

GENERATIONAL CHANGE IN BUSINESS OWNERS' SOCIAL TIES: THE CASE OF TURKEY¹

İŞLETME SAHİPLERİNİN SOSYAL BAĞLARININ KUŞAKSAL DEĞİŞİMİ: TÜRKİYE ÖRNEĞİ

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Abstract: *The gap in the literature concerning the explanation of the dynamic nature of networks has inspired researchers to look for further explanations about network change and evolution. In consideration of this shortcoming, the social network analysis has been applied in this study, in order to investigate inter-organizational networks through the change of business owners' social ties from the first to second and third generations in Turkey. The findings suggest that intergenerational change results in a gradual disappearance of some of the relationships. The results also support that, when networks evolve and actors' positions change, the current benefits of the networks may also fade away.*

Keywords: *Network evolution, intergenerational change, interorganizational networks, network analysis, family-owned businesses, Turkey.*

Öz: *Ağdüzeneklerinin dinamik doğasının açıklanması ile ilgili yazındaki boşluk araştırmacılara ağdüzeneklerinin değişimi ve evrimi hakkında daha fazla açıklama aramaları için ilham vermektedir. Bu boşluk göz önünde bulundurularak, çalışmada, örgütlerarası ağdüzeneklerinin değişimi, Türkiye'deki işletme sahiplerinin sosyal bağlarının birinci kuşaktan, ikinci ve üçüncü kuşaklara doğru değişimi üzerinden sosyal ağdüzeneği analizi ile araştırılmaktadır. Bulgular, kuşaklararası değişimin bazı ilişkilerin kademeli olarak ortadan kalkmasına neden olduğunu göstermektedir. Sonuçlar ayrıca, ağdüzenekleri evrildiğinde ve aktörlerin konumları değiştiğinde, ağdüzeneklerinin mevcut faydalarının da kaybolabileceğini desteklemektedir.*

Anahtar Kelimeler: *Ağdüzeneği evrimi, kuşaklararası değişim, örgütlerarası ağdüzenekleri, sosyal ağdüzeneği analizi, aile işletmeleri, Türkiye.*

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INTRODUCTION

Recently, there has been a growing interest in social networks, both in terms of theory and research methods, with many contributions from a variety of disciplines (Ghosh and Rosenkopf, 2015; Zaheer and Soda, 2009; Borgatti *et al.*, 2009; Bruggeman, 2008; Scott, 2002; Podolny, 2001; Mariotti and Delbridge, 2012; Pacheco *et al.*, 2010). The common issue related to the social network theory and its methods of analysis is the examination of the existence and features of relationships between the actors (Soda *et al.*, 2019; Nonino, 2013; Borgatti and Halgin, 2011; Kenis and Oerlemans, 2007). Very rarely, however, the issue of change has considered and it mainly remains outside the realm of such studies (Hoang and Antoncic, 2003; Soda *et al.*, 2019; Ripolles and Blesa, 2016). In the literature related to social network theory, there appears to be a lack of dynamic perspective (Bergenholtz and Waldstrøm, 2011).

In particular, the salient feature in the extended literature pertaining to the antecedents and outcomes of networks is that the studies handling the structure and positions of the actors within networks with a static approach are numerous. With this in mind, a novel aspect of this study is that it tends to have a closer look at inter-organizational network structuring through the concept of change, which has remained rather obscure in the research concerning network theory. A second novelty in this study is that, although the social network analysis is quite well-known in the literature of inter-organizational relationships, the application of this analysis for understanding the generational social network change is rather few.

In this regard, with the aim to contribute to the literature by filling above mentioned gap, the present paper suggests that the evolution of the dominant economic actors and boards of directors in organisations - in other words, the intergenerational changes in organisations - can alter the characteristics of network relations at the interorganisational level.

1. EVOLUTION OF INTERORGANIZATIONAL NETWORKS

The starting point of the systematic analysis of social networks is based on Moreno's 1930's research (Borgatti *et al.*, 2009; Bruggeman, 2008). Up to now, many researchers have drawn attention to the importance of social relationships, the presence of interactions and relationships, plus their impact on economic activity (Granovetter, 1985; Burt, 1992). The research on the networks over the past few decades revives Moreno's findings as well as the other well-known works, such as Granovetter's weak-ties approach (Scott, 2002; Bruggeman, 2008). Within this well-developed research field, one may find different levels of analysis from micro to macro as intra-organizational, organizational, and, inter-organisational (Raider and Krackhard, 2001; Gulati *et al.*, 2002; Baker and Faulkner, 2002). The common point of all studies as Kenis and Oerlemans (2007: 290) stated is, "rather than examining actors in isolation, the social network perspective sees actors as embedded within networks of interconnected

relationships that provide opportunities for, as well as constraints on, behavior". Also, in many studies, the focus on the embeddedness of actors within social relations and the impact of relationships on economic activities (Granovetter, 1985; Uzzi, 1996) makes the concept of social networks a priority. The concept of social capital characterizes the potential tangible and intangible resources that can be obtained from social networks; plus it identifies several relationships and opportunities in this respect (Bueno *et al.*, 2004; Sargut *et al.*, 2007).

Focusing on the nature of the relationship between the actors requires examining the different functions served by different types of these relationships (Kenis and Oerlemans, 2007; Podolny, 2005). However, what type of relationship may benefit which actor is debatable. The basis of the discussions inspiring many researchers is the opposition between those regarding closure and those about structural holes (Burt, 2005; Burt, 1992). For example, a dense network of relationships in closed networks may secure the flow of information (Burt, 2005). However, closeness increases confidence but it may also hinder identifying and investing in opportunities (Brass *et al.*, 2004; Burt, 2010). The decreasing variety and increasing homogeneity in closed networks, according to Burt (2005), affects negatively the recognition of alternatives within network structure by the actors. On the other hand, weak ties may provide non-redundant information flow with different alternatives and significantly expand the social capital (Lin, 2005; Burt, 2005; Burt, 2010; Sargut, 2006). Due to closure, clusters in social fields allow the emergence of structural holes in time (Burt, 2007). According to Burt (1992), structural holes between clusters affect the information flow negatively. However, some actors to appear as brokers, and/or boundary-spanners and, as skillful actors, they can bind different clusters for cooperation and create new remarkable sets of meanings (McEvily and Zaheer, 1999; Kadushin, 2002). Such skillful actors are also defined as "Tertius Gaudens" (Burt, 1992). Therefore, besides the advantages and disadvantages of strong and weak ties approaches, the position of the actors is also crucial. The ones with the most linkages in networks are positioned at the center, and, actors with a high degree of centrality generally have close relationships with others, greater linkages, and better advantages for reaching resources. Based on this, they have such priorities as innovation, control over the resource flow, information richness, power, trust, etc. (Gargiulo *et al.*, 2000).

However, it is obvious that the above-mentioned researches in the field, mainly leave the evolution discussion out of the debates (Ahuja *et al.*, 2012). The existing research related to network outcomes, network relationships, and tie formation is well developed, however, limited consideration has been paid to seeing how and why networks rise, develop and change (Zaheer and Soda, 2009). Thus, by focusing on the static properties of networks, it is only possible to obtain limited information. For example, the benefits of close networks may be temporary (Mariotti and Delbridge, 2012), or the actors' positions may be changed as the structure evolves (Kim *et al.*, 2006). Therefore, it is of the utmost importance to observe these networks from a dynamic perspective and to assess how they evolve.

As inter-organizational relationships emerge, dissolve and re-emerge continuously, we may consider network evolution as the dissolution and/or renewal of old partnerships and also as the formation of the previously non-existent ones. Although the organizations due to excessive institutionalization throughout their life cycles may become immobilized in time, they also try to increase the possibility of unlocking such a loop, to prevent the threat of closure.

There can be different reasons for the evolution of inter-organizational networks. The progress of an organization's lifecycle, as well as the uncertain environmental conditions, lead to its updating of relationships with others, through which process it is critical to renew partnerships, add new ones, and sustain all connections. Thus, organizations should search for new knowledge and opportunities to make room for further development and increase performance (Kim *et al.*, 2006; Ahuja *et al.*, 2012). Generally speaking, organizations are inclined to create new relationships, especially when faced with problems in accessing necessary resources and/or if dissatisfied with current partnerships. Accordingly, organizations observe structural holes for creating open networks, and they maintain this as a strategy (Gulati and Gargiulo, 1999). When the new knowledge and other resources obtained in this way, come together with the current one, also a hybrid structure emerges. Consequently, the type and choice of past relationships will have an imprinting effect on future ones. Such a network may reflect its predecessors (Zaheer and Soda, 2009) as it has been conceptualized as the “shadow of the past” and/or “network memory” by Soda *et al.*, (2004: 893).

2. INTERGENERATIONAL CHANGE: FROM ENTREPRENEURS TO THE SECOND AND THIRD GENERATIONS

For an understanding of the effects of intergenerational change on the inter-organizational networks, we need to identify primarily what is implied by the term ‘intergenerational change’. Therefore, in this part of the study, we focus on defining the mechanism of the generational change, by accommodating different approaches to dealing with generational change.

There are different approaches towards the explanation of the intergenerational change in the literature and within different fields (Hite and Hesterly, 2001). In most of these studies, time appears as an important variable. The issue of change is discussed in line with the organizational lifecycle – that is, from the establishment to growth and maturity stages. Thus, one may witness the importance of personal relationships as core memberships at the establishment stage, and then at the growth and maturity stages, it is the business relationships that gain core values (Leung, 2003; Hite and Hesterly, 2001). In most studies, the time spent by organizations through their lifecycles is associated with the evolution of their social networks. However, the critical issue related to these studies is that it is not clear which type of network is valuable in which stage of the organizational lifecycle. The main reason for this, according to Hite and Hesterly (2001), is the static approach towards the analysis of these networks. Furthermore, the lifecycle approach has difficulty explaining clearly the transitions between the stages. While

organizations go through their lifecycles, the contextual factors they are embedded in, the dominant economic actors, and intraorganizational changes occur inevitably. Therefore, it is important to examine the network changes by considering generational changes. The change of generations at the managerial level in organizations has an impact on the nature of the connections to be formed with others. During the change process, the survival of an institution depends on existing and potential relationships with others. Furthermore, it should not concentrate on sustaining futile relations.

2.1. First-generation Organizations: Foundation Period and Dominant Embedded Relationships

The first generations are the founders, e.i entrepreneurs. The term entrepreneur is mainly considered equal to owning a firm or establishing new ones. Embedded relations are very useful for entrepreneurs since they need to access resources and cope with environmental uncertainties. Hansen (1999) and Hite and Hesterly (2001) highlight the importance of the founders/entrepreneurs' direct and personal ties, specifically in the entrepreneurial period of the organizations. The potential partners, knowing the founders' skills and abilities, may use such information as reference (Hallen, 2008). At this stage, strong and direct ties are very important for creating legitimacy.

In first-generation organizations, family members have more power compared to subsequent generations. Such power is strengthened, according to their interest in control within the group. This generation historically has long-term experience and expertise in the core sectors of growth. Family members develop group-specific expertise, particularly in the first generation, as they have multiple managerial positions in the group's headquarters or group affiliates. When group-specific information is accumulated by the first generations, it is transferred to new generations in an informal family environment instead of formal channels (Yıldırım-Öktem, 2010).

However, the first generation may prefer to focus on direct and established relationships too much, instead of indirect and uncertain ones. Even though such strong and direct relationships are beneficial throughout the foundation period, they may bring about social network structure homogeneity and, in time, the organization can be trapped in its circle of networks. When this happens, it may cause the entrepreneurs to echo themselves in terms of social relations. Such conditions can be overturned if organizations wish to create diversity in their relationships to access new knowledge, to say the least. To establish external connections, organizations can opt for further observing their potential structural holes (Gulati and Gargiulo, 1999). As part of intergenerational change processes in organizations, observing such links is carried out by the new generations, who also try to balance the dominant embedded relationships of the first generations with arms-length ones.

2.2 Second generation organizations: Balancing embedded and arms-length relationships

In the second generation, one may witness a hybrid of social relations coming from both the first and second generation. This condition may not necessarily create a radical change in the organizations' social connections; yet, by forming arms-length

relationships, it has the potential to access new resources and to change the networks incrementally (Hite and Hesterly, 2001). Also, the second generations are likely to have additional training and education apart from experience in and outside their groups. In this way, they may enhance the prestige as well as the power (Yıldırım-Öktem, 2010). However, given that the firm requires new resources and cooperations, its embedded relations may prove to be insufficient. Under such circumstances, arms-length relations are much more effective to increase the chances of accessing new resources. These relations are very similar to market relations. Therefore, the first proposition of this study is as follows:

P1: Intergenerational change in organizations reduces the rate of strong ties in the network relationships at the inter-organizational level.

2.3.Third Generation Organizations: Bridging the Structural Holes

Although the third generation can also be able to classify as new generations coming after the first generations, the second generation and third generation have distinguishing features. The primary difference is that the representatives of the third generation have more advantageous conditions related to the maturity stage of the organization. Plus, "the higher level of education and international experience" makes a new generation more skillful (Yıldırım-Öktem, 2010: 48). Thus, the third generation may enjoy high levels of social and human capital compared to previous ones. The most obvious characteristic of this generation is the absence of the first generation. Therefore, the impact of the first generation's social ties that are reflected in inter-organizational relationships is relatively less. The establishment of non-local linkages in the third generation of the organizations which is away from its historical ties, in turn, may bring uncertainty and risk (Ahuja *et al.*, 2012). However, as mentioned earlier, the new knowledge and other related resources that may be required by the organization are obtained by brokerage between the previously-not-connected sets, and that contributes not only to link diversity but also accelerates the development process of the social capital (Sözen, 2007). Based on this, the second proposition is as follows:

P2: Intergenerational change in organizations increases the rate of brokers in the network relationships at the inter-organizational level.

For this study, we will also focus on the interlocking directorates as both elite and specialist actors, that they have played a role through organizational network change and evolution. Board members, especially when included in elite actor categories with their memberships of international and transnational politics and other types organizations, can gain tight control over the most critical resources compared to other actors in their field (Carroll and Carson, 2003; Martin *et al.*, 2015). The current literature related to the interlocks is highly developed and mature. Therefore, it is not the purpose of this study to focus on the interlocks deeply; instead, we will divert our attention to interlocking directorates as border actors since they have an important role for enriching resources and creating relationships with other organizations, as 'communication mechanism' (Monge and Contractor, 2001). Organizations as separate entities may connect through interlocking directorates (Bruggeman, 2008: 105; Lynall *et al.*, 2003; Gulati and

Westphal, 1999; Mizruchi, 1996). The composition of the interlocking directories is clearly affected by the market position of the firm and its tendency to reduce uncertainty and keep resources away from other actors (Lynall *et al.*, 2003). Top managers have a crucial role to reach resources within the networks. Besides, they search the external environment for opportunities and threats and focus on cost reduction (Pfeffer, 1997). The influence of interlocking directories on strategic partnership formation, reduction or addition leads us to the conclusion that these activities can be researched through manager's relationships (Gulati and Westphal, 1999; Mizruchi, 1996). As a result, one may conclude that through a generational change, the board of directors' composition changes from the founders' connections towards non-familial and non-personal ones. What is more, elite actors are included in these boards to serve as central figures. This reasoning leads to the following proposition:

P3: Intergenerational change in organizations increases the rate of the centrality of the interlocking directorates in-network relationships at the inter-organizational level.

Previous research points to the importance of managers' motivation to create inter-organizational relationships. Current studies, however, refer to social networks as an important factor (Daveni and Kesner, 1993). The power and connections of the managers have an important effect on leading inter-organizational relationships. For example, if managers have fewer valuable connections, compared to their potential partner organizations, the tendency towards creating such connections will increase. However, if both firms' managers have this shortcoming, then such a tendency is likely to decrease. Geletkanycz and Boyd (2001) stated that, strategically, the external networks of managers are valuable for organizations. Therefore, besides the number of connections, their strategic contents are also important (Carpenter and Westphal, 2001). Another important point about this discussion is related to the information and control benefits as mentioned by Burt (1992). Within the competition, information and control benefits should be identified and how certain structures and actors' positions may increase those benefits should be clarified. If a member of a board of directors socializes within and is embedded in, a certain institutional context, then the question appears as to how they abstract themselves. There may be two answers: they have to interact with different systems, and they need to cross towards different fields to reach new information and opportunities. Therefore, since the existing connections limit the actors' view of opportunities in the field, the brokerage role of interlocking directories allows them to see and evaluate such possibilities. Fligstein (2001) stated that some actors can establish, develop or dissolve partnerships between parties using their social capital. They require certain resources such as information, capital or skills, to perform their duties. They own some of these resources themselves, but for the rest, they need relationships (Greve and Salaff, 2003). Therefore, board members take part in the flow of information and any other resources at the inter-organizational level, especially when they undertake the role of brokerage, thus bringing us to the next and final proposition proposed in this paper:

P4: Intergenerational change in organizations increases the degree of brokerage undertaken by the board of directors in-network relationships at the inter-organizational level.

3. METHODOLOGY

3.1 Research Design

The primary aim of this study is to investigate inter-organizational network structuring through the concept of change. In this study, social network methodology and analysis have been used making it is possible to define the actors' positions as well as the information exchange paths.

3.2 Sample

The nominalist approach is followed within this study which is the determination of the boundary of the network which is most suitable for the research purpose (Quan-Haase and Mccay-Peet, 2016: 9). Here, we investigate the inter-organizational network structuring through the concept of change. In this vein, for testing the propositions of this study, several large Turkish family-owned businesses that have reached their third generation are selected, and the representatives of their first, second and third generations identified. As it is also stated in the theoretical part of this study, the board of directors of each organization for a particular generation is also added. In the selection process of the big family-owned organizations for this study, our pre-conducted research provided us with four organizations possessing the characteristics as stated earlier (Berkman and Özen, 2008; Yıldırım-Öktem, 2010). However, for the fourth organization on our list, no first-generation information was accessible and, hence, that organization was excluded from the study. Later, the inter-organisational networks established by the dominant economic actors within each firm are compared. It has to be cleared here that “dominant actors” are individuals in every firm are capable of establishing connections with other firms (Bergenholtz and Waldstrøm, 2011).

3.3 Data Collection and Entry

The data collection in network analysis is similar to other data collection techniques (Bergenholtz and Waldstrøm, 2011; Quan-Haase and Mccay-Peet, 2016: 9). In this study, data is collected through such secondary resources as the Internet, newspapers, resumes of members, organizations' websites, printed materials such as books related to families, magazines, and autobiographies of the generation representatives (Borgatti et al., 2005). Since this data is very large in size and encompasses three generations, face-to-face interview or questionnaire methods cannot be applied, and instead, the following process is taken: Four large organizations are selected and examined as to whether or not they had three successive generations owners. As it is stated before, one of the organization's first generation could not be found, and as a result, removed from the sample. In the second stage of the research, for each organization focused on, the actors for each of the three generations were identified. During this, the family trees are figured out and the representatives of each generation, as well as actors actively holding

managerial positions, are also identified. As a third stage, for each of the three generations, the founder is identified. Since the level of analysis is organizational, ties among organizations are concluded. For data entry and processing, a network matrix is formed and the collected data is used to fill the matrix. The representation of the research data and entry matrixes are given in table1.

Table 1: Representation of the Research Data Entry Matrixes

1st Matrix	2nd Matrix	3rd Matrix
Organization 1, 1 st generation	Organization 1, 2 nd generation	Organization 1, 3 rd Generation
Organization 2, 1 st generation	Organization 2, 2 nd generation	Organization 2, 3 rd generation
Organization 3, 1 st generation	Organization 3, 2 nd generation	Organization 3, 3 rd generation
Board of Directors of the 1 st generation	Board of Directors of the 2 nd generation	Board of Directors of the 3 rd generation

Each existing relationship is symbolized by 1 and the absence of relationship by 0, all entered symmetrically. Wherever there is a need, different weights are assigned. Through the process of data entering, first of all, each generations' representative is determined and entered as a fundamental network member. Then, other actors that have relationships at any given time are also determined and entered into each matrix. In the last stage, all matrixes of generations are brought together to form separate matrixes.

Figure 1, 2 and 3 in the following, represent the relationships that are gained from matrixes for the first, second and third generations, respectively.

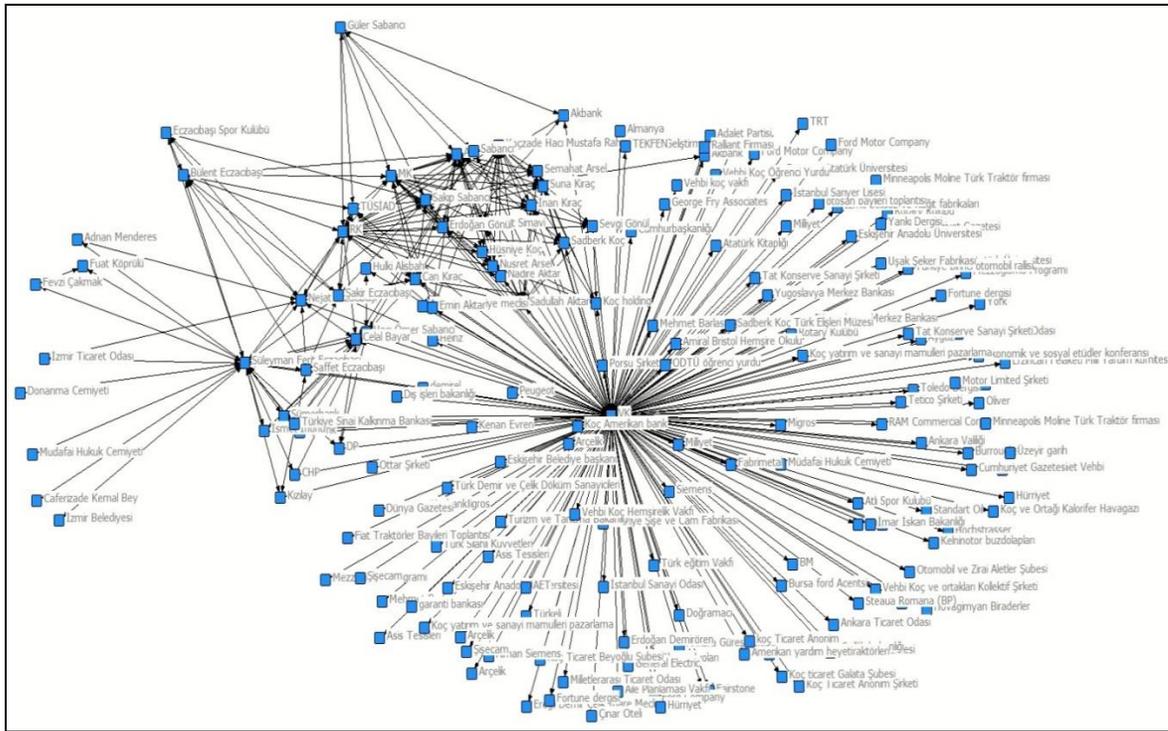


Figure 1: First Generation

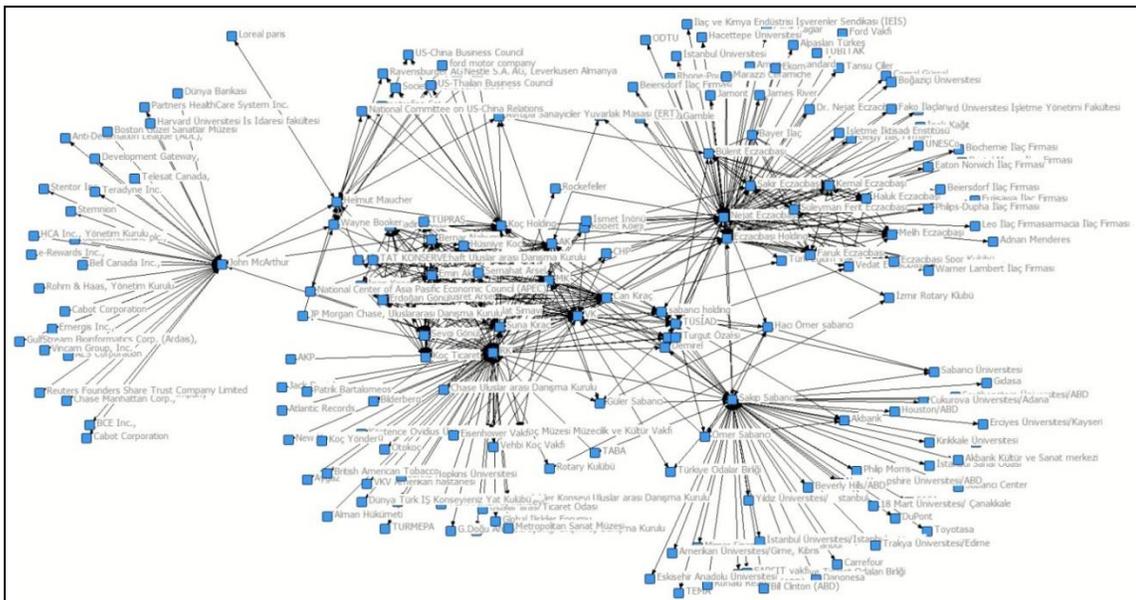


Figure 2: Second Generation

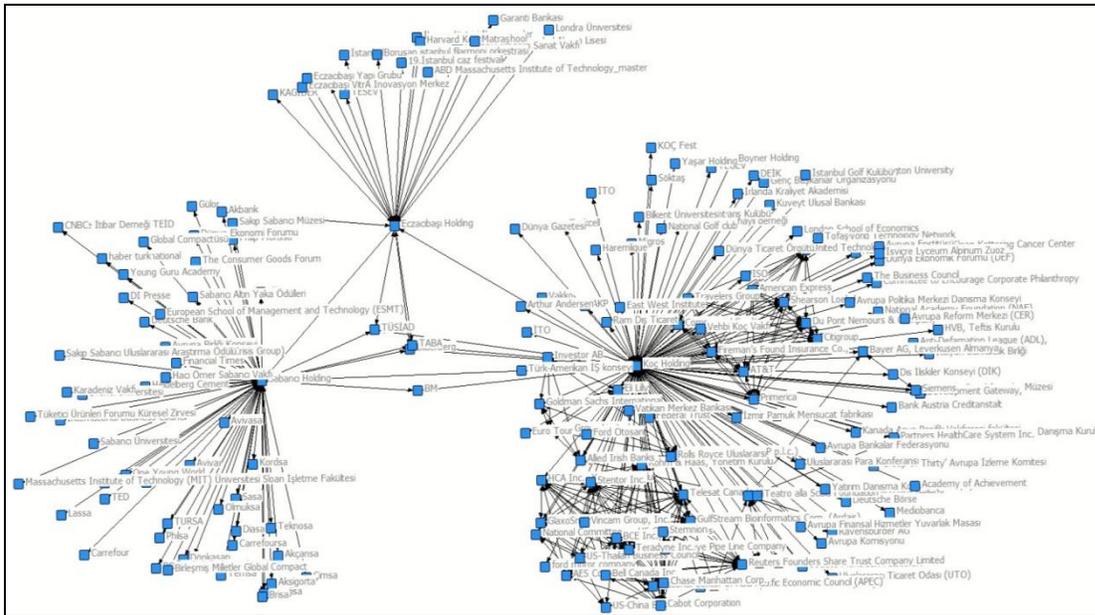


Figure 3: Third Generation

3.4 Study Context

In this study, the classification regarding the intergenerational change of family-owned businesses can be done by identifying family members in a managerial position at any given firm. To observe intergenerational change, family-owned businesses are ideal (Yıldırım-Öktem, 2010). Apart from the change of ownership from one generation to another, intergenerational change also refers to the new entities and relationship patterns occurring in parallel to the actors' preferences. Intergenerational change is not separate from contextual factors that organizations are embedded within. Therefore, although intergenerational change may not rise directly as a result of macro conditions, it is certainly affected by them. The importance of embeddedness of economic actions in social relationships has already been referred to in this paper. Furthermore, according to the periodically changeable resource needs and generational differences, organizations' network relations should also change respectively. Therefore, it is not possible to analyze those relationships without considering the contextual and institutional factors. Buğra (1994) points out that, in Turkey, family dominance within firms and direct linkages between State and firms can be considered as the main features of this type of system since they are affected by both social and institutional contexts which they are embedded in. As Yamak *et al.*, (2015: 266) state, "maintaining personal relationships with politicians and bureaucrats remained important and this duty has been mainly executed by family members". In Turkey, the States' role in the economy can be examined in two different periods: from its establishment in 1923 to the 1980s with high public exposure, and the 1980s onward which we may be seen as a liberalization movement and change in the business system. However, according to Öniş (1999), the Turkish Business System still maintains its state-dependent features. Pre 1980s, the first

generations of the big family-owned businesses in Turkey used to be supported by the State. Sargut *et al.*, (2007) stated that when governments are highly involved in economies, the economic actors would rather create close and strong relationships with governmental figures to gain information, resources and other advantages. In this study, the first generations of businesses in Turkey are the ones established in those periods and the government was detrimental in their performance. Post-1980s, especially due to international investment incentives and internationalization, further relations with foreign entities were developed, leading to an increase in the number of ties with multinational companies.

In the case of Turkey, the first generations are the ones, mainly the government was detrimental in their performance (Buğra, 1994; Öniş, 1999). Thus, the relationships with the government and bureaucrats are crucial (Sargut *et al.*, 2007). Although the first generations (or founders) may have experience related to the history and foundation period of the organizations, they may not necessarily be familiar with new industries and/or international affairs. Also, as Yıldırım-Öktem (2010) states, in Turkey, at least due to the paternalistic culture, the founders as the first generation tend to keep the power for themselves within their organizations. On the other hand, the second and third generations appear to be different from the first generation in terms of the creation of linkages. They simply adopt a strategy of creating sparse networks and serving as brokers to reach potential new resources.

3.5 Data Analysis

The fundamental aim of the social network analysis is to retrieve the relational data descriptions of the structure of a social network (Quan-Haase and Mccay-Peet, 2016). For testing the propositions of the study, inter-organizational relationships are studied throughout three generations, and the results of the analysis are compared to any generation at the management first, second and third and to find whether there exists any inter-organizational change. The UCINET 6.0 program is used for analysis. To detect such change, centrality calculations are carried out; besides, brokerage scores are also estimated. The mentioned analyses and findings are given below.

Degree Centrality Analysis

The degree centrality is calculated based on the number of relationships. The actors with high- degree centrality hold advantageous positions and are relatively less dependent on the others since they have many ties and alternative ways. Tables 2, 3 and 4 in the following, represent the degree centrality for the first, second and third generations, respectively.

Table 2: First Generations' Degree Centrality

Nodes	Actors	Degree	NrmDegree	Share
54	Burla Brothers	14.000	2.917	0.047
95	Defendent Law Union	5.000	1.042	0.017
33	Democratic Party	5.000	1.042	0.017
94	İzmir Municipality	5.000	1.042	0.017
80	Presidence Office	5.000	1.042	0.017
96	İzmir Chamber of Commerce	5.000	1.042	0.017
67	TÜSİAD	5.000	1.042	0.017
30	People's Democratic Party	5.000	1.042	0.017

Table 3: Second Generations' Degree Centrality

Nodes	Actors	Degree	NrmDegree	Share
13	TÜSİAD	11.000	1.009	0.022
189	People's Democratic Party	3.000	0.275	0.006
186	Democratic Party	3.000	0.275	0.006
21	Robert College	2.000	0.183	0.004
11	Rotary Clube	2.000	0.183	0.004
39	Rockefeller	2.000	0.183	0.004
190	TÜBİTAK	2.000	0.183	0.004
119	European Round Table	2.000	0.183	0.004

Table 4: Third Generations Degree Centrality Scores

	Actors	Degree	NrmDegree	Share
83	BCE Inc.,	18.000	4.186	0.020
86	Cabot Corporation	18.000	4.186	0.020
87	Chase Manhattan Corp.,	18.000	4.186	0.020
85	Buckeye Pipe Line Comp.	18.000	4.186	0.020
89	e-Rewards Inc.	18.000	4.186	0.020
84	Bell Canada Inc.	18.000	4.186	0.020
91	informatics Corp. (Ardais)	18.000	4.186	0.020
92	HCA Inc.	18.000	4.186	0.020
93	Share Trust Comp.	18.000	4.186	0.020

Comparison of the statistics related to all generations degree centrality scores is shown in table 5; first is 22.32%, second is 14.33% and third is 31.17%. Accordingly, in the first generation degree centralization of the network is 22.32%. This suggests that there is relatively low level of cohesion among the network members. When the second generation's score is taken into consideration, the percentage is even lower than the first generation. This again suggests that the information flow among the network members are low. In contrast to the first two generations, however, the third generation has higher degree centralization score, which is 31,17%. This suggests that there is a high level of cohesion among members of this network.

Table 5: Comparison of Statistics Related to Three Generations of Degree Centrality

	1 st generation	2 nd generation	3 rd generation
Mean	3.052	2.237	4.222
Standart deviation	11.159	11.308	11.342
Total	296.000	490.000	912.000
Variance	124.523	127.861	128.636
Minimum	1.000	1000	1.000
Maksimum	108.000	157.000	137.000
Number of Obs	97.000		
Network Centrality	22.32%	14.33%	31.17%

Studying the generations, one can see that the governmental and political organizations are the central actors in the first generation. The main reason for this may be the very strong relationships of the first generations with State authorities since,

according to Whitley's classification, Turkey is regarded as a state-dependent type of national business system. For the second generation, the business association appears as a very important central actor. In the third generation, one can see the presence of highly international firms in contrast to the first and second generations' seemingly local connections. The most important reason for this difference is that third-generation owners and board of directors, being considered as critical actors, have a wider range of connections. As a result, in the first generations organizations establish strong relationships with certain actors; around the third generations, such strong relationships appear to be less so.

The comparison of the statistics related to all generations betweenness centrality scores in table 6 is also supports the above explanations.

Table 6: Comparison of Statistics Related to Three Generations of Betweenness Centrality

	1 st generation	2 nd generation	3 rd generation
Mean	207.526	350.873	347.349
Standart deviation	2535.702	1941.568	1632.422
Total	39845.000	69122.000	83711.000
Variance	6429787.000	3769686.000	664803.000
Minimum	0.000	0.000	0.000
Maksimum	35123.262	17089.107	15731.238
Network Centrality	96.72%	44.02%	26.93%

For the first and the second generations scores are 96.72% and 44.2%, relatively. This means that brokerage rate is very high in the first generation and is moderate in the second generation networks. So, in the first and second generations, there are many actors exhibit entrepreneurial behaviours and disseminate information. However, third generation betweenness score is low at 26.93%. This means in general brokerage rate is quite low in this network. Therefore, P1 is accepted. Also, establishing relationships through indirect contacts can increase the centrality degree of the board members within organizations, thus P2 is accepted as well.

Brokerage Analysis

For our study, it is also important to determine and analyze the brokers and who has the highest brokerage scores in each generation. In our study, the first generations are the founders of the organizations within the target country, Turkey. As the founders, it is not surprising that they use their relationships and positions as brokers. The situation supports the idea that founders/entrepreneurs who achieve the highest scores of the brokerage in the first generation enjoy the most power among other organizations in the same field. On the other hand, the key findings through the analysis of the second and third generations show that actors as individual brokers change, too.

Table 7: First Generation Brokerage Scores

Nodes	Actors	Size	Pairs	HBIO
1	Vehbi Koç	179.000	15.931.000	189.000
2	Rahmi Koç	19.000	171.000	96.000
5	Sadullah Aktar	17.000	136.000	66.000
6	Hacı Mustafa	17.000	136.000	66.000
173	Can Kırac	11.000	55.000	24.000
86	TÜSİAD	7.000	21.000	8.000

Table 8: Second Generations Brokerage Scores

Nodes	Actors	Size	Pairs	HBIO
171	John McArthur	30.000	435.000	173.000
2	Vehbi Koç	25.000	300.000	163.000
1	Rahmi Koç	66.000	2.145.000	123.000
58	Sakıp Sabancı	49.000	1.176.000	120.000
49	Suna Kırac	20.000	190.000	78.000
3	Mustafa Koç	20.000	190.000	72.000
157	Helmut Maucher	11.000	55.000	43.000
13	TÜSİAD	8.000	28.000	16.000
166	Wayne Booker	7.000	21.000	14.000
51	Erdoğan Gönül	16.000	120.000	13.000
52	İnan Kırac	16.000	120.000	13.000
53	Can Kırac	16.000	120.000	13.000

Table 9: Third Generations Brokerage Scores

Nodes	Actors	Size	Pairs	HBIO
222	Peter Sutherland	29.000	406.000	124.000
182	Alessandro Prufomo	16.000	120.000	110.000
1	Sakıp Sabancı	27.000	351.000	86.000
140	Helmut Maucher	9.000	36.000	34.000
201	Sanford Weill	25.000	300.000	31.000
149	Wayne Booker	8.000	28.000	25.000
35	TÜSİAD	6.000	15.000	5.000
197	Dieter Urban	6.000	15.000	5.000
199	Heinrich von Pierer	6.000	15.000	5.000
71	Bilderberg	4.000	6.000	3.000
171	John McArthur	3.000	3.000	3.000

According to Tables 7 through 9, in the first generations, the brokers are the actual owners, e.i. entrepreneurs. This finding is also consistent with the idea by Fligstein (2001), who states that entrepreneurs not only initiate creative and visionary new practices but also allow other actors to cooperate. Especially, to be successful in their efforts, partnerships and cooperations that they develop are very important. Therefore, the highest brokerage scores belong to the owners/entrepreneurs in the first generation, where they have the power in the field. According to the brokerage scores, the intergenerational change of owners increases the number of broker actors in the network, and also board members play important brokerage roles in the third generation, compared to the first and second ones. Thus, P2 and P4 are accepted.

DISCUSSION AND CONCLUSION

This study was conducted to examine the change of owners' social ties from the entrepreneur to second and third generations in some family-owned businesses in Turkey. The results support the main propositions and the objective of this study, revealing that intergenerational changes can have an impact on the characteristics of inter-organizational network structures. Also, the intergenerational transfer of firm ownership reduces strong relations and increases the number of brokers in network relations at the inter-organizational level. Also, intergenerational transfer of firm ownership increases both the ratio of the positioning of the members of the board of directors at the center in the network as well as the ratio of brokerage. The major findings support the ideas of Gulati and Gargiulo (1999) and Ahuja *et al.*, (2012) stating that cohesiveness of the organizations may be altered through newly added relations within the network.

When delving into details, it is obvious that entrepreneurs have mostly strong ties, especially at the establishment phase of the organizations. This supports the idea of closed networks and increasing trust relationships in them (Hite and Hesterly, 2001; Gulati and Gargiulo, 1999). The results also support that in the first generations, closure and strong ties result in decreasing external connections, instead of increasing the importance of structural holes and brokers in the following generations. Thus, as the second and third generations following the first generation change, the previously established embedded relations also change towards arms-length ones in the second and, then, a brokerage in the third generation (Leick and Gretzinger, 2018). These new connections build on the existing ones, indicating path-dependent change (Zaheer and Soda, 2009). At the same time, through generational change the composition of the board of directors shifts from personal ties towards elite actors with powerful connections. These actors are positioned at the center of the network.

As a developing field, it is possible to recommend some research questions for future studies. First of all, there is very limited research on the effects of actors in the studies on change. However, the actors' assumption of acting roles in the exchange of networks may be effective in addressing the issues of change through the influence of internal dynamics. Another research question that may be addressed in future research may be

the examination of how radical or gradual change of network arrangements can take place. There are some limitations to this study. To begin with, the research related to network change and evolution is still a developing field. The data collection and analysis processes may also be restricted since, instead of face-to-face interviews or questionnaires, secondary data has been collected. As mentioned at the end of the introduction, the present work provides a satisfactory look inside the evolution of network structures and, more specifically, the positions of the actors with regards to the change of owners' social ties in the case of developing country – Turkey. At this point, it should be stated that since there are not many studies related to a network change within the existing literature, the present paper can be improved upon other upcoming studies in the stated field.

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