AS</td>
<td>Beverage Manufacturing</td>
<td>Non-Nasdaq OTC SPN. 144A (@AEBMY) , Non-Nasdaq OTC SPN, ADR, REG. S (@AEBZY), Non-Nasdaq OTC V. ADR. 1 ADR = 200 SHS (25622N)</td>
<td>5:1, 5:1, NA</td>
<td>Stuttgart (D:EF41) (ADR REG S.), XETRA (D:EF4X), London (686260)</td>
<td>5:1,(NA), NA</td>
</tr>
<tr>
<td>TAV Havaliimanlar i Holding A.S.</td>
<td>Air Transportation Services</td>
<td>Non Nasdaq OTC UNSP. ADR (@TAVHY)</td>
<td>1:4</td>
<td>Stuttgart Uns. ADR (D:3THA)</td>
<td>1:04</td>
</tr>
<tr>
<td>Adilkey Holding A.S.</td>
<td>Holding Companies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cukurova Holding A.S.</td>
<td>Holding Companies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Yaziciyar Holding AS</td>
<td>Motor Vehicles and Passenger Car Bodies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sahinler Holding A.S.</td>
<td>Clothing and Apparel Manufacturing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tekfen Holding A.S.</td>
<td>Residential and Commercial Building Construction</td>
<td>Non-Nasdaq OTC UNSP. ADR. (@TKFHY)</td>
<td>1:4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Celebi Holding A.S.</td>
<td>Holding Companies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Calik Holding AS</td>
<td>Holding Companies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alarko Holding A.S.</td>
<td>Architecture and Engineering</td>
<td>Non-Nasdaq OTC ADR 1:100 (879608)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Eczacibasi Holding A.S.</td>
<td>Pharmaceutical Manufacturing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

It is apparent from the table that TBGs have good corporate governance structures. Good corporate governance structures, in return, encourage innovation and internationalization.

5. Methodological Propositions:
Based on the previous literature and the survey of TBGs’ activities, this study offers the following propositions: 1) Activities related to digitalization, innovation and environmental sustainability of TBGs are supported by home-country governments; 2) Activities related to digitization, innovation and environmental sustainability of TBGs are supported network linkages between parent company and subsidiaries; 3) Activities related to digitalization, innovation and environmental sustainability of TBGs are supported by diversification strategies; 4) Activities related to innovation and environmental sustainability of TBGs are supported by good corporate governance structures; and 5) Family-owned holding
companies can have good corporate, which in turn encourages and cultivates digitalization, innovation and environmental sustainability as illustrated below:

**Table 3. A Proposed Governance Structure Model**

The table above clearly demonstrates the interplay and the support system encouraged by digitalization and innovation.

### 6. Conclusion

This descriptive study focuses on the business dynamics of manufacturing Turkish Business Groups. It illustrates that manufacturing operations of TBGs can be innovative and environmentally sustainable while internationalizing. Normatively, the study provides propositions based on creating ownership advantage and competitive advantage with the support of their organizational forms and/or corporate governance structures. It also reconnoiters government support and network linkages as the main reasons and key drivers for digitalization, innovation, and environmental sustainability while internationalizing. Overall, our findings are consistent with previous research that Family-control business groups facilitate innovation and creativity.

The main contribution of this study to the International Business discipline is that the integration of digitalization, innovation, environmental sustainability and good corporate governance structures and networks to of emerging markets business groups. The limitation is that in this area there is difficulty in finding data and extensive previous research. The future research in this area needs to be empirical, so that an important contribution to the field can be actualized.
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Turkish Economic Review


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