UNDERSTANDING RADICAL INNOVATION: A CASE EXAMPLE FROM THE TURKISH HOUSING MARKET

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Product differentiation is amongst the essentials of meeting customer needs and gaining competitive advantage over the rivals in highly dynamic markets, while efficient management of the resources in accordance with corporate strategies is key to successful outcomes. This paper focuses on the innovative business and design initiative of a Turkish company, NEF, which introduced the concept of Foldhome to the housing market. NEF describes this patented concept as “ensuring the inclusion of all rooms, which cannot fit into one house, by means of folding.” Foldhome allows the users and their guests to access various spaces and facilities on a ‘pay-per-use’ basis, in addition to using their standard accommodation units. Foldhome's radical departure from the status quo in a conservative industry, along with its attractive potential for further innovation, suggests that it can be classified as a radical design and business innovation in the housing sector. The paper presents the story of Foldhome as part of an integrated innovation process and calls for a wider lens to look at innovation in the building industry. The resource based view of the company (RBV), combined with strategic entrepreneurship perspective, provide the theoretical framework of the analysis.

Keywords: strategic entrepreneurship, Turkish housing sector, Foldhome

INTRODUCTION

A Turkish company, NEF, established in 2010 by a 28-year-old entrepreneur, Erden Timur, introduced the innovative Foldhome concept into the housing sector, which is characterized as 'conservative' based on its risk-averse suppliers and clients, often seeking the "tried and true" (Koebel et al., 2003). The idea behind the Foldhome was described by NEF as "including various rooms which cannot fit into one house by means of folding," where the users, on the basis of a 'pay-per-use' system, can benefit from various social facilities as if these spaces are part of their own accommodation units. No payment is charged for any facility, if it is not used. When facilities require repair works, expenses are compensated from depreciation (Nef, 2015a). Foldhome was the origin of a series of NEF's other innovative concepts such as Foldcity, Foldworld, Foldvillage, Foldoffice and Foldfarm (Timur, 2015:35). Foldhome was welcomed in the market and gained a significant commercial success, as evidenced by NEF's turnover of about 1.3 billion US Dollars in 2016, and more than 50 domestic and international awards, including the 'The ELITE Award for Growth Strategy of the Year' in Europe.

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Foldhome can be described as a radical innovation, due to its visible potential to change the dynamics of a market and affect the economic activities of firms. Although it has drawn transnational attention and become subject to leading business journals such as The Harvard Business Review (Timur, 2016a), Foldhome is yet a black box from an academic point of view and deserves a systematic analysis since it offers a valuable opportunity to observe the relationships between alternative theoretical perspectives on competition, innovation and entrepreneurship, apart from the its attractive potential to help decipher the dynamics behind radical innovations, which typically deviate from the status quo. Available evidence suggests that the commercial success of the Foldhome appears to be rooted in the strategic capabilities of a company for managing its resources efficiently, through the guidance of a powerful entrepreneurship style. The Foldhome experience might be of interest for the practitioners who aim to understand the drivers behind the development of a radical innovation in relation to corporate strategies.

INNOVATION IN THE AEC INDUSTRY

A quick review of the literature will reveal two conflicting views of innovation in the AEC field. The prevailing perspective is quite pessimistic: the industry, especially the housing segment, is laggard due to numerous impediments; both the builders and buyers are risk-averse and conservative; little attention is paid for research and innovation, and so on. In contrast, relatively a smaller group of researchers, who are more optimistic about the innovation performance of the industry, tend to focus on the cultural and managerial characteristics of innovative and creative companies (see Koebel et al., 2003 for a comprehensive review of innovation in the residential building sector). Both streams of research appear to acknowledge that innovation is essential for the market success of construction companies due to both the push of competitive advantage and the pull of increasing complexity of demand for built products (Koebel et al., 2003:9). However, similar to the management science literature, available body of knowledge in the AEC field is far from uncovering the linkages amongst competitiveness, innovation and entrepreneurship.

Competitiveness, Entrepreneurship and Innovation

Available theoretical models of competition in the strategic management field are under the umbrella of two major perspectives market driven view (MDV) and the resource-based view (RBV). MDV postulates that the industry structure sets the competitive rules and influences the strategies that are available to a company. To the extent that the resources of a company fit to this external environment and support particular strategies, they provide competitive advantage. However, the fact that MDV tend to disregard the role of internal environment led to the development of alternative views (Breznik and Hisrich, 2014:368).

The RBV conceptualizes the sources of a company as 'inherently valuable' and contend that any company should formulate its corporate strategies according to its unique resources (Rivard et al., 2006:30). RBV asserts that companies are heterogeneous in terms of the strategic sources they own and their awareness about the valuable, costly to imitate and non-substitutable resources and their organizational capabilities to configure internal or external resources will eventually result in a sustained competitive advantage (Kostopoulos et al., 2002:4; Penrose and Pitelis, 2009). Resource immobility, the other fundamental assertion of RBV, is based on the assumption that intangible resources such as know-how, brand equity or intellectual property are not mobile and do not move from company to company; accordingly, companies cannot replicate competitors' resources and strategies (Kostopoulos et al., 2002:6). A common distinction in the RBV literature
is between the tangible and intangible resources. While the former refers to the financial and physical resources, the latter refers to components such as organization culture; design and engineering know-how and intellectual property, in addition to the human resources. An organization's capabilities to transform these resources into strategies determine its market success, since the resources alone do not lead to competitive advantage.

An organizational capability is defined as "a firm’s capacity to deploy resources for a desired end result" (Grant, 2010:131). Organizational capabilities might be related to the different functional areas of a company such as corporate management (e.g. finance management; strategic management; strategic innovation; acquisition; and international business) and the associated management information systems to support decision making; research and development (e.g. new and fast-cycle product development); operations (e.g. Efficiency in volume manufacturing; continuing improvement in operations; and the flexibility and speed of response); product design (e.g. design capability); marketing (e.g. brand management; promoting reputation for quality; and responsiveness to market trends); and the sales and distribution (e.g. effective sales and promotion; efficiency and speed of order processing; speed of distribution; and the quality and effectiveness of customer service) (Grant, 2010:132). According to Breznik and Hisrich (2014:374), innovation capability can be seen as a 'synthesis of capabilities,' referring to a company's capacity to transform its knowledge and ideas into innovative solutions.

RBV, however, "lacks a story" about the creation of competitive advantage (Foss, 2011:15-19): Entrepreneurship literature treats the "process of combining and organizing resources" also as a resource, which is difficult-to-imitate and immobile. The central idea of strategic entrepreneurship, a fairly new discipline, is that "opportunity-seeking and advantage-seeking- the former the central subject of entrepreneurship, the latter the central subject of the strategic management field- are processes that are to be considered jointly." Strategic entrepreneurship is defined as "the use and/or stimulation of entrepreneurial activity to achieve strategic goals" (Kuratko et al., 2009).

Entrepreneurs function as business leaders who inspire organizational members "not only to substitute organizational goals for their own personal goals, but-equally importantly-to subordinate their personal preferences, principles and prejudices to team collaboration" (Grant, 2010:157). Entrepreneurship literature places a considerable emphasis on the personal and psychological characteristics of these leaders, which differentiate them from other people, such as being better informed than others to seek and exploit opportunities (Foss 2011:1; Ireland et al., 2003:968), even when the situations are ambiguous and fragmented (Ireland et al., 2003:968); being bold, imaginative and creative (Foss 2011:13); and acknowledges entrepreneurs' special ability to invent and commercialize new products and services (Hitt et al., 2001:484), by managing their resources strategically and creating an entrepreneurial culture in their organizations.

Innovation is seen as the primary activity of entrepreneurship (Ireland et al., 2003:971). As many scholars highlight, however, strategic management and entrepreneurship, two complementary fields, have surprisingly little contact, although establishing a link between advantage-seeking and opportunity seeking behavior can be especially critical in dynamic business environments, where competitive advantages are short-lived (see Foss, 2011:15-18; Ireland et al., 2003:965). Little empirical evidence exists on how the entrepreneurial leaders manage resources strategically and "bundle resources into capabilities" to create competitive advantage and wealth (Ireland, 2003:983). Figure 1
shows a summary of the overall framework, where the strategic management of resources led to competitive advantage through the guidance of entrepreneurship.

The Foldhome

The Foldhome concept is based on the addition of a set of social facilities to a core accommodation unit which includes a bedroom, a living space and the wet spaces. This core unit, size of which vary to meet user needs, is "folded" by various tailor-made areas which are also configured according to client/user needs (Figure 2). Any user with a digital access card can benefit from such facilities on a pay-per-use basis, without any additional payment, apart from the standard subscription fee. Damage due to wear and tear is compensated from depreciation. Audio-visual materials about Foldhome are accessible from the company web site (Nef, 2015) and its Facebook page (Nef, 2017).

METHOD

Considering the knowledge gap in both the management science and AEC literature regarding the linkages amongst strategic management, innovation and entrepreneurship, a research project was started to achieve an in-depth analysis of the Foldhome, due to its attractive potential to contribute to a better understanding of such theoretical linkages and the dynamics behind a radical innovation, which have already proved its commercial success. In accordance with the model in Figure 1, the authors aim to understand how the tangible and intangible resources of a company are managed strategically to create organizational capabilities which lead to innovation and an explicit competitive advantage in a highly conservative market segment.

Considering the uniqueness of Foldhome in the Turkish market, a qualitative research strategy (single-case study research) was adopted as it would allow the triangulation of data from different sources such as the interviews with the entrepreneur, functional managers, project managers, employees, and the end users, in addition to numerous documents such as the strategic reports, progress reports, and user satisfaction surveys; and the digital resources such as the corporate web site, mass and social media platforms,
which promise a significant amount of data about the Foldhome. Additionally, the first author of this paper worked as the NEF's design manager for 2 years, from 2014 to 2016, which allowed her to be part of the Foldhome experience. Following a literature review, the authors drafted a case study protocol, which later saw small updates due to feedbacks from the ongoing field study. Due to the nature of qualitative research strategy, this protocol is being updated regularly following the analysis of new data from the field (e.g. in addition to the analysis of secondary data, three functional managers have been interviewed so far).

Since the entrepreneurship literature put a significant emphasis on the relationship between innovation and the personality characteristics of entrepreneurs, the 'leader' behind the Foldhome was considered as an essential and initial part of these analyses. This paper reports the outputs from the analyses of secondary data from the mass media (i.e. the interviews with the entrepreneur -Erden Timur- and the news about the Foldhome), NEF's corporate web site, and the other digital resources such as the corporate Facebook group. Understanding the entrepreneurial discourse is a critical step for understanding Foldhome, if innovation is seen as the primary activity of entrepreneurship. The following section includes a short summary of NEF and the entrepreneur behind the Foldhome, before presenting the results of a preliminary analysis, which aimed to understand the organizational capabilities of NEF from the entrepreneur's perspective. In particular, the organizational capabilities which led to the Foldhome was the focus on interest. Since the presented analysis is based on secondary resources at this stage, only the capabilities about which relatively sufficient information was available were included in the analysis. These organizational capabilities include strategic management, strategic innovation; finance management, product design; research and development; and marketing.

The Company and the Entrepreneur behind Foldhome

NEF was founded in 2010 by a then-28-year-old entrepreneur, Erden Timur, as a brand of Timur Holding, which carries out business operations in a variety of sectors including iron-steel, fuel oil and real estate development. NEF defines its vision, on its corporate web pages, as being "known as a best practice company in the sector," and its mission as "designing and offering attainable living spaces which meet undiscovered expectations, and spreading happiness". Contributing to society; continuing improvement, creating added value and the happiness of stakeholders are declared as the company values. The company currently has about 350 employees in total, including both the corporate and project-level operations. The human resources structure in NEF is quite dynamic: about half of the employees have been working for NEF for less than a year, while those with 3-4 years of experience account for about 20 per cent of the total workforce. The company recently declared that its strategic goal is to rank among the top five companies in Turkey and expand its business operations to the major European and American cities to become a global brand (Emlakkulisi.com, 2016a).

Erden Timur, the Chief Executive Officer (CEO) of NEF is the entrepreneur behind the success of the company. Timur's story, in his own words, has been widely circulated through several business journals and newspapers (Milliyet, 2011): "I was a graduate student at London School of Economics. I was 22 years old when I went back to Mersin [his hometown, a city on the Mediterranean coast of Southern Turkey] when I learned of my father's illness. We were working on a land development project [in Mersin]. I had a law degree, but I had long wanted to start a venture capital company and to work in the business development field. This is my favorite stuff...say a hobby. Suppose you give
me a salt cellar; I immediately start to imagine changes on it like adding a thing to this or that side, or remove this or that part. After all, this is how innovative ideas show up. So I had planned to deal with the visioning part of our then ongoing development project. It was a short-term endeavor for me. We owned a holding, running operations in the energy, logistics and real estate development fields. So I was able to raise the capital for construction business.”

**Analysis of Foldhome as a Radical Innovation**

Following a preliminary analysis of the secondary sources, the organizational capabilities of NEF are illustrated below according to various functional areas including strategic management; strategic innovation, finance management; product design, research and development; and marketing.

**Strategic Management**

The strategic plan of NEF, formulated by Erden Timur in 2010, has three-phases, each covering 5-year periods. 2010 to 2015 period comprised the development of business concept and the marketing strategy, where NEF invested in its brand, established partnerships with financial institutions and leading designers. 2015 to 2020 was formulated as a growth and business scaling phase, to be able to plan sustainable growth models, continue branding investments, establish new partnerships and protect the company's financial power. Timur argues that learning how to "stay focused" is one of the most critical assets in his business life (Emlakkulisi.com, 2016b), which allowed NEF to achieve an efficient acquisition management and grow in a healthy way. The last phase of the strategic plan, from 2020 to 2025, is the period where NEF aims to position itself as a global real estate brand and expand business operations to the major cities in the United States of America (USA) and Europe (Ekoyapidergisi, 2015).

Location strategy and land investments are critical elements of strategic management for any real estate company. Financial power of NEF allows the company to invest in land for future Foldhome (and other) projects both in the European and Anatolian parts of Istanbul. The fact that Istanbul is the middle of a large-scale urban regeneration process, as part of governmental policies come to mean business opportunities for NEF, which has signed about 4,000 contracts with individual property owners (Emlakkulisi.com, 2016c). According to Selçuk Çelik, the Sales and Marketing Director of NEF, appropriate selection of project locations are among the major factors that led to the company's success in the market (Ekoyapidergisi, 2015).

NEF formulates its human resources management (HRM) strategy to support its corporate goals and describes its HRM mission on its corporate web site as "being the most preferred and appreciated brand by top-calibre employees" (Nef, 2015b). HRM tools to support this mission include, but are limited to (Dalan, 2016): working from home after childbirth; provision of nappy and baby food, support for parental education; flexible work hours, casual dress code policy; holiday packages, financial support for private school payments, summer schools and various scholarships for children. Timur argues that they want to be a model for the business world (Ibid.).

**Strategic Innovation**

The strategic innovation behind Foldhome is targeted at changing the traditional form of home ownership. According to Timur, reconfiguration of the ownership concept opened up new possibilities for his company in a conservative market (Timur, 2015, 34):
...House came to mean a few rooms and salon [for many]. Once you bought it, you could make little changes on it, except for small aesthetic touches. On the other hand, your needs were changing. You were getting married, having kids. The product was static, allowing little opportunity to for scaling...We listened to people; asked them 'If you had a big house, what would you like to have in it?' We realized their desires. Our projects include facilities...which are missing even in the million-Dollar worth houses...we describe this as 'accessible freedom.'

What Timur calls 'accessible freedom' gave new insights to NEF to start other innovative initiatives such as the Foldcity and Foldworld. While the former concept is based on the idea that Foldhome users can benefit from any other Foldhome project in Istanbul, the Foldworld© concept aims to extend this "freedom" to a global level. Another major aspect of NEF’s strategic innovation is the concept of social innovation, which essentially includes the efforts to seek on novel solutions to social problems in effective, efficient and sustainable ways. Timur (Timur, 2016b) argues that companies such as Uber and Airbnb, which focus on creating social influence, rather than being merely motivated by short-term profit maximization, are more likely be remunerated by the society, as evidenced by their market values. Only the companies which incorporate social innovation into their business strategies will be able to address the markets of future which will be shaped by ethical, social and ecological concerns and expectations. Timur believes that the Foldhome, as an output of a social innovation perspective, brought "democratization" to the real estate sector (Timur, 2016b).

**Finance Management**

NEF establishes strong partnerships with the leading local and international financial players to realize its innovative projects. İş GYO (a local real estate investment trust); Abdi Ibrahim (a local pharmaceutical company); European Bank for Reconstruction and Development (EBRD); and Amstar Global Real Estate Investments from USA are to name a few (Alagöz, 2015; Hurriyet, 2016; Milliyet, 2017). Concurrently with the Foldhome concept, NEF developed various investment instruments to support its strategies. For example, the 'guaranteed project' concept aims to bring down the investment risk to zero and guarantee the delivery of a project before the construction started. After the feasibility study by an independent body, "...whole cost of a project is held in bank from the first day...All the expenses of the project are covered under the control and assurance of the bank according to progress payments reported by experts" (Nef, 2015c).

**Product Design**

Product design capability lies at the hearth of NEF's market success and it is the central focus of business since its establishment. NEF herein follows a few critical strategies: The creation of global design series strategy, adapted from the automotive industry, aims to standardize core design solutions. NEF prepares design guidelines for each of the series including houses (The Foldhome); flats; apartments; suits; residences; dorms; and offices, which are customized according to the characteristics of users in different locations (URL16; Emlakkulisi.com, 2016b). Another strategy aims to develop "difficult-to-imitate but easy-to-repeat" products (Timur; 2015:35). Finally, NEF collaborates with the leading architectural and industrial designers to develop its product series. Apart from the leading local names, Foster+Partners (UK); HOK, SOM (USA) and Lombardini22 (Italy) are among the companies, which anonymously work for the NEF brand.
Radical Innovation in Turkish Housing

Research & Development
Differentiating NEF from many competitors in the R&D field, and supporting its strategic innovation focus, the company has a specific interest in developing alternative building production methods, for which it collaborates with researchers from Harvard University and Massachusetts Institute of Technology (MIT), in addition to companies from USA and China (Emlakkulisi.com, 2016b):

...Even if you pay in advance, it takes 36 months on average to deliver a project. We need to produce off-site and assemble on-site to speed up the process. We will reduce it to as less as 6 months. By this means, it is not impossible to reach 50,000 houses per year, while we produce 5,000 currently...We were to standardize the product in the first place. We did. We will realize the new production system in the next 5 years.

Marketing
Screening changes in market demand and the detailed analyses of user feedback are the standard practices in NEF, similar to other real estate developers. NEF actively uses its Facebook group and other digital media to communicate with its target audience, deliver tailor-made messages through various forms of marketing campaigns. However, the real driver behind the success of Foldhome is the brand management capability of NEF. Erden Timur argues that not only being a brand, but also being a 'love brand' is critically important to create value in the market, for which little attention is paid in the construction industry.

According to Timur, Coca Cola, Apple, Volkswagen, Nikon, Harley Davidson are among the examples of 'love brands,' which could touch the feelings of people and offer a new lifestyle (Timur, 2016a). He believes that their central focus on being a love brand is the secret behind the NEF's ability to persuade globally-known designers to be part of Foldhome projects in the ordinary neighbourhoods of Istanbul. Having received national and international awards from numerous bodies and the patented products apart from the Foldhome leverage the company's brand. Brand management efforts include many other initiatives such a student design competition with the "Fold-it" theme, which aims to realize the awarded project with the support of NEF, and participation in the Design London fair, with the sculpture 'The Golden Horn' designed by Sebastian Leon Agneessens.

DISCUSSION AND CONCLUSION
Using the ARCOM's 2017 jargon, the Foldhome can be properly described as a "brutally innovative" product, due to its commercial success and the visible potential to influence a relatively conservative market segment. Analysis of the entrepreneurial discourse surrounding the Foldhome experience shows that the language used to describe the innovation differs significantly from the typical language used in the AEC innovation literature, in terms of the strong emphasis placed on business dynamics, in particular on brand management and creating/offering a lifestyle for customers. The Foldhome calls for a wider lens to look at innovation in the building industry, since the technical aspects of innovation in the AEC industry cannot be isolated from the rapidly changing dynamics of the business world, where innovations are often the outcomes of the decisions of business leaders, who manage their resources strategically and create an entrepreneurial culture in their organizations.

After all, the Foldhome is the brainchild of a 28-year old entrepreneur. Practical and theoretical benefits from an in-depth analysis of the Foldhome experience, which is the PhD topic of the first author, can be multiple: From a practical perspective, it can be of
interest for companies which aim to link and align their strategies to position themselves as an innovative organization and understand which organizational capabilities lead to change. From a broader perspective, Foldhome offers a valuable opportunity to observe the relationships between the strategic management, innovation and strategic entrepreneurship fields, which are said to have little contact. An external evaluation, based on further empirical evidence will also help identify the shortcomings of the Foldhome concept.

REFERENCES


