UNDERSTANDING VARIATION IN THE ADOPTION OF AN UNCONVENTIONAL PRACTICE: THE DIFFUSION OF ENGLISH-MEDIUM INSTRUCTION IN THE TURKISH HIGHER EDUCATION FIELD

by

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Submitted to the Graduate School of Social Sciences
in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy

Sabancı University
January 2016

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DATE OF APPROVAL: 23.12.2015

ABSTRACT

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Ph.D. Dissertation, January 2016

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Keywords: diffusion, practice variation, institutional theory, imprinting, Turkish higher education

Increasing evidence shows that both the content and extent of diffusing practices may vary across organizations and over time. Although there have been recent efforts towards identifying the organizational and field-level determinants of this variation, the emergence of practice variation is considered as an essential aspect of the implementation process. Yet, the determinants of implementation likely to be different than those of adoption. Current study contributes to the diffusion literature by identifying the institutional, competitive and organizational factors that may explain variation in the extent to which a diffusing practice is adopted by the members of an organizational field.

Focusing on the diffusion of English-medium instruction in the Turkish higher education field, the study finds considerable support for the proposed mechanisms. Study hypotheses are tested through analyses conducted by using multilevel (mixed effect) models. The findings overall suggest that institutional processes lead to heterogeneity in the acceptance of a diffusing practice across the members of an organizational field, which is an important yet neglected determinant of practice variation in diffusion processes. Variation in the extent of adoption is also shaped through competitive interactions among similar organizations and the degree to which organizational resources are compatible with the diffusing practice.

ÖZET

GELENEKLERE UYMAYAN BİR PRATİĞİN BENİMSENMESİNDEKİ FARKLILAŞMANIN İNCELENMESİ: İNGİLİZCE EĞİTİMİN TÜRKİYE'DEKİ YÜKSEKÖĞRETİM ALANINDA YAYILIMI

AYŞE BAŞAK TOPALER

Doktora Tezi, Ocak 2016

Tez Danışmanı: Prof. Dr. Behlül Üsdiken

Anahtar Kelimeler: örgütsel pratiklerin yayılımı, örgütsel pratiklerin farklılaşması, kurumsal kuram, damga etkisi, Türkiye'de yükseköğretim

Örgütsel alanda yayılan pratiklerin uygulanma biçimi ve düzeyinin örgütler arasında ve zaman boyunca farklılık gösterdiğine ilişkin bulgular artmaktadır. Bu farklılığın örgütsel düzeyde ve alan düzeyinde belirleyicilerini ortaya koymaya yönelik son dönemli çalışmalar esasen pratiğin örgüt içerisinde uygulanma sürecine odaklanmaktadır. Öte yandan, örgütsel bir pratiğin uygulanmasına (tatbik edilmesi) ilişkin belirleyicilerin pratiğin benimsenmesine ilişkin belirleyicilerden farklılık göstermesi beklenir. Bu çalışmada örgütsel alanda yayılım gösteren pratiklerin örgütler tarafından farklı düzeyde benimsenmesini açıklayıcı kurumsal, rekabete dayalı ve örgütsel etmenler önerilmektedir.

Çalışmada önerilen mekanizmalar İngilizce eğitimin Türkiye'deki yükseköğretim alanında yayılımı üzerine yapılan ampirik incelemede büyük ölçüde destek görmüştür. Analiz yöntemi olarak çok düzeyli modelleme kullanılmıştır. Bulgular, kurumsal süreçlerin örgütsel alanda yayılım gösteren bir pratiğin örgütler tarafından farklı düzeyde kabul görmesinde önemli bir rol oynadığına işaret etmektedir. Pratiğin örgütler tarafından benimsenme düzeyini belirleyen diğer etmenler ise benzer koşullara sahip örgütler arasındaki rekabetçi etkileşimler ve örgütlerin sahip olduğu kaynakların pratiğin gerekleri ile örtüşme düzeyidir.

To my family,

ACKNOWLEDGEMENTS

I want to express my deepest gratitude to my advisor Behlül Üsdiken for his continuous support and guidance, not only in the dissertation stage, but since the day I started the Ph.D. program. Beyond being a role model as a professor and a passionate researcher, he is a perfect person, always tactful and considerate. No matter how busy he was, he was attentive to my endless questions and made me feel that my studies had the precedence. I really appreciate his feedback and patience in helping me develop academically, and feel fortunate to meet him at this very early stage of my career.

Besides my advisor, I would like to express my sincere gratitude to Özgecan Koçak, not least due to being my second advisor. I appreciate her always useful foresights and generosity in sharing her immense knowledge in a very wide array of subjects. She was always open to conversation and provided very constructive feedback that helped me develop my arguments and research methodology.

I would also like to thank my committee members Abdurrahman Aydemir, Çetin Önder and Umut Koç for their valuable comments and suggestions. Special thanks to Mahmut Bayazıt, who also provided me important insights on methodology.

I further want to express my sincere thanks to other academic and administrative staff of the School of Management for providing me support during my graduate studies.

My family and my dearest spouse Suat have been my biggest supporters during this long process. I am grateful for their everlasting encouragement and motivation. I should also mention my little son Ege Ali, who enliven my life and gives me vitality with his presence.

Last but not the least, I want to thank my friends in the Ph.D. program. We have lots of good memories and supported each other in difficult times.

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LIST OF ABBREVIATIONS

ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
DP	Democrat Party
ICC	Intra-class correlation
METU	Middle East Technical University
ML	Maximum likelihood
OLS	Ordinary Least Squares
ÖSS	Student Selection Examination
ÖSYM	Student Selection and Placement Center
REML	Restricted maximum likelihood
SD	Standard deviation
SE	Standard error
TED	Turkish Education Association
TUİK	Turkish Statistical Institute
US	United States
YÖK	Higher Education Council

1.

INTRODUCTION

In this chapter I begin by setting out the motivation behind the study that constitutes the basis of the dissertation. In the following sections, I first provide a brief description of the context of this research. Next, I state my research propositions and give an outline for the rest of the dissertation.

1.1. Motivation for the Study

The diffusion of organizational practices has been an attractive topic examined from both economic and sociological perspectives in organizational research. Yet, most diffusion stories assume that practices are adopted uncritically and *in toto* (Burns & Wholey, 1993; Strang & Meyer, 1993; Strang & Soule, 1998). Taking a critical stand vis-à-vis this assumption, there have been recent efforts geared towards accounting for how the extent and the content of the diffusing practice may vary across organizations and over time (Ansari, Fiss, & Zajac, 2010).

Practice variation in diffusion has been shown to be related to variation in organizational motivations for adoption (Kennedy & Fiss, 2009; Westphal, Gulati, & Shortell, 1997), organizational ties to institutionally critical actors (Lounsbury, 2001), and perceptions of implementing managers (Dokko & Gaba, 2012). In their theoretical piece, Ansari et al. (2010) conceptualized how such variation may also be associated with the compatibility of organizational characteristics with those of the diffusing practice.

Despite this growing interest in variation, the aforementioned studies have mainly focused on variation in the implementation of the diffusing practice following adoption

by organizations. Recent studies that draw a clear theoretical and empirical distinction between the decision to adopt and the decision to implement (Gondo & Amis, 2013; Chandler, 2015) suggest that the determinants of 'variation in adoption' may be different from those identified for implementation.

Further, recent advances towards conceptualizing institutional environments not necessarily as uniform but rather as multiple and fragmented has directed attention to the impact of such contexts on organizational and practice variety (Lounsbury, 2001; 2007). As Hambrick et al. (2005) have suggested, variation in the adoption of diffusing practices is likely to be related to the heterogeneity inherent in the institutional environments of organizations.

In this dissertation, I aim to contribute to this expanding literature on variation in the adoption of a diffusing practice. Towards this aim, I focus on the diffusion of an unconventional practice that is in violation of certain institutionalized norms in the organizational field, which provides a richer ground in terms of the forces at play. Extant research increasingly shows that practices and structures may diffuse widely despite violating institutionalized norms and values, or while they are facing persistent objections from certain stakeholders (Fiss & Zajac, 2004; Kraatz & Zajac, 1996; Kraatz, Ventresca, & Deng, 2010; Sanders & Tuschke, 2007). Further, as identified by Fiss, Kennedy, and Davis (2012), the diffusion of contested practices presents an appealing context for understanding practice variation due to population-level and organizational manifestations of the contestation (Schneiberg & Soule, 2005).

The spread of English-medium instruction within the Turkish higher education field provides the empirical context for the study. Since its first introduction to Turkish higher education in the mid-1950s, instruction in English has generated controversy not only in sociopolitical terms, but also with respect to cognitive-pedagogical and educational policy perspectives (Selvi, 2014). Nevertheless, there has been a rapid increase in the English-medium programmes offered by Turkish universities, especially after early 1990s. Yet, the extent of adoption has varied significantly among universities and over time. Despite the importance of the issue and the involvement of various parties including policy makers, academics, students and parents, there is a lack of empirical research with respect to how widespread English-medium instruction has become within Turkish higher education and the mechanisms through which it has diffused. An additional contribution of this dissertation will, therefore be to provide empirical insights into this issue.

1.2. The Context

Language of instruction has been a very long-standing debate in Turkish higher education. The hegemony of Arabic and Persian in the Ottoman educational system had gradually begun to diminish towards the mid-nineteenth century, as the idea of modernization and Westernization led to an increased interest in French and French institutions (Demircan, 1988). In the latter part of the century, there was an increasing expansion of private foreign schools both in the capital of the Empire as well as its other parts (Tozlu, 1991). These schools were at primary and secondary school levels, and the main language of instruction was that of the country where they originated from (see e.g., Kocabaşoğlu, 2000). Some of these have survived to the present day, including highly prominent ones such as Robert College established in 1863, which, as will be discussed in the following chapter, also served as the seedbed for instruction in English in this country at the higher education level (Freely, 2009). Notably, it was towards the end of the same decade that the present day Galatasaray Lycée then entitled as *Mekteb-i Sultani* was established by Imperial initiative to provide secondary education where teaching was to be both in Turkish and French (Tekeli & İlkin, 1993).

A move towards Turkish had also started in the second half of the nineteenth century (Tekeli & İlkin, 1993). Turkish was used as the language of instruction in the newly established public professional schools patterned after French exemplars as well as the Ottoman House of Sciences (*Darülfünun*), which was opened in 1900 after a number of aborted attempts, as the first full-fledged university within the Empire (Dölen, 2009).

Following the downfall of the Ottoman Empire, in the young Turkish Republic, Turkish as the national official language was the target of all language and educational planning (Doğançay-Aktuna, 1998), and it was the medium of instruction in all public schools (Karahan, 2005). The secondary level foreign schools did persist however, as their survival was guaranteed by the Lausanne Treaty with teaching as a mixture of Turkish and their indigenous languages. So did the Galatasaray Lycée in the same manner. Nevertheless, this period witnessed the increasing dominance of Turkish compared to Ottoman language and Western languages, and increasing importance of Turkish as a language of science, politics and literature (Ahmad, 1995).

With the University Reform in 1933, Darülfünun was reconfigured under the

name of İstanbul University and continued Turkish-medium instruction. This was despite the employment of a sizeable number of foreign (mainly German) professors fleeing from the Nazi regime. They did their teaching through translators and their contracts stipulated that they should be learning Turkish to be able to teach in this language (Dölen, 2009). Notably though, there had always been great attention to teaching Western languages to university students as well, which is likely to have been motivated by the Westernization and modernization project that characterized even more strongly the young Republic (Dölen, 2009).

The origins of İstanbul University were in an imported version of the Continental European 'classical' university model, comprising faculties of sciences, letters, theology, law and medicine (Dölen, 2009; Gürüz, 1994). Established in 1944, İstanbul Technical University became the second university of the Republic. Although initially inspired by the French *grandes écoles,* it had then become modeled after the German *Technische Hochschule* model in the late 1920s (Tekeli, 2010; Uluçay & Karatekin, 1958). The number of universities increased to three in 1946 when Ankara University was created as a replica of İstanbul University.

The first university law enacted in 1946 provided extensive autonomy to these initial three universities within the Turkish higher education field. Together with the perceived higher status of university compared to various professional schools in the field endorsed with the new law (Tekeli, 2010), İstanbul University, İstanbul Technical University and Ankara University constituted the center of the higher education field (Üsdiken, Topaler, & Koçak, 2013).

Increasing economic and military power of the United States (US) in the aftermath of World War II, and the economic and political rapprochement between Turkey and the US, enhanced the American influence as well as the spread of English in the country (Doğançay-Aktuna, 1998; Üsdiken, 2011). The establishment of Middle East Technical University (METU) in 1956 not only introduced the 'American' university model into the Turkish higher education field, but also became the first instance of English-medium instruction in higher education. Following this, Robert College obtained a governmental license to open a higher education branch in 1957, called *Robert Kolej Yüksek Okulu*, admitting its first cohort of students in 1959 (İlkin, 1972). It was converted into a Turkish public university in 1971 under the name Boğaziçi University (Freely, 2009). The new university maintained to a very large degree the traditions and practices of its predecessor, including instruction in English

(Ergüder, 2015). These two American-modeled universities have since their founding been characterized by a narrow range of professional faculties (architecture, engineering and business) together with a faculty of arts and sciences. They have also been distinct with respect to their academic structures, such as having departments rather than chairs as it was in the older universities inspired by Continental European universities (Öncü, 1993).

Turkish higher education underwent a major regime change in the early 1980s. Foreign language-medium instruction in universities was for the first time formally regulated under this new institutional and legal framework, in 1984. Accordingly, universities were given leeway to adopt the practice with the permission of the Higher Education Council. Yet, there have been ongoing changes in this framework (for further details see Table 2.1).

The new higher education law was also constitutive of the private university, which could only be established by non-profit foundations and could not be for-profit. Although subject to the same higher education law in the country as public universities, private universities represent a distinct sub-population as they are governed by lay boards, their main source of revenue is the tuitions they charge, and their employment relationship with faculty members and administrative staff is not one of civil service but of a contractual nature (Topaler et al., 2015).

Public and private universities as organizational sub-populations within Turkish higher education field have differing founding conditions and early formations with respect to language of instruction as well. The early public universities were born to an environment where instruction in Turkish was the only legitimate option under the influence of the new Republic's nation-building project. Although teaching foreign languages had been an important element of Turkish higher education from the very beginning, instruction had predominantly been in Turkish. Except the two, above mentioned, American-modeled universities that pioneered English-medium instruction in this field, a vast majority of public universities have been committed to instruction in Turkish for a long period of time.

Private universities, on the other hand, followed a quite different pattern. The early examples of the sub-population were established in the mid-1980s and early 1990s. There was in that particular context, first and foremost, the highly visible attractiveness of Boğaziçi University and the Middle East Technical University to students aspiring to enter the university. This period also corresponds to Turkey's

encounter with neoliberal policies, and the early steps towards greater integration into the global economy. A wider interest in English emerged in this period as it served the linguistic infrastructure for international business, science and technology (Demircan, 1988). In this kind of a context, the very first examples of private universities (i.e. Bilkent and Koç University) became the initial followers of METU and Boğaziçi University, and adopted English-medium instruction in all of their programs.

Despite the increasing diffusion of English-medium instruction especially after early 1990s, there is significant variation in the extent of adoption both among universities, and even across the programs of a particular university. Moreover, instruction in foreign language continues to be a somewhat controversial issue in the Turkish higher education field, which is also evident from the continuous changes in the related regulations (Table 2.1). Foreign language-medium instruction has also almost always been in English, instruction in other foreign languages is very limited within the Turkish higher education field. As of 2014, only four universities adopted (entirely or in part) instruction in German or French.

1.3. Theoretical Framework

As mentioned at the beginning, some recent research has been critical of the neo-institutional assumption that equates increasing diffusion of a practice with its cultural acceptance and taken for grantedness (DiMaggio & Powell, 1983; Scott, 2001). These studies suggest that widespread diffusion does not suggest uniform acceptance throughout the field (Kraatz, Ventresca, & Deng, 2010; Fiss, Kennedy, & Davis, 2012). Indeed, practice variation in diffusion processes seems to be the rule rather than the exception (Ansari, Fiss, & Zajac, 2010). The theoretical framework I propose builds on this core idea that diffusion incorporates variation during adoption. That I deal with a practice that was clearly unconventional at least at the outset further justifies the examination of adoption in varying forms. The theoretical frame I develop incorporates three sets of factors, namely, (a) institutional influences, (b) the effects of competitive processes and (c) organizational characteristics.

The initial institutional argument relates to the imprinting of institutional conditions at the time of founding on organizational practices (Johnson, 2007; Marquis

& Huang, 2010). Here, I consider temporal changes in the cognitive and normative institutional framework regarding the practice and the resulting imprints on organizations founded in these periods.

Second, I consider the potential heterogeneity in the institutional environments of organizations (Hambrick et al. 2005; Lounsbury, 2001, 2007), and propose the existence of alternative organizational models in the field as a further source of diversity (Schneiberg & Clemens, 2006). More specifically, I argue that variations in the extent of adoption will be shaped by emulation processes towards alternative organizational models with associated templates on the practice in question.

Research suggests that templates previously adopted by highly visible organizations or highly successful counterparts would provide references for emulation (Hambrick et al. 2005; Heugens & Lander, 2009). As mentioned in the previous section, there have been two rather distinct university models that have historically existed in the Turkish higher education field. American-modeled universities (METU and Boğaziçi) had been the pioneer adopters of English-medium instruction as well as the unique exemplars of this practice until mid-1980s. On the other hand, Continental European-modeled universities (İstanbul, Ankara and İstanbul Technical) have been strongly dedicated to Turkish as the medium of instruction for a long period of time, with very limited and late-coming adoption.

Further, representatives of both models have been highly prominent, visible universities. The Continental European-modeled universities constituted the center of the higher education field in its early history (Özbay, 1990) and still continues to be highly prestigious in certain major disciplinary areas such as medicine and law. American-modeled universities, on the other hand, gained increasing prestige and moved to the center of the higher education field starting from the early 1970s mainly in the disciplines in which they had faculties; most notably, in engineering, sciences, business and economics. Thus, both models represent a reference point for other universities in the field. Universities that identify with either model will be likely to feel more sympathetic for their associated templates.

At this point, I also propose a moderating influence of differential imprinting processes experienced by organizational sub-populations in the field. Extant thinking suggests that organizational collectives bear the imprints of their founding environment, including the stamp of economic, technological, and institutional conditions (Marquis & Tilcsik, 2013). It has been argued that founding environmental conditions serve as

constraints for early entrants of the collective, and the patterns that are established at that time are then perpetuated by subsequent organizations' emulation of the collective's older members (Stinchcombe, 1965). Due to these imprinting processes at the level of organizational collectives, the above stated founding conditions and early examples of public and private universities are likely to have shaped these sub-populations' practice norms regarding language of instruction such that private universities have a threshold level of conceivability for English-medium instruction. Accordingly, I expect the strength of the modelling influences mentioned above to be different for these sub-populations.

Next, I consider the influence of competitive processes in the local environment on the extent to which universities adopt English-medium instruction. As mentioned in the previous section, English-medium has been increasingly perceived as a higher-status practice. Thus, it is likely to be adopted with the motivation for attaining social and/or economic gains (Kennedy & Fiss, 2009). In this context, both competitive mimicry (Lieberman & Asaba, 2006) and differentiation in response to increased competitive intensity (Hannan & Freeman, 1977) may be influential and lead to variation in the extent to which this particular practice is adopted.

Finally, I propose that heterogeneity in the extent to which organizations are compatible with the diffusing practice will lead to variation in the extent of adoption. Existing research suggests that organizations are concerned about the availability of required resources for implementation (Compagni, Mele, & Ravasi, 2015). I argue that, higher levels of compatibility between the characteristics of the practice and available resources at the university are likely to foster higher levels of adoption (Kang & Yanadori, 2011; Ansari et al., 2010).

1.4. Dissertation Outline

Chapter 2 introduces the context of the study. The chapter first depicts the diffusion of English and English-medium instruction in the world. I then describe the Turkish case, but this time with a wider lens considering the evolution of the Turkish higher education field, the role of Western languages, and historically existing alternative university models and associated language templates. The chapter concludes

with a description of the institutional framework of English-medium instruction in the Turkish higher education field. I pay special attention to illustrating why English-medium instruction has originally been 'unconventional' in the context of the Turkish higher education field.

Chapter 3 presents the theoretical framework of the study. The first section discusses the related literature on practice variation in diffusion and the central question that is addressed in this the dissertation. Section 3.2 introduces the theoretical model. In the following three sections, the institutional, competitive and organizational processes that are proposed to influence the outcome are discussed, and the study hypotheses are developed.

Chapter 4 describes the methods, models and the estimation procedures used. The use of multilevel modelling methodology is justified and the related background in the methodology is provided.

Chapter 5 presents the findings. The chapter also assesses the robustness of the findings, first removing the sample restriction that is applied in the main analyses. Next, I consider a relaxed operationalization of the dependent variable to see whether it leads to an inconsistency in results.

Finally, Chapter 6 presents a discussion of the significance of the results with respect to hypotheses that were advanced, together with theoretical as well as empirical contributions of the study. The chapter concludes with the limitations and related directions for future research.

2.

ENGLISH AS A MEDIUM OF INSTRUCTION IN TURKISH HIGHER EDUCATION

The first section of this chapter discusses the spread of English and English-medium instruction more broadly in the world. In the second section, I expand on the evolution of the Turkish higher education field with an eye to the issue of learning and teaching of Western languages, and in particular, English. The following sections focus on the emergence and dynamics of English-medium instruction in the context of Turkish higher education field.

2.1. Spread of English and English-medium Instruction in the World

Although in history many other languages served as lingua franca, spread of English has been striking more recently in terms of its geographical reach and depth affecting millions of people (Kachru, 1992; Phillipson, 1992). The spread started with the British colonial expansion in North America, Oceania, West Africa, South Asia, and South America (Fisman, Cooper & Conrad, 1977). In many post-colonial nations, English has continued its spread in an institutionalized form (Kachru, 1992). Especially with the rise of United States (US) in the aftermath of World War II, English gradually became the lingua franca for banking, trade, popular media, science and technology, and as Kachru (1992) puts it has turned into an 'international language'. This led to a second, more global wave, and English began to spread in the non-colonized areas of the world as well.

The presence of English and its effects may vary depending on the context. According to Kachru's (1992) well-known three concentric circles model, speakers of

English can be divided into three distinguishable circles. Members of the 'inner circle', namely the United States, Britain, Canada, Australia and New Zealand, are old variety English-using countries where English is a native language. The 'outer circle' includes those countries where English has a major role in education, governance, literature and popular culture due to its long history and its institutionalized functions. It is thus learned by non-natives as a second language. Members of this second circle represent the institutionalized non-native varieties of the regions of colonization periods, namely Bangladesh, Ghana, India, Kenya, Malaysia, Nigeria, Pakistan, Philippines, Singapore, Sri Lanka, Tanzania, and Zambia. The 'expanding circle' represents those countries where English has come to be used essentially as a foreign language. China, Egypt, Indonesia, Israel, Japan, Korea, Nepal, Saudi Arabia, Taiwan, Russia, Turkey, and those European countries where English is not the native language are included in this category.

The widespread use of English is a sociolinguistic reality in the globalizing world, where international participation in the global economy is blended with discourses about English. Kirkpatrick (2011) suggests that efforts through internationalization often result in 'Englishization'. There appears to be a fast-moving shift from English being taught as a foreign language to English being the medium of instruction for academic subjects.

Global motivations behind the greater value attached to English-language proficiency has influenced local educational practices in many 'expanding circle' countries. In the higher education context, there has been a marked increase in the provision of English-medium courses in Europe starting from the 1990s (Coleman, 2006; Wachter & Maiworm, 2014) and other non-English-speaking countries (Byun et al. 2011; Dearden, 2015).

A recent report by the British Council suggests that English-medium instruction is considered as an obvious way of global competition and, in many countries its teaching is promoted by policy makers, administrators, teachers and parents (Dearden, 2015). In the context of European higher education, the introduction of English-medium programmes seems to be driven by three main factors. The first one is the desire to remove language obstacles for the enrollment of foreign students as well as to improve the international competences of domestic students. A second stated driver is the intention to create 'brain-gain', through attracting future PhD students and international faculty who could contribute to the future work force. Finally, higher education

institutions are also motivated by sharpening of the international profile of the institution, not only for fostering partnerships with institutions from other countries, but also for getting the upper hand in comparison to other institutions in their own country (Wachter & Maiworm, 2014). English-medium instruction is often considered as providing an international image, prestige and reputation to the institution in question (Dearden, 2015).

The same report also states that the practice is more prevalent in private than public education (Dearden, 2015). Part of the reason may be that private education institutions are more sensitive to the above stated market pressures relative to their public counterparts. Given the value attached to English-language proficiency, and English-medium instruction per se, the practice is likely to have been a way of increasing competitiveness.

The growing hegemony of English in the 20th and early 21st century has led to gradually emerging reactions in many countries including post-colonial nations. And various countries have tried to establish language policies that aims to raise the status of local languages in competition relative to English (Crystal, 2003). Arguably, English-medium instruction is likely to be more controversial in those countries of the 'expanding circle', due to the lack of institutionalization processes experienced by previously colonialized nations. Beyond being perceived as a threat to indigenous languages and cultures, pedagogical effectiveness of English-medium instruction is also debated, as the practice is criticized for causing an unproductive educational experience and increasing the cost of education (e.g., Doiz, Lasagabaster, & Sierra, 2011; Vinke, Snippe, & Jochems, 1998).

There may be a myriad of geographical, historical and political conditions, which make each country's adoption of instruction in English different in nature and extent (Dearden, 2015). For instance, although Turkey and Germany are both located in the 'expanding circle' according to Kachru's (1992) model, the spread of English may be different in these two countries. This may be because English carries a deeper interpersonal function in Germany as the language of contact with other European nations and, and with a better education system, enjoys more penetration into many layers of the society (Berns, 1988).

Turkey has never been colonized by foreign powers and was herself the colonial power in the Balkans and the Arab peninsula for 500 years (İnalcık & Quataert, 1994). Therefore, English is not institutionalized as a second language as in the colonial

nations (Doğançay-Aktuna, 1998). It is neither a widely spoken foreign language in which a significant number of citizens have sufficient skills, which is the case in some member countries of the European Union (European Commission, 2006).

In the following, I turn to a brief historical overview of the development of secondary and higher education beginning from the late Ottoman Era to the present day. I focus particularly on the expanding role of instruction in a foreign language, eventually culminating in the dominance of English and the diffusion of English-medium instruction in Turkey.

2.2. The Early Development of Secondary and Higher Education and the Beginnings of Instruction in a Western Language in Turkey

2.2.1. Late Ottoman Empire

2.2.1.1. Educational initiatives and the question of language

The medium of instruction in the Ottoman educational system was Arabic, except in the Enderun[1], where the 'Ottoman Language', a mixture of Arabic, Persian and Turkish prevailed (Akyüz, 2006).

The idea of modernization and Westernization through education has its antecedents in the late eighteenth century. In this very early period, purportedly higher-level military professional schools modeled after the French *grandes ecoles* were established and attached to related government ministries (Gürüz, 2008). Turkish was for the first time used as the language of instruction in the Imperial School of Naval Engineering (*Mühendishane-i Bahri-i Hümayun*), and the Imperial School of Military Engineering (*Mühendishane-i Berri-i Hümayun*) established in 1773 and 1795 respectively (Köksal, 2006). There had been an increased interest in French in this period too, as it was the lingua franca at large of bureaucracy and science in many parts of the world during the eighteenth and nineteenth centuries (Wright, 2006). The teaching of French instead of Arabic and Persian within the Ottoman Empire also started with these military training institutions in the late eighteenth century (Köksal,

[1] The school that trained the various functionaries of the Imperial Palace

2006).

Westernization efforts and the accompanying interest in French institutions and the French language were accentuated starting with the Tanzimat Period (1839-1876). French was included, for example, in the curricula of the Imperial School of Medicine (*Mekteb-i Tıbbiye-i Şahane*) and the Imperial School of Political Science (*Mekteb-i Mülkiye-i Şahane*) around the mid-1800s (Sarıçoban, 2012).

Beginning in the second half of the nineteenth century, a move towards Turkish had also started, especially among bureaucrats and writers (Tekeli & İlkin, 1993). It was in 1870, when the language of instruction at the Imperial School of Medicine had to change from French to Turkish in response to growing reaction to what was seen as an unproductive education experience (Dölen, 2009). Turkish was established as the official language of the Empire in the Ottoman constitution of 1876 (Nielsen, 2012).

Yet, in parallel, the population of private schools of foreign or minority groups started to increase, especially after the Ottoman Reform Edict (*Islahat Fermanı*) of 1856 (Uygun, 2003). These included American, French, German, Italian and British schools, some of which have persisted until the present day (Şişman, 2006). As mentioned in the preceding chapter, particularly notable among these schools has been the American Robert College, which was established in 1863. After it became a secondary school, it also expanded its activities by establishing a technical (engineering) school in 1912 (Sakaoğlu, 2003).

The growth of foreign and missionary education in the mid-nineteenth century served to expand the teaching of and in Western languages. At the same time, they posed a challenge to Ottoman officials. The establishment of Galatasaray School (*Mekteb-i Sultani*, 1868) and İstanbul High School (*İstanbul Erkek Lisesi*, 1884) were direct responses to this situation (Nielsen, 2012). These schools adopted French and German as the medium of instruction, respectively together with Turkish.

2.2.1.2. Early initiatives in higher education

The second half of the nineteenth century was also the period when steps were taken to develop the rudiments of higher education in the country. On the one hand, civilian schools such as in commerce and civil service were established (Üsdiken, 2004). The concomitant attempts to establish a university, though failing in a number of

initial attempts, eventually resulted in the founding of the Ottoman House of Sciences (*Dar'ül-Fünuni Şahane*) in 1900 (Gürüz, 2008). Darülfünun was an imported version of the 'Continental European' university model, comprising faculties of sciences, letters, theology, law and medicine (Dölen, 2009).

Similar to the engineering and medicine schools mentioned above, Darülfünun adopted Turkish as the medium of instruction. In the context of close political and military ties with Germany during the World War I (1914-1918), faculty members from this country were invited and started lecturing at Darülfünun. These foreign professors were employed with five-year contracts, and required to start teaching in Turkish following a one-year period of transition (Dölen, 2009).

2.2.2. Early Decades of the Turkish Republic

2.2.2.1. Turning to Turkish in education

The Turkish Republic was established in 1923 in lieu of the Ottoman Empire. After the proclamation of the new Republic, a series of reforms on national, social, cultural and educational levels were initiated in order to establish an independent and modern nation (Ahmad, 1995). An important landmark was the Law on Unification of Education (*Tevhid-i Tedrisat*, 1924), which closed down all district schools and madrasas, and placed all colleges, foreign language schools and private schools under the control of the Ministry of Education.

The Turkish language reform (1932) aimed to purify Turkish from Arabic and Persian borrowings, and intended to aid the modernization of the language to better meet the needs of a developing nation. It was strongly believed that a distinct national culture could only be achieved by linguistic unity. Turkish, as the national official language, was the target of all language and educational planning (Doğançay-Aktuna, 1998), and it was the medium of instruction in all public schools (Karahan, 2005). There existed broadly based institutional pressures, or norms, in favor of publishing in Turkish. This early period of the new Republic witnessed increasing importance of Turkish as a language of science, politics and literature (Ahmad, 1995). In line with the idea of building the new nation based on Western principles, Turkish state included Western languages, instead of Arabic and Persian, as part of the foreign language

curriculum in the education system (Bear, 1985).

Private schools of foreign or minority groups continued to be an issue in this period. Atatürk and the then prime minister İnönü pioneered the foundation of Turkish Education Association (*Türk Eğitim Derneği* - TED) in 1928. TED aimed to establish qualified schools that provide intensive English education, and to be an alternative to private foreign schools. The first one of these, TED Yenişehir College, was opened in 1931 in Ankara (Uygun, 2003). Together with schools like Galatasaray and İstanbul Erkek dating from the late Ottoman period as well as the American, French, German, British and Italian high schools that continued to exist, instruction in a foreign language, albeit in part and at the secondary education level was becoming legitimized. Indeed, these schools were increasingly perceived as the way to learn a foreign language. While the private foreign schools were more likely to be socially selective due to the tuition that they charged, the public ones were providing access for a larger part of the population in the country.

2.2.2.2. Restructuring higher education and expanding the university

The first major higher education reform of the Turkish Republic had been the 1933 University Reform that reconfigured Darülfünun, under the name of İstanbul University. The reform had been a major turning point in the creation of a full-fledged university (Öncü, 1993). Soon after the inauguration of İstanbul University, Turkish government turned to employing a sizeable number of primarily German professors in exile or fleeing from the Nazi regime. Just as the previous experience with German professors in Darülfünun, professors with longer-term contracts were asked to teach in Turkish following a period of transition. There was a strong commitment to Turkish as the language of instruction, and lectures by foreign professors were translated by assistants (Dölen, 2009). Still, teaching Western languages has been an integral part of higher education, which is evident from the founding of the school of foreign languages immediately after the establishment of the university. Proficiency in foreign languages (especially German, French, English, Italian and Russian) was considered as a requirement for a proper university education and advancement in the profession (Dölen, 2009).

In an effort to expand higher education in the country, İstanbul Technical

University was established in 1944 as the second university of the Turkish Republic (Barblan et al., 2008). As mentioned in the preceding chapter, this university was founded by converting the previously existing engineering school in İstanbul and was patterned after yet another 'Continental European' model, the German *technische hochschule* (Ataünal, 1993).

On the eve of Second World War, again as indicated above, the simultaneous arrival of prominent professors from German universities and their formative influence had shaped İstanbul University as well as scattered faculties in Ankara, which later formed the nucleus of Ankara University founded in 1946. These two universities, that bear the imprints of this German influence in their institutional structures, are also typically referred to as 'classical' universities (Öncü, 1993).

As a response to increasing demand for higher education, there had also been an increase in the number of 'non-university institutions of higher education' in this period, in the form of teacher colleges and technical schools (Gürüz, 2008). The commercial schools also remained outside the university sector (Üsdiken, 2004). In line with the principles of Unity of Education, all higher education institutions were under the control of the Ministry of Education.

The first university law in 1946 brought in a framework that was very much along the lines of the 'Humboldt' university model (Tekeli, 2010), which rest on the idea of organizational autonomy and academic independence from ideological, economic, political or religious influences. Accordingly, Turkish universities were provided extensive autonomy (Gürüz, 2008). Further, there was a perceived higher status of the university compared to non-university institutions of higher education (Tekeli, 2010). In this context, the initial three universities of the higher education field (İstanbul University, İstanbul Technical University and Ankara University) gained a distinguished position and moved to the center of the higher education field (Üsdiken, Topaler, & Koçak, 2013). The non-university institutions, on the other hand, remained under the purview and the supervision of the ministry of education (Tekeli, 2010).

2.3. Instruction in English in Higher Education: The Beginnings

Starting in the early 1950s, there have been significant changes in the political and

economic panorama of Turkey. Increasing economic and military power of US in the aftermath of World War II enhanced the American influence and spurred the spread of English in Turkey, similar to other non-colonized areas of the World. English started to get an edge over German and French, which historically had been the most influential foreign languages in the Turkish context (Doğançay-Aktuna, 1998). More importantly, the second half of the 1950s witnessed the expansion of English-medium instruction in secondary education and its entry into higher education.

It was in 1952 when TED Ankara College started to use English as the medium of instruction in part as in the previously established Galatasaray and İstanbul Erkek as well as the foreign high schools (Demirel, 2004). Beginning from mid-1950s, the so-called Maarif Colleges (later renamed as Anatolian High Schools) were established in various cities in the country, as an expanding public alternative to the private foreign schools. Instruction in these public schools that soon became highly regarded was like their predecessors a mixture of English and Turkish and they provided intensive education in English (Selvi, 2004).

A liberal turn in the economy, new linkages to international markets, and the beginning of US aid with the Democrat Party (DP) government (Öniş, 1992) lent the ideological content of 1950s a markedly different tenor. The DP led governments at the time began to cherish an 'American' model of higher education, an approach facilitated not least by the American technical aid that had begun to flow into the country (Gürüz, 2008; Üsdiken 2011). This reorientation was accompanied by intensions to expand higher education, which resulted in the founding of four new universities between 1955 and 1957, in Trabzon, İzmir, Ankara and Erzurum.

Of the four, Middle East Technical University (METU) established in 1956, differed not only from the others but also the way the Turkish university had come to be shaped in the first three decades of Republican history (Üsdiken et al., 2013). What distinguished this university was that it was patterned after an 'American' model (Barblan et al., 2008; Gürüz, 2008) rather than a Continental European one as its predecessors had been. Unlike the others in the country, its separate charter stipulated lay governance. The university had a contractual employment relationship with faculty members and administrative staff. Further, it was composed of a narrow range of professional faculties (architecture, engineering and business) and a faculty of arts and sciences to serve the former (Reed, 1975).

Middle East Technical University was also distinct as it adopted English as the

medium of instruction, for the first time in the history of the Turkish higher education field. This was initially criticized for being degrading to national honor and even being against the constitution (Payaslıoğlu, 1996). As Payaslıoğlu (1996: 331) notes, 'teaching in English was a political choice' and its adoption can be considered as the sociopolitical legitimation of the practice in the Turkish higher education field (Suchman, 1995). Payaslıoğlu (1996) also points out that the question of instruction in English had turned into an international issue in that there were pressures towards having French, for example, as its language of instruction. Still, the preference for English prevailed and METU became the first public university where teaching began to be carried out almost entirely in English. In the same year (1957) that METU was converted from an 'institute' to a university, one of the the American high schools in İstanbul (Robert College) obtained a governmental license to open a higher education branch akin to a liberal arts college (İlkin, 1972) with English as its' medium of instruction. Robert College was then transformed into a public university in 1971 and kept English as the medium of instruction under the name of Boğaziçi University.

More broadly, growth in the higher education institutions that started in the mid-1950s, with the aim of expanding university outside the metropolitan areas and through the influence of 'populist' government policies (Öncü, 1993), continued in the following two decades. The number of universities increased to nineteen in the late 1970s. This was also when the various commercial and technical schools outside the university were turned into so-called academies, which increasingly emulated the universities that were still enjoying higher status within the higher education field (Gürüz, 2008; Üsdiken et al., 2013).

2.4. The Post-1980s

2.4.1. Changes in the Legal Regime

Following the military coup in 1980, there have been radical changes in the institutional context of Turkish higher education. A major overhaul in legislation governing higher education took place in the early 1980s, with two main aims. The first one was to bring uniformity into the higher education field, which was then composed

of universities together with a non-university sector including vocational schools, teacher colleges (*Eğitim Enstitüleri*) and the so-called academies (Barblan et al., 2008).

The second aim was to bring in a centralized governance regime. The Council of Higher Education (*Yükseköğretim Kurulu* - YÖK) was established as a constitutional body in charge of the planning, coordination and governance of all higher education institutions. The dismantling of the universities' corporate autonomy proceeded concomitantly with the installation of centralized controls. Immediately after its establishment in 1981, YÖK prepared prototype organization charts, and developed detailed procedural regulations to ensure standardization (Öncü, 1993). Most indicative of the strict governance was that a governmental decree in 1982 specified one by one what faculties and graduate institutes each university will have and any academies and/or vocational schools that will be incorporated into them.

2.4.2. The Creation of 'Foundation' Universities

The new higher education law also brought about another major change that was to have major ramifications with respect to the structuring of the higher education field in the country, as well as the trajectory in the diffusion of English-medium instruction in the years to come. The new legal regime enabled the founding of private universities by foundations. Although, these universities could not be for-profit, as pointed out in the previous chapter, they were private with respect to their governance, major funding sources, and the employment relations with their faculty. The creation of the private (or the so-called foundation) university was a radical alteration in the prior trajectory of the development of higher education in the country, which had until then been viewed as a public good. The only exception in this history was the emergence of 'private higher schools' (*özel yüksek okullar*) in 1962 in professional disciplines such as commerce, engineering, dentistry and pharmacy. Run by private corporations, these schools had seen fast expansion their total number reaching around 40 in the late 1960s (Tekeli, 2010). Eventually, however, they had to be closed down in 1971 after a Constitutional Court ruling that profit-oriented private higher education was against the Constitution.

The grounds of their establishment and the ways in which private universities

needed to be structured and governed was formulated by a law in 1983[2]. Subject to the same higher education law in the country as public universities, they were also to be founded by a parliamentary act and required governmental approval for establishing new faculties.

The very first private university in the Turkish higher education field, Bilkent, was established in 1984. Soon after its establishment, a controversy arose around whether what foundations established could be called universities. The statement in the constitution was that charitable foundations could establish 'private institutions of higher education' rather than 'private universities' (Barblan et al., 2008).

Yet, towards the end of the 1980s, university reform had once again arrived on the national agenda. With limited investment in human and material resources in the public university system due to the fiscal problems of the state during the decade, the limits of further expansion were reached. The issue of privatization in higher education was brought into the foreground as a solution to the need for 'excellence' particularly in scientific and technological fields (Öncü, 1993).

In line with these emergent tendencies, the issue with Bilkent was finally resolved in 1992 when the Constitutional Court decided that private universities had to have public corporate status, and, therefore, that they had to be founded by individual acts of Parliament, not by decisions of YÖK (Barblan et al., 2008). In the same year, a parliamentary act (no. 3785) officially registered the establishment of the first three private universities in Turkish higher education, namely Bilkent, Koç and Kadir Has[3]. The passage of this act can be considered as the sociopolitical legitimation of the private university in the Turkish higher education field. Twenty-one new private universities were established in the following one-decade period (Tekeli, 2010).

2.5. Alternative University Models and Associated Language Templates

2.5.1. The Emergence of Alternative Models

As succinctly phrased by Öncü (1993: 144-145):

[2] Law No. 2880; available from http://www.resmigazete.gov.tr/default.aspx#
[3] Kadir Has University could not start operating until it was refounded by a new law in 1997 (no. 4263).

> ‘Academic reforms in the Turkish context have all been legitimized on the basis of ‘Western models’, and the political choices have been formulated in the language of alternative ‘Western models’. … Depending upon Turkey’s shifting political alignments, different Western university models have been directly influential – beginning during the First World War, with the German model followed in the 1950s by the American model. Such direct influence has been channeled through students sent abroad, foreign academics invited to teach in Turkish universities as well as selective adoption of institutional arrangements from different countries. … Hence the construction and reconstruction of an ideal Western-type university has been a continuous part of the discourse of academic reform throughout the Republican era.’

As mentioned in the previous sections, the initial three universities of the Turkish higher education field were configured based on the ‘Continental European’ university model (Gürüz, 1994), and characterized by the faculties of ‘classical’ or ‘technical’ European tradition. In a taken-for-granted manner they all adopted Turkish as the medium of instruction. The ‘American’ model, on the other hand, was introduced, as mentioned above, in the mid-1950s with the founding of the Middle East Technical University. Again as pointed out, this was followed by the American Robert College, which was also turned into a public university in 1971 following the Constitutional Court ruling referred to above. Both of these universities were composed of a narrower range of professional faculties. In terms of faculty composition, therefore, they were unlike both versions of the Continental European-based preexisting universities in the country. And particularly significant with respect to the central concerns of this study, both adopted English-medium instruction, encouraged and facilitated by the political and economic context at the time of their founding.

In broad terms, the legal framework brought in by the post-1981 military regime represented a disengagement from the ‘Continental European’ model and the endorsement of the ‘American’ model (Gürüz, 1994; Öncü, 1993). Yet, the architects of the new regime were constrained by the historical legacy of the field with respect to both the different models that it embodied, and the status that old and well-established universities had accrued (Tekeli, 2010). Both the Continental European- and the American-modeled universities preserved their faculty composition to a great extent, despite direct interventions of YÖK both in the initial steps towards the re-structuration of the higher education field as well as in later stages (Topaler et al., 2015).

Again as mentioned above, Continental European-modeled universities were distinguished in the pre-1981 history of the Turkish higher education field (before the

YÖK regime), both with their historical heritage, the autonomy granted to them and the status they enjoyed by being located in the two major cities of the country. As Özbay (1990) has argued, there was a well-established distinction between what were considered as developed universities (such as İstanbul University, Ankara University, İstanbul Technical University, and Hacettepe University) and the other universities. The former ones were expected to be influential at the national level and assume the role of developing or underdeveloped universities (e.g. Atatürk University, Karadeniz Technical University, and Ege University). The latter ones were expected to develop under the patronage of the developed universities and serve the needs of a particular region in which they were established (see also Şengül, 2014).

The emergence of the 'American' model, and the rising prestige of METU (Gürüz, 2008) and Boğaziçi University (Ergüder, 2015) however, seem to have led to shifts in the status order. This is evident from high selectivity enjoyed by these two universities starting from mid-1970s in the disciplinary areas in which they had faculties. The related evidence is provided in Appendix A. Starting from 1974, universities in the Turkish higher education field have accepted students through a centralized university examination (ÖSS) administered by the Student Selection and Placement Center (ÖSYM). Entrance scores in ÖSS provides a reliable data for comparing universities in terms of selectivity. Appendix A presents the minimum entrance scores, between the years 1974 and 1984[4], for all Turkish universities that were established up to 1974. I made a comparison for the selected three disciplines (i.e. chemical engineering, business administration, and mathematics) that most commonly exist across these universities. The associated rankings show that Boğaziçi University had been the most selective university across all three disciplines that I chose for comparison. Though METU moves between the 2nd and the 6th ranks depending on the discipline and the year, it settles on the second rank towards the mid-1980s.

As stated above, the comparison in Appendix A is based on a set of common disciplines across these universities. It does indicate however that by the mid-1980s the two American modeled universities had gained superiority in student recruitment in professional disciplines such as engineering and business. That they have come to enjoy and maintain these positions has, it has been argued, due not least to English-medium instruction (see e.g., Ergüder, 2015). Notably though, in disciplines in which the two

[4] Archival data for the years 1980 and 1981 are not available.

American-modeled universities had no faculties, such as medicine, law and some of the engineering domains, the Continental European-modeled universities (İstanbul, Ankara and İstanbul Technical in particular) have continued to maintain their leading positions.

2.5.2. Early Dispositions in Public and Private University Sub-populations with regard to Language of Instruction

The 1980s corresponds to Turkey's encounter with neoliberal policies and Washington consensus that suggested the privatization of critical sectors in the economy (Öniş, 2011). The country started to become more integrated into the global economy, and the need to progress in technology and to improve trade relations intensified. In this context, a wider interest in English emerged as it served the linguistic infrastructure for international business, science and technology. Proficiency in English has increasingly been perceived as essential for a successful career in virtually any field, which reinforced societal demand for the learning and teaching of foreign languages, particularly English and especially in the urban areas of the country (Doğançay-Aktuna, 1998). Moreover, as indicated above, the high prestige enjoyed by the two pioneer adopters of English-medium instruction has been often attributed to this distinctive characteristic (Ergüder, 2015; Kurdaş, 2004; Mızıkacı, 2010; Özbay, 1990).

In this kind of a context, the very first examples of private universities (i.e. Bilkent and Koç University) became the initial full-fledged followers of METU and Boğaziçi University, and adopted English-medium instruction in all of their programs. This initial pattern likely to have spurred further association between private universities and English-medium instruction. The Association of Private Universities (VÜB), for instance, emphasizes in its web site foreign language-medium instruction as a distinguishing characteristic of private universities[5].

Public universities, on the other hand, might be more sensitive to the co-existing normative pressures towards teaching not in a foreign but in the native language. Especially early public universities were born to an environment where instruction in Turkish was the only legitimate, indeed thinkable, option, due not least to the strong influence of the nation-building movement of the new Republic. As noted above, the early universities inspired by the 'Continental European' model were characterized by

[5] "Neden vakıf üniversitesi?" Vakıf Üniversiteleri Birliği (VÜB) web site. June 2015

Turkish as the medium of instruction and they have been dedicated to instruction in Turkish for a long period of time. Especially İstanbul Technical University has been a strong advocate of instruction in Turkish and provided significant efforts towards producing and using Turkish translations of many technical words (Özdemir, 1992; Sarıtosun, 1994). Recent move towards more extensive use of English-medium instruction throughout this university found sharp reactions[6] from various parties including faculty members and graduates. Accordingly, even the university rector felt the need to make a statement[7] on the issue.

2.6. Institutional Framework of English-medium Instruction

The governance of instruction in a foreign language has gone through a number of phases after the change in the legal regime in the early 1980s. English had previously become a defining characteristic of an elite or privileged class of universities in Turkey (Dearden, 2015; Selvi, 2014). In the pre-1980 context of Turkish higher education, a few universities whose medium of instruction was English were expected to produce the growing managerial and technocratic class (Ahmad, 1995; Özbay 1990). The practice, introduced to the field with METU and Boğaziçi University, was not replicated until mid-1980s, and diffusion in this full form (across all programs of the university) came only after the early 1990s.

The new institutional regime that was set up in the early 1980s stipulated no explicit rule on language of instruction, and in this way implicitly accepted the status quo in the Turkish higher education field. Yet, the law on foreign language education enacted in 1983 states that higher education institutions that will adopt foreign language-medium instruction will be determined by the Higher Education Council (YÖK).

The principles of foreign language education and foreign language-medium instruction in higher education institutions were, for the first time, regulated in 1984. Accordingly, universities were given leeway to adopt foreign language-medium instruction with the permission of the Higher Education Council (see Table 2.1). Yet,

[6] "İTÜ' de İngilizce eğitime geçiş kararı tepkilere yol açtı" Milliyet Blog.April 2009.

[7] Şahin, M. "İTÜ'de %100 İngilizce programına geçiş. İTÜ web site. June 2009.

the idea of a distinguished group of universities in the Turkish higher education field (Özbay, 1990) appears to have continued to be influential in the distribution of foreign language-medium instruction across universities in the so-called 'Doğramacı period'.

An indicator of the ongoing conception of instruction in foreign language as a characteristic of a privileged class of universities within the field is the YÖK regulation that was put into effect in 1994. With this regulation, the use of foreign language-medium instruction in undergraduate studies was restricted only to those five universities that had at the time of their founding started out with this practice, namely METU, Boğaziçi, Bilkent, Koç and Galatasaray University[8]. Remaining universities were allowed to do their graduate teaching in a foreign language, subject however to approval by YÖK.

The attempt to restrict foreign language-medium instruction to a privileged class of universities in the field in 1994 found serious reactions from various parties including students and academics[9]. A reinstatement came only after two years, in 1996 which liberated the adoption of foreign language-medium instruction in some or all programs of a university. This relaxation was the beginning of a more liberal period that continued for more than a decade, until the enactment of a new regulation in 2008[10].

YÖK's 2008 regulation provided a more detailed framework regarding various forms in which foreign language-medium instruction could be implemented in a program, as well as the corresponding conditions for implementation[11]. Equally notably, the regulation, for the first time, stated that the quality of foreign language-medium instruction will be monitored[12], and that YÖK has the right to terminate foreign language-medium instruction in a program based on this evaluation. Although such a termination has not come out publicly[13] yet, this particular clause can be viewed as a preemptive step on the part of those governing higher education towards limiting the spread of teaching in a foreign language.

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[8] Galatasaray Education and Training Institution was established in 1992 following a bilateral agreement between Turkey and France signed in 1992, and adopted French as the medium of instruction. The institution was transformed into a university with an Act (no. 3993) published in the Official Gazette on June 6th, 1994 (issue. 21952), and received the name of Galatasaray University as a state university in accordance with its legal status.

[9] "YÖK kararına tepki yağıyor" Milliyet Eğitim. 02.10.1994

[10] A previous YÖK member that I interviewed stated that liberalization actually started after Kemal Gürüz's presidency, starting from 2004.

[11] The next regulation in 2009 includes some minor changes and states the conditions for foreign language-medium instruction which was omitted in the 2008 regulation (see Table 2.1)

[12] "Yabancı dil eğitimi denetlenecek". Milliyet Eğitim. 04.12.2008

[13] The interviewed YÖK member also stated that there is an increased YÖK monitoring especially after 2010, and there have been some terminations in universities outside the big cities.

Table 2.1 Regulations regarding instruction in foreign language in Turkish higher education institutions

	1984 (regulation)	1994 (regulation)	1996 (regulation)	2008 (regulation)
Scope of foreign language-medium instruction	Foreign language-medium instruction can be adopted in higher education institutions (partially or fully) with the permission of the Higher Education Council.	Foreign language-medium instruction can continue in those programs that are instructed in a foreign language since their establishment as well as in five universities (METU, Bogazici, Bilkent, Koc and Galatasaray) provided that they increase focus on graduate education.	Foreign language-medium instruction can be adopted in some or all graduate and undergraduate programs of an higher education institution (partially or fully) with the permission of the Higher Education Council.	Foreign language-medium instruction can be adopted in some or all graduate and undergraduate programs of higher education institutions with the permission of the Higher Education Council. Those programs that adopt Turkish-medium instruction may also provide selective courses instructed in a foreign language (i.e. marginal adoption of foreign language-medium instruction). *Revision in 2009*: In programs where course are instructed in Turkish together with a foreign language (i.e. partially in foreign language) at least 30% of the total credits should be instructed in that foreign language

Table 2.1 (cont'd)

	1984 (regulation)	1994 (regulation)	1996 (regulation)	2008 (regulation)
Necessary conditions for foreign language-medium instruction	The university should ensure that: 1) Instructors have the qualifications determined by the Inter-University Board (*Üniversitelerarası Kurul*-ÜAK), 2) the required material for foreign language education is present and readily available for students' use	The university should ensure that 1) there is a proper foreign language preparatory program, 2) The instructors of partial or full foreign language instruction programs satisfy one of the following conditions: a) graduated from a foreign university where the foreign language is native, b) has an undergraduate or graduate degree from a Turkish university which has full instruction in that foreign language, c) certificated from either one of German, American, French or British Culture or the Foreign Language Examination for Civil Servants, 3) the required material for foreign language instruction in either central library or faculty libraries, 4) other requirements of YOK	The university should ensure that 1) there is a proper foreign language preparatory program, 2) The instructors of partial or full foreign language instruction programs satisfy one of the following conditions: a) graduated from a foreign university b) has an undergraduate or graduate degree from a Turkish university which has full instruction in that language c) certificated from an international language proficiency test d) min 90% success in the Foreign Language Examination for Civil Servants e) minimum 2 semesters experience in a higher education institution with foreign language instruction, 3) the required material for foreign language instruction in either central library or faculty libraries, 4) other requirements of YÖK.	- *Revision in 2009*: Instructors should satisfy one of the following conditions: 1) be a native speaker of that language, 2) graduated from a foreign university or a Turkish university which has full instruction in that language, 3) 80% success in one of the listed foreign language proficiency tests

Table 2.1 (cont'd)

	1984 (regulation)	1994 (regulation)	1996 (regulation)	2008 (regulation)
Aim of foreign language-medium instruction	Giving the ability to follow scientific and technologic developments as well as publications in that foreign language, and the ability to make contributions to international meetings and discussions	-	-	-
Monitoring of foreign language-medium instruction	-	-	-	The quality of foreign language-medium instruction is monitored by YÖK. YÖK has the right to terminate foreign language medium-instruction in a program based on this evaluation. In the case of a termination, ongoing students can continue the program with Turkish-medium instruction or can be transferred to equivalent program in another university that has instruction in the same foreign language.

3.

THEORY AND HYPOTHESIS DEVELOPMENT

In this chapter, I develop the hypotheses empirically examined in the study. Section 3.1 gives a background on the related literature and positions the problematic that is addressed by the dissertation. Section 3.2 introduces the theoretical model. In the following three sections (3.3, 3.4 and 3.5), I theorize each of the mechanisms proposed in this study and build up the hypotheses.

3.1. Background

An extensive body of research has examined the diffusion of administrative and organizational practices among corporations (see Strang & Soule, 1998). 'Rational accounts' of diffusion emphasize that growing information regarding the economic or technical benefits of a practice spread and encourage new adoptions (Rogers, 1995). 'Social accounts', on the other hand, emphasize that diffusing practices will frequently be inefficient or even harmful (Abrahamson, 1991; Strang & Macy, 2001), and what mainly drives diffusion is the growing levels of pressure towards social conformity (DiMaggio & Powell, 1983; Scott, 2001; Tolbert & Zucker, 1996).

More recent literature on diffusion recognizes that a diffusing practice is hardly ever adopted *in toto* and that there is significant variation both across adopters and throughout the diffusion process (Lounsbury, 2007; Ansari, Fiss, & Zajac, 2010). Certain field-level and organizational factors are proposed to effect this variation in diffusion processes.

Lounsbury (2007), for example, considered the existence of competing institutional logics in the organizational environment as a source of practice variation in diffusion. The study demonstrates that trustee and performance logics that were rooted in different locations (Boston and New York) led to variation in how mutual funds established contracts with independent professional money management firms.

Other researchers identified organizational processes that may lead to variation in the implementation of the diffusing practice across adopters. Following the two-stage diffusion idea of Tolbert and Zucker (1983), one stream of research focused on the relationship between social and economic motivations for practice adoption and the extent of implementation (Kennedy & Fiss, 2009; Westphal, Gulati, & Shortell, 1997). Others considered intra-organizational processes such as organizational climate emanating from ties to social movement organizations (Lounsbury, 2001) and implementing managers' experiences with the practice (Dokko & Gaba, 2012). Ansari, et al. (2010) proposed that the diffusion process across time and across adopters should be assessed as an issue of dynamic 'fit' (or compatibility) between the practice and the adopter.

Another important insight provided by the diffusion literature is that acceptance of a diffusing practice is not necessarily uniform across the members of the organizational field. Practices may diffuse widely despite violating certain institutionalized norms and values, or while they are facing persistent objection from important actors in the organizational environment (Fiss & Zajac, 2004; Kraatz, Ventresca, & Deng, 2010; Sanders & Tuschke, 2007). The extent of attachment to a diffusing practice is likely to vary both across organizations (Kraatz & Zajac, 1996) and during the course of the diffusion process (Fiss, Kennedy, & Davis, 2012).

Based on these exemplary studies, I propose certain institutional, competitive and organizational processes that are likely sources of this variation in practice adoption. In the following section, I present the theoretical model of this study. The sections to follow include more specific reasoning for each theoretical idea and state the related hypotheses.

3.2. The Theoretical Model

Extant research suggests that organizations are embedded in a system of institutional and competitive processes (Dacin, 1997; Granovetter, 1985; Oliver, 1996; Zukin & DiMaggio, 1990). The theoretical model that I employ in this study rests on this core idea, as I consider both institutional *and* competitive effects on the diffusion of an organizational practice. In addition, I include organizational characteristics as yet another factor that may influence adoption. As stated at the very beginning, my focus in this study is on the 'extent of adoption' of a practice and not issues that pertain to its implementation following adoption. As is often the case, when a novel practice is introduced into a field it involves unconventional ways, which in some instances remain contested to different degrees during the diffusion process.

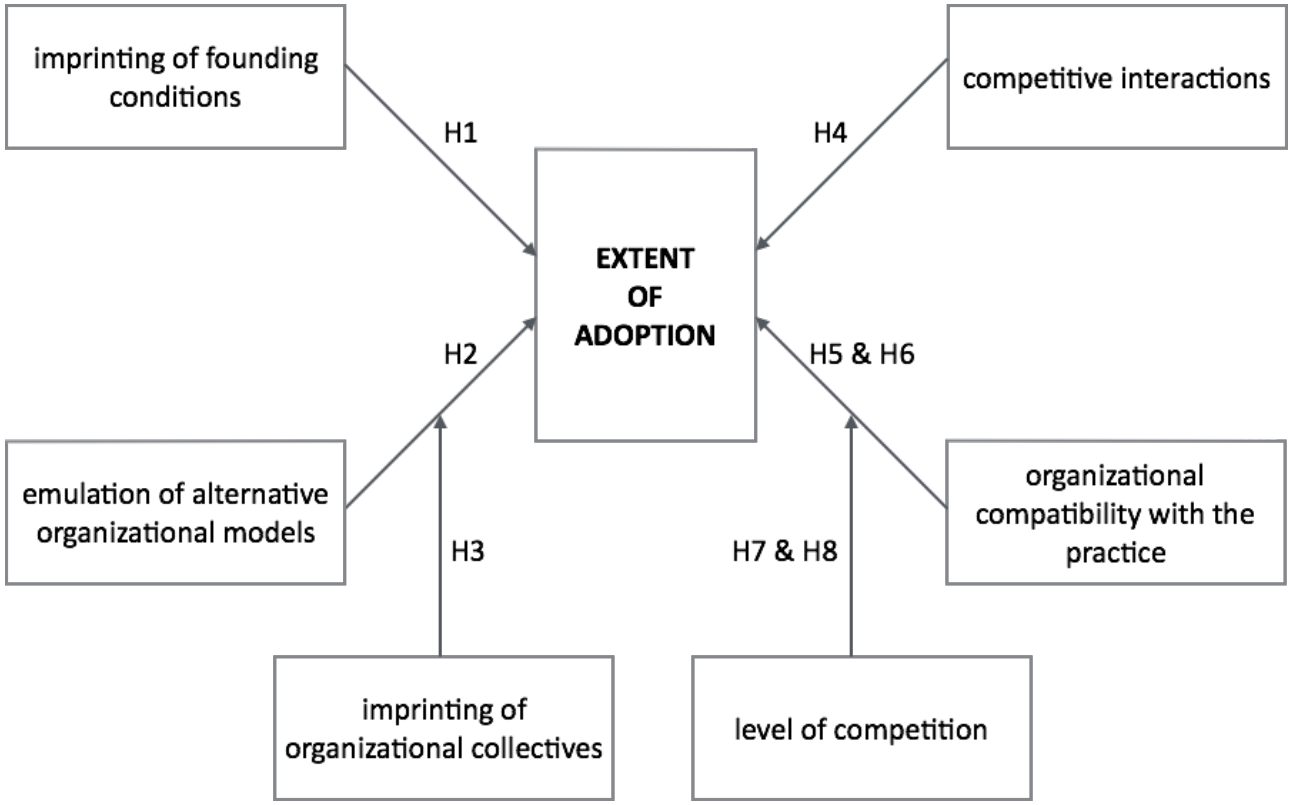
Figure 3.1 below sets out the specific variables that are included in the study within the theoretical framing mentioned above. The variables incorporated into the model attempt to capture the institutional, competitive and organizational factors that are likely to impinge upon the extent of adoption of a diffusing practice.

The institutional effects that I consider are threefold: Firstly, I include imprinting by founding conditions to examine the relationship between institutional imprints on organizations and the extent of attachment to a diffusing practice. Secondly, I theorize on the influence of emulation processes emanating from organizational identification with alternative organizational models that are associated with different approaches with respect to the diffusing practice. And thirdly, I consider how differential early dispositions of organizational sub-populations within the field towards the practice may moderate these emulation processes.

Next, I theorize how extent of adoption for a diffusing practice is shaped by competitive interactions between organizations.

Finally, I discuss how variation in the extent of adoption may be linked to the heterogeneity among universities in terms of the compatibility between the diffusing practice and organizational resources. I also propose that the degree to which organizations are concerned with this compatibility will be moderated by the level of competition.

Figure 3.1 Theoretical model



3.3. Institutional Processes

3.3.1. Imprinting of Founding Conditions

Imprinting theory has its origins in Stinchcombe's (1965) study that emphasized the importance of external environmental forces in shaping firms' initial structures and the persistence of these patterns over time. While Stinchcombe's primary focus was at the industry level, most subsequent studies have examined how individual organizations bear a lasting imprint of founding conditions.

The characteristics of an entity shaped during a sensitive moment of its existence (usually the founding period) can persist for decades, in spite of subsequent environmental changes. Significant evidence suggests that imprinted organizational structures, strategies, capabilities and practices become persistent (Marquis & Tilcsik, 2010; Şimşek, Fox, & Heavey, 2015).

Organizations may adopt particular structural features that are legitimated by the founding institutional environment, which become ingrained due to processes of institutionalization and inertia (Marquis & Tilcsik, 2013). Stinchcombe (1965) showed, for example, that in the US university fraternities established in three different periods (secularization of Northern liberal arts colleges in the 1840s, post-Civil War reconciliation in the latter half of the 1860s, and the first quarter of 1900s when marginalized populations of students established 'anti-fraternity' fraternities emphasizing anti-discrimination goals) reflect the mark of their founding period in their current structures.

Johnson (2007) illustrated how institutional conditions such as existing organizational templates and the powerful authority of the monarch shaped and constrained the strategic choices of the Paris Opera's founder, with persistent consequences for the organization. Similarly, Marquis and Huang (2010) showed that institutional conditions present in a focal firm's state within the US at the time of founding powerfully influenced organizational capabilities such that firms that were founded in states where regulatory and political and cultural conditions promoted intra-organizational coordination were more likely to subsequently acquire other organizations.

Following this idea of imprinting of founding institutional conditions, I argue that the institutional environment that is present at founding will likely shape universities' understandings and perceptions of English-medium instruction and thus the degree to which they engage in its use.

As identified by Scott (2001), there exist regulative, normative and cultural-cognitive pillars of institutions. The regulative view of institutions asks how various regulative rule systems, manipulating sanctions and incentives can affect the behavior of actors as they pursue their interests. The normative pillar stresses the centrality of normative rules that introduce a prescriptive, evaluative, and obligatory dimension into social life. Finally, cultural-cognitive elements of institutions represent the shared conceptions that constitute the nature of social reality and create the frames through which meaning is made.

Section 2.6 above described the changes in the cognitive and regulative institutions regarding foreign language-medium instruction (and English-medium instruction in particular) in the context of the Turkish higher education field. As discussed in that section, a cognitive conception that foreign language-medium instruction is a characteristic of a privileged class of universities within the field has prevailed until 1996. Both historical conventions until the set up of the new institutional regime (in the early 1980s), and the governance policy followed by the major actors of the new regime are likely to have had a role in the build up of this conception.

The law on teaching in and of foreign language education, enacted in 1983 has principally been 'constitutive' rather than 'regulative'. Again as mentioned in the preceding chapter, together with the regulation in 1984, these early efforts in the post-1980 era implicitly accepted the status quo in the Turkish higher education field. The restriction of foreign language-medium instruction to the selected five universities of the field in 1994 also indicated the continued influence of the above mentioned early cognitive conception regarding the practice.

The end of this period can be considered as the reinstatement in 1996, which opened up a more liberalized phase continuing until the next change in the regulative framework in 2008. The new regulation in 2008 brought in a monitoring mechanism for foreign language-medium instruction and identified sanctions to put in place in the case of inappropriate conduct.

Law and society theorists identify that laws (or regulations) not only bring in

coercive and material enforcement, but a broader framework that influences organizations normatively (Scott, 2001; Suchman & Edelman, 1997). The new regulative framework set up in 2008 is also likely to have led to a normative prescription of appropriate behavior with regard to foreign language-medium instruction such that it becomes increasingly deliberative, requiring a more careful assessment of resources and capacities with respect to its proper implementation.

Following the above mentioned literature on the imprinting of founding institutional conditions on organizational behavior, I expect that the cognitive and regulative institutional framework regarding foreign language-medium instruction that is present at the time of universities' founding will have a long lasting impact on their engagement with the practice. Based on the above mentioned temporal changes in this institutional framework, I expect that extent of English-medium instruction will be lower in those universities founded in the pre-1996 period where foreign language-medium instruction is perceived as a characteristic of a privileged class of universities within the field, as well as the post-2008 period where the adoption of the practice requires greater caution and deliberation due to the more extensive monitoring and sanctioning mechanisms.

Hypothesis 1 (H1): Extent of English-medium instruction will be lower in universities that were founded in 'pre-1996 (English for privileged)' and 'post-2008 (monitoring)' periods.

3.3.2. Emulation of the Continental European-modeled Universities

Following the early insight by DiMaggio and Powell (1983), research has focused on how organizations sample from available models in their environment, managing ambiguity and uncertainty by emulation. There may be visible alternative organizational models that simultaneously exist in a field, and even directly contradictory alternatives may have the imprints of legitimacy and become likely candidates for emulation (Hambrick et al. 2005; Heugens & Lander, 2009).

Studies demonstrate that organizations draw on identity elements, organizational repertoires, and templates previously made available to organizers in their local context (King, Clemens, & Fry, 2011; Rao, Monin, & Durand, 2003). King et al. (2011)

demonstrate that variation in the availability of institutional resources constrains differentiation, leads to certain collective patterns in kinds of identity elements used by organizations, and thus the process of identity realization leads to clusters of convergence on similar identity elements.

As explained in the context chapter, the 'Continental European' and the American-modeled universities are clearly distinguished on a set of critical structural and procedural characteristics, and in this way have come to represent alternative organizational models in the Turkish higher education field. Again as explained, the exemplars of both models still continue to be visible either with their size, leading status in important disciplinary domains or prestige. Thus, the organizing templates characterizing these central and prominent exemplars of both models are likely to provide references for emulation (Baum, Li, & Usher, 2000; DiMaggio & Powell, 1983; Haunschild & Miner, 1997; Haveman, 1993; Terlaak & Gong, 2008).

The process of imitation involves both self-identification and recognition of what one would like to become (King et al., 2011; Sevon, 1996). Kostova and Roth (2002) showed that when a foreign subsidiary identified with the parent, it preferred to become more similar to the parent by adopting its practices and reported higher levels of implementation. There is also evidence for organizational tendency to exhibit archetypal coherence, which implies operating through structures and systems that are manifestations of a single, underlying interpretive scheme (Greenwood & Hinings, 1996).

Even though an organization is not necessarily in a complete state of fit with an existing archetype in the field (Greenwood & Hinings, 1988), it is likely to be more oriented towards a certain model. Following the above lines of reasoning, I argue that universities with greater levels of identification with either the Continental European- or the American-modeled universities, will be likely to feel more sympathetic for their associated templates, one of which is the language of instruction. Considering that the former model is characterized by Turkish-medium instruction, I hypothesize that:

Hypothesis 2 (H2): Extent of English-medium instruction will be lower in those universities with greater levels of identification with the Continental European-modeled universities.

3.3.2.1. Moderating role of imprinting of organizational collectives

As explained in Chapter 2, public and private universities in the Turkish higher education field have differing founding conditions and early formations on the language of instruction. Early public universities were born to an environment where instruction in Turkish was the only legitimate option, under the strong influence of the nation-building movement of the new Republic. Turkish, as the national official language, was the target of all language and educational planning (Doğançay-Aktuna, 1998), and it was the medium of instruction in all public schools (Karahan, 2005). Not surprisingly, instruction in early public universities was in Turkish, and with no exceptions (other than the two American-modeled universities) until early 1980s.

Again as mentioned, the establishment of the private university in Turkish higher education corresponds to a period where the increasing importance of English as the lingua franca intensified as the country started to become more integrated into the global economy. Increasing societal demand for this foreign language was vehemently felt, especially in urban areas (Doğançay-Aktuna, 1998). In this kind of a context, the very first examples of private universities (i.e. Bilkent and Koç University) became the initial followers of METU and Boğaziçi University, and adopted English-medium instruction in all of their programs.

Research suggests that structures established by the early entrants of organizational collectives are influential on the subsequent structures in the following members of the collective (Marquis & Tilcsik, 2013; Stinchcombe, 1965). The above stated patterns established in early public and private universities are likely to have had an influence on the perceptions regarding appropriate language of instruction in these sub-populations such that the conceivability of English-medium instruction will be higher among private universities. Again as explained in Chapter 2, English-medium instruction is even presented as a distinguishing characteristic of private universities.

Due to these imprinting influences English-medium instruction is likely to be more alien to public universities. Thus, I consider that further aloofness from English-medium instruction emanating from a university's identification with the 'Continental European' model hypothesized in H2 will be weaker for public universities.

Moreover, given the early tendency among private universities towards the 'American' model, identification with the 'Continental European' model might be a tool

used by private universities for the purposes of distinguishing themselves from their counterparts and creating a novel identity (King et al., 2011; Sahlin-Andersson, 1996). Private universities with this kind of a mindset will be especially committed to the organizing templates of the 'Continental European' model. Accordingly, I hypothesize that:

Hypothesis 3 (H3): The negative effect of identification with the Continental European-modeled universities on the extent of English-medium instruction (H2) will be stronger for private universities.

3.4. Competitive Processes

As explained in Chapter 2, English-medium instruction has been 'theorized' (Strang & Meyer, 1993) as a high-status practice in the Turkish higher education field, starting from early 1980s. Both the discourse on integrating with the global market where English is the lingua franca and the high prestige of the two universities that pioneered English-medium instruction in the Turkish higher education field played a major role in this trend.

Stated motivations for the adoption of English-medium instruction suggest that the practice is to a great extent used as a tool for competition in the local and/or global market. Universities adopt English-medium instruction with the intention to improve the international competences and English-language proficiency of domestic students, respond to parental demands, as well as increasing the number of international students (Selvi, 2014). The practice is also used to signal that the school has a high profile, is international and provides an elite education, very much like in the context of Europe or other non-English-speaking countries (Dearden, 2015).

Given this background, adoption is likely to be motivated by achieving social and/or economic gains (Compagni, Mele, & Ravasi, 2015; Lounsbury, 2007; Kennedy & Fiss, 2009), such as attracting students and increasing selectivity. Still, the benefit of adoption is at best uncertain due to the gap between means and ends, particularly prevalent in the production of complex social or public goods such as higher education (Bromley & Powell, 2012). Further, there is significant variation in the selectivity of

universities that adopt English-medium instruction.

Studies show that organizations act upon behavior of other organizations that they are in direct competition (e.g., Porac et al., 1995). Rivalry-based theories of mimetic behavior predict that firms will imitate the behavior of other firms with comparable resource endowments and market positions, in order to avoid loosing ground in the competition (Lieberman & Asaba, 2006). Studies in the strategic group literature (e.g. Fiegenbaum & Thomas, 1995; Haunschild & Miner, 1997; Peteraf & Shanley, 1997; Rhee, Kim & Han, 2006), for instance, show that firms are likely to imitate a 'reference group' of strategically similar organizations, in an effort to maintain competitive parity.

In line with the rivalry-based theories of imitation, I expect that the extent of English-medium instruction in a university will be positively influenced by extent of adoption in a reference group of competitor organizations. Yet, the more organizations' domains (e.g., goods and services, technologies) overlap, the more they require similar resources to thrive, and the more strongly they compete (Baum & Mezias, 1992; Hannan & Freeman, 1977, 1989). The intensity of competition among organizations is predicted to be mostly a function of the similarity in organizational resource requirements (Baum & Singh, 1994). Therefore, I consider that the above stated tendency for imitation will be weakened as the extent of adoption among the members of a focal university's reference group increases above a certain threshold and results in intensified competition. Accordingly, I predict an inverted-U-shaped relationship between the extent of English-medium instruction among the reference group of competitor universities and the extent of adoption in the focal university.

Hypothesis 4 (H4): Extent of English-medium instruction will have an inverted-U-shaped relationship with the (mean) extent of adoption among a reference group of competitor universities.

3.5. Organizational Compatibility with the Practice

Research suggests that the extent to which a practice is implemented in an organization is influenced by the degree to which organizational characteristics are

compatible with those of the practice (Kang & Yanadori, 2011; Ansari, Fiss, & Zajac, 2010). This concern for 'fit' (Ansari et al., 2010) with the practice is likely to be influential even at (or before) the stage of adoption. Compagni, Mele, and Ravasi (2015), for instance, show that the decision to adopt robotic surgery was influenced by hospitals' early concern for the availability of required resources for implementation. Other studies considered economic well-being, financial resources and technological advancement as predictors of innovation adoption (Wejnert, 2002).

Following this line of reasoning, I expect that the extent to which English-medium instruction is adopted by a university will be influenced by the compatibility between organizational resources and the requirements of this practice. The existence of relevant infrastructure as well as the background and experience of organizational members and executives (e.g., Palmer, Jennings, & Zhou, 1993; Wejnert, 2002; Zeitz, Mittal, & McAulay, 1999), are important components of this 'fit'.

British Council's recent report mentioned in Chapter 2 suggests that in many countries, including Turkey, the educational infrastructure does not support proper provision of English-medium instruction. It is emphasized that there is a shortage of linguistically qualified teachers, stated expectations of English language proficiency, and organizational or pedagogical guidelines for English-medium instruction (Dearden, 2015). Due to potential barriers to resource mobility (Barney, 1986), there is also likely to be an unequal distribution of these resources across universities.

As stated above, I expect that universities will be concerned about the degree to which they 'fit' with the characteristics of English-medium instruction, an important component of which is having the required academic resources. Therefore, I argue that:

Hypothesis 5 (H5): Extent of English-medium instruction will be higher in those universities with higher levels of academic fit with English-medium instruction.

Another important component of this 'fit' with English-medium instruction is the background and capabilities of a university's students, as 'receivers' in the education process. Students in Turkish higher education, even those in highly selective universities, seem to have significant problems with English-medium instruction (Erdem, 1990; Üçoluk, 2002). Universities provide an English preparatory year with the intention to bring students to a level at which they can operate through English-medium

instruction. Yet, these programs are usually not successful in terms of achieving the desired ends due to a number of reasons including the entrants' very low proficiency in English, and the pressures towards passing students towards their degree programs[14]. Thus what becomes important for a university that intends to adopt English-medium instruction is the degree to which the entrant students are compatible with English-medium instruction. Hence, I hypothesize that:

Hypothesis 6 (H6): Extent of English-medium instruction will be higher in those universities with higher levels of student fit with English-medium instruction.

3.5.1. Moderating Role of Competition

Researchers in the field of strategy as well as organizational ecology studied how organizational responses are shaped in the face of intensified competition and the associated risk of failure (e.g., Baum & Mezias, 1992; Baum & Haveman, 1997; Smith, Grimm Gannon, & Chen, 1991). In the context of higher education, Kraatz and colleagues illustrate how liberal arts colleges, faced with increasingly competitive environments, changed in line with the market demands (Kraatz & Zajac, 1996; Kraatz et al., 2010).

Although universities may be motivated to adopt English-medium instruction in line with market expectations, I expect that they are also concerned with the degree to which they are compatible with the practice (as identified in hypotheses H5 and H6). I further predict that this concern for 'fit' with the practice will be stronger under higher levels of competition, since the likelihood of failure increases. Accordingly, I hypothesize that:

Hypothesis 7 (H7): The positive effect of academic fit on the extent of English-medium instruction (H5) will be stronger under higher levels of competition.

Hypothesis 8 (H8): The positive effect of student fit on the extent of English-medium instruction (H6) will be stronger under higher levels of competition.

[14] Bayraktaroğlu, S. "Eğitim sistemindeki yabancı dil sorunsalı". Milliyet. 14.07.2013

4.

METHODS

4.1. Variables and Measurement

4.1.1. Dependent Variable

The dependent variable in this study is the extent to which a university adopts English-medium instruction (see Chapter 3).

As stated in Table 2.1 (in the context chapter), foreign language-medium instruction can be adopted in some or all of the programs in a Turkish higher education institution. Further, in a particular program, foreign language-medium instruction can be fully, partially or marginally adopted. When English-medium instruction is partially adopted in a program, at least 30% of the total courses (or credits) are instructed in English. Marginal adoption refers to the case where instruction is mainly in Turkish, but there is a compulsory foreign language preparatory program together with selective courses with foreign language-medium instruction.

I operationalize the extent of English-medium instruction in a university as the proportion of programs, belonging to the faculties of the university, that adopt instruction in English in full. Yet, as will be shown below, additional analyses were also carried out for an alternative measure of the dependent variable where I also take into account those programs that partially or marginally adopt English-medium instruction. In calculating the average extent of English-medium instruction in a university, this alternative measure counts the extent of English-medium instruction in the former type of programs as 30%, and in the latter type of programs as 10%.

I purposefully focus on faculties, since vocational schools do not exist in some of the universities. Graduate programs are also excluded since longitudinal data on their language of instruction and other study variables is not available.

Two types of programs where teaching is by definition in English were excluded from these calculations. The first one is those programs are ones that are carried out in a foreign language due to disciplinary requirements[15], and the second one is international dual degree programs (UOLP) that are taught in English due to international collaborations.

4.1.2. Independent Variables

Based on the design of this study described in Chapter 3, I have eight independent variables.

Hypothesis 1 states that universities that are founded in 'English for privileged' (pre-1996) and 'monitoring' (post-2008) periods will less extensively adopt English-medium instruction. I created university-level dummy variables to identify the period of foundation so that the two periods mentioned above were coded as 1 for universities founded in these periods and 0 otherwise.

Hypothesis 2 argues for the effect of the degree to which a university identifies with the 'Continental European' model on the extent of English-medium instruction. Since fields of activity is an important facet of identity (King, Clemens, & Fry, 2011), a university that takes Continental European-modeled universities as a role model may have a tendency to establish those faculties founded by these universities before the advent of the YÖK regime. Accordingly, the operationalization I use is the percentage of faculties in a university that characterize the 'Continental European' model, and I measure this variable in two alternative ways.

As explained in Chapter 2, Continental European-modeled universities were established with faculties of the 'classical' or the 'technical' European tradition and thus were uni-disciplinary. The early exemplars of the American-modeled universities, on the other hand, were composed of professional faculties that had a multidisciplinary

[15] These programs are *'İngiliz Dili ve Edebiyatı', 'Amerikan Kültürü ve Edebiyatı', 'İngiliz Dili Öğretmenliği',* and *'İngilizce Mütercim Tercümanlık'.*

nature as well as the faculty of arts and sciences.

Again as mentioned before, Continental European-modeled universities have widely been devoted to this Continental European tradition, though they experienced some deviation from their initial faculty composition in the early 1980s and afterwards with the influence of the YÖK regime. Accordingly, my first measure 'identification with the 'Continental European' model (1981)' is the percentage of faculties in a university that correspond to the faculty composition of İstanbul University, Ankara University and/or İstanbul Technical University as at 1981, just before the legislative overhaul (see Appendix B for a complete set of these faculties). The pre-1981 set of faculties that existed within the Turkish versions of the 'American' model (faculty of administrative sciences, faculty of engineering, and faculty of arts and sciences) were excluded. I did not also include the faculty of architecture which existed both in Middle East Technical University and İstanbul Technical University.

The second measure, 'identification with the 'Continental European' model (logic)', relates to the idea of a uni-disciplinary faculty structure that is inherent in the 'Continental European' model. I constructed the set of faculties that satisfy this condition with the following criteria: a) the name of the faculty does not contain the conjunction 'and', and b) the name of the faculty does not contain the plural expressions of 'sciences' or 'arts' (see Appendix C for a complete set of faculties). Based on these criteria, I constructed an alternative measure for identification with the 'Continental European' model as the percentage of faculties in a university that satisfy these conditions. In addition to this rule, those faculties that were introduced and to a great extent diffused with the provisions of the YÖK regime (i.e. faculty of education, faculty of vocational education, faculty of technical education, and faculty of engineering and architecture) were not included in this second version of the 'Continental European' faculty set.

Testing Hypothesis 4 requires identification of a reference group of competitor universities. Geographic location is a key defining characteristic that influences the degree of overlap among opportunities and constraints, and therefore inter-organizational competition (Carroll & Huo, 1986). In the context of Turkish higher education, universities under the same geographical context are more likely to compete for a similar student base and affected by similar structural constraints. Accordingly, I define a university's reference group as those universities in the same region based on a

classification by Turkish Statistical Institute (TUİK)[16] that takes into account the geographical location, size of the population, developmental plans, statistical indicators and socioeconomic status (see Appendix D for the exact categorization). I further consider having the same ownership structure (i.e. being a public or private university) as an additional criterion for sharing similar resource bases, since the socioeconomic profile of potential students may vary for public and private universities. Thus, the extent of English-medium instruction among a reference group of competitor universities is operationalized with two alternative measures: a) average extent of adoption among universities in the same region ('English in the same region'), and b) average extent of adoption among universities in the same region and with the same ownership ('English in the same region and same ownership').

As discussed in the preceding chapter, a university's academic fit with English-medium instruction is the degree to which the university possesses academic resources for the proper implementation of this practice. Here I use the international publication performance of a university's academic staff as an indicator of their English language proficiency. The exact measure that I use is the ratio of the total number of articles in English that were published each year in journals covered in the Web of Science database[17] to the total number of undergraduate programs within the university. Since the tendency for international publications has increased over time, I z-standardized the values within each year.

Again as explained in the preceding chapter, student fit is the degree to which a university's entrant students are potentially amenable to English-medium instruction. Existing evidence indicates that students that are most successful in the central university examination are graduates of foreign private schools and public ones like Anatolian High Schools that provide extensive foreign language (mostly English) education (Köse, 1999; Mıhçıoğlu, 1969). Thus there is likely to be a strong positive correlation between university entrance scores and the students' background in English. Accordingly, I measure the degree to which a university's entrant students are compatible with English-medium instruction as the relative selectivity of the university.

In order to identify a university's relative position in terms of selectivity among

[16] Classification of statistical regional units
http://tuikapp.tuik.gov.tr/DIESS/SiniflamaSurumDetayAction.do?surumId=164

[17] Web of Science is an online scientific citation indexing service maintained by Thomson Reuters. Though most of the journals covered by the database publish in English, some of them also publish in other foreign languages as well as in Turkish. The searching options allow choosing language of the publication.

other universities in the higher education field, I first coded the maximum and minimum of the (minimum) entrance scores in each available type (e.g. verbal, numerical, language, equal weighted) for each faculty under the university. Then, I z-standardized the whole set of scores in a particular category throughout the field within each year. Then I calculated an overall selectivity score (relative to other universities in the field) for each university as the mean z-score of its faculties.

Finally, I operationalized the level of competition at the local level, and measured it as the total number of universities in the region (based on TUİK's classification that was mentioned above) where the university is located.

4.1.3. Control Variables

Beyond the hypothesized effects within the theoretical framework of this dissertation, I consider the below mentioned alternative factors that may lead to variation in the adoption of English-medium instruction.

Private ownership

Public organizations are likely to be more influenced by institutional pressures, whereas their private counterparts are more sensitive to market considerations (e.g. Casile & Davis-blake, 2002). Since English-medium instruction in the Turkish higher education context represents an aspiration for status and selectivity, private universities may be more motivated for adoption just because of revenue considerations. Private universities are also likely to use English-medium instruction as a way of justifying tuition, since the practice is widely perceived as a tool for learning English (Selvi, 2014). Therefore, I consider private ownership beyond the moderating influence hypothesized in H3, and control for it in each model. I use the dummy variable 'private', which is coded 1 for private universities and 0 for public universities.

Location

The diffusion of English-medium instruction might be influenced by the local environmental conditions including the demand for the practice and availability of academic resources. In order to capture regional variations in market structures and resource bases (Carroll & Wade, 1991; Dacin, 1997; Kraatz & Zajac, 1996), I control

for the developmental status of the city where a university is located ('city development').

The developmental status of the city where the university is located is controlled with a categorical variable ('city development') coded 3 for three largest cities (i.e. İstanbul, Ankara and İzmir), 2 for other large cities and 1 for other cities. Thirty of the cities in Turkey are designated metropolitan municipalities[18]. İstanbul, Ankara and İzmir is a separate category since they are the first three large cities and still the most populated ones in the country.

Organizational size

Organizational size is an important predictor of organizational attributes and behavior (Josefy et al. 2015; Kimberly, 1976; Scott, 2003). Size may lead to greater organizational ability to acquire and retain resources. On the other hand, inertial tendency is considered to be higher in larger firms (Hannan & Freeman, 1977, 1984). I control for university size to remove its potential explanatory power on the extent of English-medium instruction. Size is measured as the total student intake of the university in a particular year.

Monitoring effect

As explained in the preceding chapter, English-medium instruction has become increasingly demanding to adopt since the introduction of monitoring and sanctioning mechanisms in 2008 regulation. Hypothesis 1 states the imprinting effect of the resulting regulative influence on universities founded in this period. Yet, there may also be a concurrent effect of this regulative influence such that universities not confident with their compatibility with the practice may have chosen to reduce or eliminate the use of this practice altogether. I control for this effect using a dummy variable indicating the years after 2008 ('post2008').

In addition to the above stated controls, I created dummy variables for the years in which there were either batches of public university founding or reconfigurations in existing universities. The first wave was in 1992. 23 public universities were established at a time, some of them as spin offs from former universities in the field. The second wave was in the years 2006, 2007 and 2008, where 41 public universities were

[18] İstanbul(1984), Ankara(1984), İzmir(1984), Adana(1986), Bursa(1987), Gaziantep(1987), Konya(1987), Kayseri(1988), Antalya(1993), Diyarbakır(1993), Eskişehir(1993), Erzurum(1993), Mersin(1993), Kocaeli(1993), Samsun(1993), Sakarya(2000), Şanlıurfa(2012), Hatay(2012), Manisa(2012), Balıkesir(2012), Kahramanmaraş(2012), Van(2012), Aydın(2012), Denizli(2012), Tekirdağ(2012), Muğla(2012), Mardin(2012), Ordu(2012), Malatya(2012), Trabzon(2012)

established in succession.

I also control for the years 1995 and 1996 where instruction in foreign language was restricted to only five universities in the Turkish higher education field. As indicated in Table 2.1, this restriction came with a regulation towards the end of the year 1994 and continued until mid-1996.

4.2. Data Sources

Following the two pioneer adopters mentioned above (METU and Boğaziçi University), the diffusion of English-medium instruction started in 1982 with its' adoption in two medicine faculties (Marmara University and Hacettepe University). Accordingly, the data span of this dissertation starts in 1983 and continues up to 2014. Data have been coded annually for all universities that have existed in the Turkish higher education field over this period, and come from three main archival sources: (a) the Law on Organization of Higher Education Institutions (*Yükseköğretim Kurumları Teşkilatı Kanunu*, No. 2809), (b) the manual of higher education programs and quotas published annually by the Student Selection and Placement Centre (ÖSYM), and (c) the Web of Science database. The manual of higher education programs and quotas lists each and every associate and undergraduate degree programs under universities together with detailed information on their geographical location, years of study, type of entrance score, previous years' minimum entrance scores, medium of instruction, foreign language preparatory programs, special requirements for entry, tuition, and scholarships. Web of science database is the source of publications in indexed journals.

4.3. Hypothesis Testing

4.3.1. Analysis Strategy

The data of this dissertation is a panel of all universities in the Turkish higher education field that are observed at regular time intervals (i.e. annually). In such kind of

panel data there is time-serial dependency among the observations belonging to the same unit. This also represents a special case of multilevel data where observations at Level 1 (observations at the smallest level; here years) are clustered in (nested within) Level 2 units (termed as groups or clusters; here universities). This nested structure of multilevel data violates the assumption of uncorrelated errors which may lead to severe bias in the estimation of F statistics and standard errors (SEs) in traditional analysis methods such as ordinary least squares regression (OLS) (Skinner, Holt, & Smith, 1989). This brings in the necessity to apply other methods that take into account the nested structure of the data.

One method is to run separate classical regressions in each group, yielding estimates of intercept and slope for each cluster. It is possible to analyze the variance of intercepts, the variance of slopes, their covariance, as well as the effects of Level 1 predictors on the dependent variable and the effects of Level 2 predictors on the intercepts and slopes. However, this method involves the estimation of a large number of parameters, and is impractical if there are many Level 2 units. It is also infeasible when there are groups with small sample sizes. Further, the estimates of slopes and intercepts may be unreliable and there is no partitioning of variance (Gelman & Hill, 2006).

An alternative method is the analysis of covariance (ANCOVA), where the unit of analysis is the Level 1 units. The purpose is to test for an effect of Level 2 units on the dependent variable, after removing the effect of Level 1 covariates. Intercepts can vary across clusters, but slopes cannot. ANCOVA is useful for accommodating overall group effects, but it does not permit inclusion of Level 2 predictors of intercepts, and does not impose a distribution for intercepts (Raudenbush & Bryk, 2002).

A third method is the fixed-effects approach, which ‘corrects for’ nestedness, by including group indicators (but no group-level predictors). This method controls for all group differences. However, the grouping variable is treated as ‘fixed’, meaning that generalizability is restricted to only those groups represented in the sample. Further, the results of aggregation analyses cannot be generalized to Level 1 units. This procedure can result in a massive loss of information. Interpretation is limited to Level 2, which can be misleading. In addition, there are many estimated parameters, so this model is not parsimonious.

Multilevel models (equally termed as multilevel regression analysis, hierarchical

linear models, or mixed models) are extensions of linear regression in which data are structured in groups and coefficients (usually intercepts and possibly slopes) that are allowed to vary by group. Multilevel models of longitudinal data have similar goals to those of the repeated measures ANOVA. Yet, they expand the investigation of effects to include not only the fixed variables considered in the ANOVA but also the coefficients of individual subjects' equations predicting the dependent variable as random independent variables. This method treats clusters as if they are sampled from a larger population of clusters, enhancing the generalizability of results. Cluster-level effects are not estimated separately for each cluster. Instead, regression weights are assumed to have a particular distribution across clusters, summarized by a limited set of parameters (mean and variance).

The choice between fixed-effects approach and multilevel modelling may depend on the number of groups, the sample size per group, the distribution of the Level 1 and Level 2 residuals, assumptions about how groups were sampled, the resulting generalization one wishes to make, and the focus of the analysis (Snijders & Bosker, 1999). Multilevel modeling permits more complex and appropriate tests of theoretical predictions. It models nestedness (rather than just controlling for it), which gives the opportunity to examine both Level 1 and Level 2 effects.

In this dissertation, I use multilevel modelling for longitudinal data where yearly observations constitute the Level 1 units and universities constitute the Level 2 units (clusters or groups). The primary reason behind this choice is that I am also interested in the effect of a cross-level interaction (i.e. interaction among Level 1 and Level 2 variables), which cannot be directly estimated in the fixed-effects approach. In addition, my data is quite unbalanced due to almost continuous establishment of new universities. The ability to deal with very unbalanced data structures is a key reason for adopting multilevel modeling. Multilevel regression models can cope with many kinds of unbalanced data problems, in particular those of attrition for some subjects, variable timing of assessments or missing observation points (Cohen et al., 2003). In multilevel modelling, between-group differences in sample size have little or no effect on results (Browne & Rasbash, 2009; Raudenbush et al., 2002). It is even acceptable to have one observation in many of the groups.

It is also important to note that the classical regression method and multilevel approach coincide in various limiting cases. When there is very little group-level

variation, the multilevel model reduces to classical regression with no group indicators, and conversely when group-level coefficients vary greatly, multilevel modelling reduces to classical regression with group indicators (Gelman & Hill, 2006).

4.3.2. Multilevel Modeling for Longitudinal Data

In longitudinal data with time-series observations for multiple units, Level 1 units corresponds to the individual measurements at each point in time, whereas Level 2 corresponds to the units from whom these time-series observations have been gathered. The methodology is to fit a regression equation at Level 1 while accounting for group effect through allowing the parameters of the regression equation to vary by group membership (Goldstein, 2002; Snijder & Bosker, 1999). The key idea behind multilevel models is that regression coefficients at lower levels can serve as dependent variables at higher levels. Coefficients are not literally computed for each group in the multilevel model, we just impose structure on them by saying they have distributions (Snijder & Bosker, 1999).

In statistical terminology, the single-level regression model assumes that all cases come from a population with the same intercept:

$$y_i = \beta_0 + \beta_1 x_i + e_i, \qquad e_i \sim N(0, \sigma_e^2) \tag{4.1}$$

where;

i indexes smallest items of measurement,

y_i represents the dependent variable for the i^{th} observation,

x_i represents the predictor variable for the i^{th} observation,

β_0 represents the intercept,

β_1 represents the slope of the predictor variable x,

e_i represents the random error term.

Multilevel modelling permits individual Level 2 units to have their own

distribution of intercepts and slopes. Rather than estimating each one individually, we assume a distributional form for these terms we do for e_i in the classical regression. When there is only one predictor variable, the Level 1 equation turns out to be:

$$y_{ij} = \beta_{0j} + \beta_{1j}x_{ij} + e_{ij}, \qquad e_{ij} \sim N(0, \sigma_e^2) \tag{4.2}$$

where;

i indexes observations nested within groups indexed by *j,*

y_{ij} represents the dependent variable for the ith observation nested within the jth group,

x_{ij} represents the Level 1 predictor for the ith observation nested within the jth group,

e_{ij} represents the Level 1 residual,

β_{0j} represents the random intercept that is allowed to vary among groups,

β_{1j} represents the random slope that is allowed to vary among groups.

The intercept and slope terms become the dependent variable in Level 2 equations such that they vary around their grand means with τ_{00} and τ_{10} respectively:

$$\beta_{0j} = \gamma_{00} + u_{0j}, \quad u_{0j} \sim N(0, \tau_{00}) \tag{4.3}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}, \quad u_{1j} \sim N(0, \tau_{10}) \tag{4.4}$$

The amount of variation in the response variable due of random factors can be assessed by variance components analysis. The main random components in a multilevel model are Level 1 residual variance $\mathrm{Var}(e_{ij}) = \sigma_e^2$ and the residual intercepts variance $\mathrm{Var}(u_{0j}) = \tau_{00}$. The proportion of the total variance that is between-groups can be calculated as $\tau_{00}/(\tau_{00} + \sigma_e^2)$, and is termed as the intra-class correlation (ICC). ICC provides a measure of the clustering and dependence of the data, and it is sometimes used to decide if multilevel modelling would be worthwhile. It ranges from 0 if the grouping conveys no information (highly independent) to 1 if all members of the group are identical (highly dependent).

Multilevel modelling typically proceeds by adding predictors at the individual- and group-level, and reducing the unexplained variance at each level. Group-level predictors play a special role in multilevel modelling by reducing the unexplained

group-level variation and thus reducing the group-level standard deviation u_{0j}. This in turn increases the amount of pooling done by the multilevel estimate, giving more precise estimates of the β_{0j}'s, especially for groups with small sample sizes (Gelman & Hill, 2006). When there is only one Level 2 predictor, Level 2 equations have the following form:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} w_j + u_{0j}, \quad u_{0j} \sim N(0, \tau_{00}) \tag{4.5}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} w_j + u_{1j}, \quad u_{1j} \sim N(0, \tau_{10}) \tag{4.6}$$

where;

w_j represent the Level 2 predictor for the j[th] group.

When the Level 2 equations in (5) and (6) are substituted into the Level 1 equation (2), it gets the following form:

$$y_{ij} = (\gamma_{00} + \gamma_{10} x_{ij} + \gamma_{01} w_j + \gamma_{11} x_{ij} w_j) + (u_{0j} + u_{1j} x_{ij} + e_{ij}) \tag{4.7}$$

In multilevel models, interactions may occur between two Level 1 predictors, between two Level 2 predictors, or between Level 1 and Level 2 predictors (cross-level interaction). In cross-level interactions, either the Level 1 or Level 2 predictor may be chosen as the focal predictor, however typically it is the Level 1 predictor. An omnibus test of the interaction effect between x_{ij} and w_j, is the test of the coefficient $\hat{\gamma}_{11}$ in equation (7) (Preacher, Curran, & Bauer, 2006).

4.3.3. Estimation Procedure and Theoretical Models

I use multilevel random intercept models where yearly observations (Level 1) are nested within universities (Level 2). The dependent variable (i.e., the extent of English-medium instruction) is operationalized at Level 1, while the independent variables are measured at both Level 1 and Level 2.

As identified by Wang and Maxwell (2015), multilevel modelling for longitudinal

data requires special consideration two methodological issues: centering and detrending. Following Raudenbush and Bryk (2002), and Wang and Maxwell (2015), I use within-group centering (equally termed as group-mean centering) for all time varying (i.e. Level 1) predictors in the analyses. Within-group centering removes all between-group variation from the predictor and yields a pure estimate of the Level 1 regression coefficient (Enders & Tofighi, 2007).

Another motivation for using within-group centering is my interest in analyzing a cross-level interaction (i.e. interaction between Level 1 and Level 2 variables) in this study. Hofmann and Gavin (1998) states that differences between grand-mean and group-mean centering become even more critical when moving to models that include cross-level interactions, and Enders and Tofighi (2007) recommend using within-group centering as it leads to a more natural interpretation of the cross-level interaction effects.

For Level 2 variables (except dummy coded ones), I applied grand-mean centering, following Aiken and West (1991), and Enders and Tofighi (2007).

Further, following the suggestions of Curran et al. (2012), and Wang and Maxwell (2015) on detrending, I control the linear effect of time by including year as a Level-1 covariate (Year).

When the data is not balanced, the use of maximum likelihood estimation (MLE) is recommended (e.g., Cohen et al., 2003; Jamshidian, 2009). Moreover, MLE is appropriate when comparing models with different fixed-effects specifications via likelihood-ratio tests, and has the advantage of being easy to explain. Thus, I preferred MLE against restricted maximum likelihood (REML).

5.

FINDINGS

5.1. Descriptive Statistics

Turkish higher education has been a fast growing field. Number of public universities increased from 28 in 1983 to 103 in 2014 (see Appendix E for a complete list of universities established in Turkey until 2014). There has also been a significant growth in the private sector since the very first establishment in 1984. Number of private universities reached 68 in 2014 (see Figure 5.1).

My data consists of yearly observations for all universities in the Turkish higher education field between 1983 and 2014. A university is included in the panel data set only if it had an intake of students at the faculty level in a particular year.

Figures 5.2 and 5.3 present the the number of programs with foreign language-medium instruction (in marginal, partial and full forms) among public and private universities respectively. For both sub-populations, instruction in foreign languages other than English has been very limited. For public universities, number of programs with marginal English-medium instruction had been significantly higher than partial and full forms up to 2009. The pattern in private universities is quite different. Figure 5.3. shows the dominance of full adoption over partial and marginal forms.

As explained in the methods chapter, the variable extent of English-medium instruction among a reference group of competitor universities was measured as the average extent of adoption among universities in the same region (or alternatively for those universities in the same region and that has the same ownership structure). This variable cannot be calculated when there exist no other universities in the focal university's region for a particular year.

All independent and control variables are lagged by one year to mitigate the possibility of simultaneity. After these calculations, the initial data became 1870 university-year observations, belonging altogether to 160 universities.

Boğaziçi University and Middle East Technical University as the pioneer adopters of English-medium instruction in the Turkish higher education field, as well as Galatasaray University that adopt French-medium instruction due to an intergovernmental agreement were excluded from the analyses.

İstanbul University, Ankara University, and İstanbul Technical University as the representatives of the 'Continental European' model were involved in the measurement of the degree to which a university identifies with the 'Continental European' model. Therefore, these three universities are also excluded from the analysis sample. Yet, I did further analyses (explained in the additional analyses section below) that included them in the sample to see whether their exclusion has an effect on the results.

After exclusion of the above mentioned six universities (Boğaziçi University, METU, Galatasaray University, İstanbul University, Ankara University and İstanbul Technical University) the final data set consists of 1695 university-year observations, belonging altogether to 154 universities. Table 5.1 displays the means, standard deviations, and correlations of the study variables. The table shows that alternative measures of the degree to which a university identifies with the 'Continental European' model (i.e. 'identification with the 'Continental European' model (1981)', and 'identification with the 'Continental European' model (logic)') turned out to be very strongly correlated (Table 5.1, .93, $p<.001$). I used 'identification with the 'Continental European' model (1981)' in the main set of analyses, but also checked for the consistency of the results for the variable 'identification with the 'Continental European' model (logic)'.

Table 5.1 also shows that alternative measures of the extent of English-medium instruction among a reference group of competitor organizations (i.e. 'English in the same region', and 'English in the same region and same ownership') are very strongly correlated (Table 5.1, .86, $p< .001$). I prefer using 'English in the same region' since 'English in the same region and same ownership' has a very strong correlation also with the ownership variable 'private' (Table 5.1, .90, $p<.001$).

Table 5.1 shows that pairwise correlations range from strong (between .40 and .69) to negligible (below .10), except that the extent of English-medium instruction

among a reference group of competitor universities' ('English in the same region') strong correlation (above .70) with the level of competition ('competition') and the developmental status of the city where the university is located ('city development'). As explained in the methods chapter, I use all Level 1 covariates as within-university centered. Level 2 variables (except dummy coded ones) are grand-mean centered. The time variable 'year' and 'size' of the university is rescaled (divided by 1000) in order to better comprehend the potential meaning of the coefficient estimate.

5.2. Results of Hypothesis Testing

As mentioned in the methods chapter, I developed a set of multilevel random intercept models to test the study hypotheses, by using the incremental improvement procedure that Hox (2010) demonstrated.

At Level 1; the degree to which a university identifies with the 'Continental European' model ('identification with the 'Continental European' model (1981)', here after called 'identification with the 'Continental European' model'), the extent of English-medium instruction among a reference group of competitor organizations ('English in the same region'), the squared root of the extent of English-medium instruction among a reference group of competitor organizations ('sq_English in the same region'), 'academic fit' and 'student fit' are used as the predictors of English-medium instruction, whereas 'size' and dummy variables 'year1992', 'year1995-1996', 'year2006-2008', 'post2008' are used as control variables. The variable 'year' is also included to control for a potential time trend. At Level 2; dummy variables for the periods 'English for privileged', and 'monitoring' are used as predictors, and 'city development' and 'private' are used as control variables.

I estimated the models using the 'xtmixed' option in Stata 12 with maximum likelihood estimation method. The estimated effects, standard errors and variance components are presented in Table 5.2. In order to partition the variance for the outcome variable into Level 1 (within-university) and Level 2 (between-university) components, I first ran a null model that had no predictors at either level (Model 1). Here, I calculated the intra-class correlation (ICC), which reflects the proportion of the

total variance that is between-groups, as 96 percent. This value shows that yearly observations nested within universities are highly dependent, and 96 percent of the variance in the dependent variable is between universities.

Model 2 in Table 5.2 is the random intercept model with Level 1 variables. In Model 3, all the Level 1 and Level 2 variables enter in the random intercept model. Next, I add the interaction terms at Level 1 in Model 4. Finally, Model 5 presents the full model including the cross-level interaction. The hypotheses where I predict a main effect of predictor variables (i.e. Hypotheses 1, 2, 4, 5 and 6) are tested in Model 3, whereas the interaction hypotheses (i.e. Hypotheses 3, 7, and 8) are tested in Model 5.

Hypothesis 1 states that the extent of English-medium instruction will be lower in those universities that are established in 'English for privileged (pre-1996)' and 'monitoring (post-2008)' periods. Estimates in Model 3 show that the estimated effect of being founded in 'English for privileged' period turned out to be positive but not significant (Model 3, $\beta = .03$, n.s.). Yet, the effect of being founded in the 'monitoring' period is, as predicted, negative and significant (Model 3, $\beta = -.20$, $p < .001$). Thus, Hypothesis 1 receives partial support. I also run this model using a categorical measure of founding period that takes 0 for those universities founded in 'English for privileged' period, takes 1 for those universities founded in the 'liberalization' period (i.e. between 1996 and 2008) and takes 2 for those universities founded in the 'monitoring' period. In this additional analysis, I tested for an inverted-U-shaped relationship between this categorical founding period variable and the extent of English-medium instruction following the prediction in Hypothesis 1. Estimate for the first order effect of this founding variable turned out to be positive but not significant ($\beta = .06$, n.s.), whereas estimates for the effect of its squared term is negative and significant ($\beta = -.09$, $p < .05$). These results further validate the partial support for Hypothesis 1.

In Hypothesis 2, I argue that the extent of English-medium instruction will be lower in those universities with greater levels of identification with the 'Continental European' model. The effect of the variable 'identification with the 'Continental European' model' is negative and significant (Model 3, $\beta = -.04$, $p < .05$). Therefore, Hypothesis 2 is supported.

Hypothesis 3 states that the hypothesized negative relationship with the degree to which a university identifies with the 'Continental European' model and the extent of English-medium instruction will be stronger for private universities. In line with this

prediction, the estimate for the interaction between 'identification with the 'Continental European' model and 'private' is negative and significant (Model 5, β= -.33, p< .001). I further probed the interaction relationship following the procedures set forth by Preacher, Curran, and Bauer (2006). The traditional approach to probing significant interaction effects is to choose several conditional values of the moderator variable at which to evaluate the significance of the simple slope for the regression of dependent variable on the main effect (Aiken & West, 1991). In order to employ the simple slopes method, conditional values of the moderator must be chosen. For dichotomous moderators, these are values of the dichotomy (usually 0 and 1). The graph of the interaction effect presented in Figure 5.4 shows that the effect of 'identification with the 'Continental European' model' is negative for private universities. Unexpectedly, however, it is positive for public universities. Thus, Hypothesis 3 is partially supported. I also ran these analyses for the alternative measure 'identification with the 'Continental European' model (logic)', and found that the results are consistent.

Hypothesis 4 states that the extent of English-medium instruction will have an inverted-U-shaped relationship with the extent of adoption among a reference group of competitor universities. The positive significant effect of 'English in the same region' (Model 3; β= .38, p< .001) together with the negative significant effect of its squared term 'sq_English in the same region' (Model 3, β= -.77, p< .001) lend support for Hypothesis 4.

In Hypotheses 5, I predict that the extent of English-medium instruction will be higher in those universities with higher levels of academic fit with English-medium instruction. Hypothesis 5 is supported as the estimate for the effect of 'academic fit' is positive and significant (Model 3, β= .02, p< .01).

Hypothesis 7 states that the positive effect of academic fit on the extent of English-medium instruction will be stronger under higher levels of competition. The interaction between 'academic fit' and 'competition' is positive and significant (Model 5, β= .00, p<.001) as predicted in Hypothesis 7. I again applied the simple slopes approach described above to further probe this interaction relationship. For continuous moderators, the specific choices for these values are less obvious and may be any value of scientific interest. In the absence of theoretically meaningful values, Cohen et al. (2003) recommend choosing moderate (at the mean), high (at 1 SD above the mean) and low (at 1 SD below the mean) values of the moderator variable. Figure 5.5 shows

that the relationship between academic fit and extent of English-medium instruction becomes positive and significant as the level of competition increases. Therefore, Hypothesis 7 is also supported.

The estimate for the effect of 'student fit' on the extent of English-medium instruction is not significant (Model 3, β= .01, n.s.). Thus, Hypothesis 6 is not supported. In Hypothesis 8, I further predict that the positive effect of student fit will be stronger under higher levels of competition. The interaction between 'student fit' and 'competition' is also not significant (Model 5, β= -.00, n.s.). Therefore, there is no support for Hypothesis 8.

With regard to control variables, the estimated effect for 'post2008' is not significant (Model 3, β= -.01, n.s.). Size of the university has a negative effect on the extent of English-medium instruction (Model 3, β= -.01, $p < .001$), whereas the developmental status of the city where the university is located (Model 3, β= .03, $p < .01$) and private ownership (Model 3, β= .45, $p < .001$) have significant positive effects.

5.3. Additional Analyses

To increase the confidence in the above analysis results, I did a set of further analyses. The results of these additional analyses are provided in Table 5.3 and Table 5.4. The same five-model procedure used in the main set of analyses (presented in Table 5.2) is employed in these additional analyses. Yet, I only present the results for Model 3 and Model 5, as they are the relevant models for hypothesis testing.

As explained above, the Continental European-modeled universities are excluded from the main set of analyses due to their involvement in the measurements of certain study variables. The first additional analysis (the results of which is presented in Table 5.3) is a replication of the main set of analyses, this time without excluding these three universities. The direction and significance of the hypothesized effects are to a great extent consistent with the main set of analyses presented in Table 5.2. The only change is the estimate for the effect of 'academic fit' that was significant in the main analysis becoming insignificant (Table 5.3, Model 3, β= .01, n.s.).

The second additional analysis (the results of which is presented in Table 5.4)

considers a relaxed operationalization of the extent of English-medium instruction to see whether there is a significant change in the findings. In this analysis, the extent of English-medium instruction in a university is operationalized as the average extent of English-medium instruction across the programs belonging to the faculties of the university, this time taking also into account those programs that partially and marginally adopt the practice. The extent of English-medium instruction in the former type of programs is counted as 30%, whereas the latter type of programs is counted as 10%.

The resulting estimates for the models with this alternative dependent variable (presented in Table 5.4) are to a great extent consistent with the main analysis. The only change is the estimate for the effect of 'identification with the 'Continental European' model' that was significant in the main analysis becoming insignificant (Table 5.4, Model 3, $\beta = .02$, n.s.).

Figure 5.1 Number of universities in the Turkish higher education field

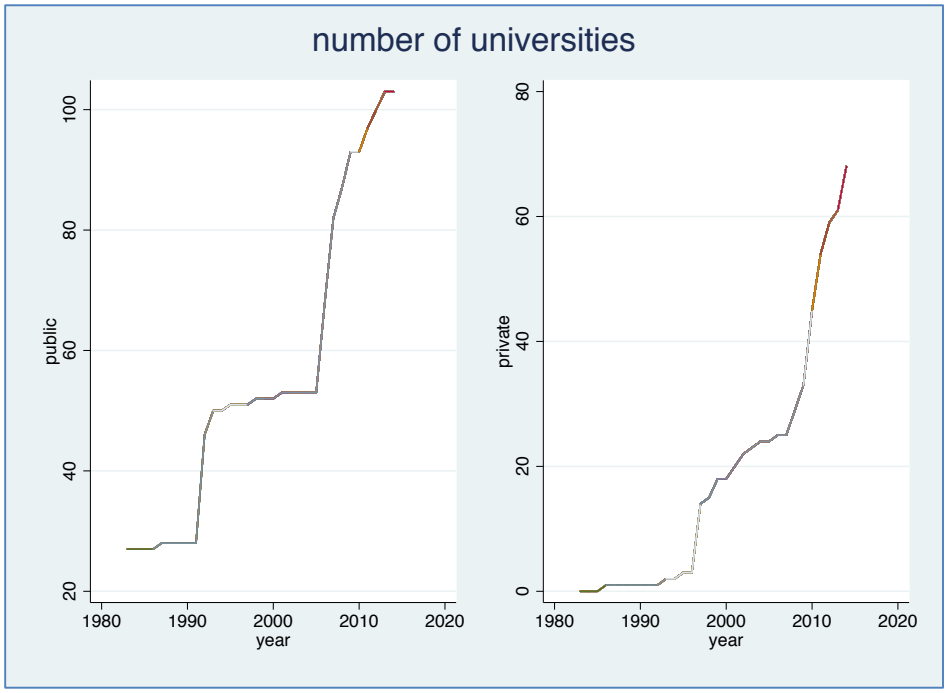


Figure 5.2 Language of instruction (public universities)

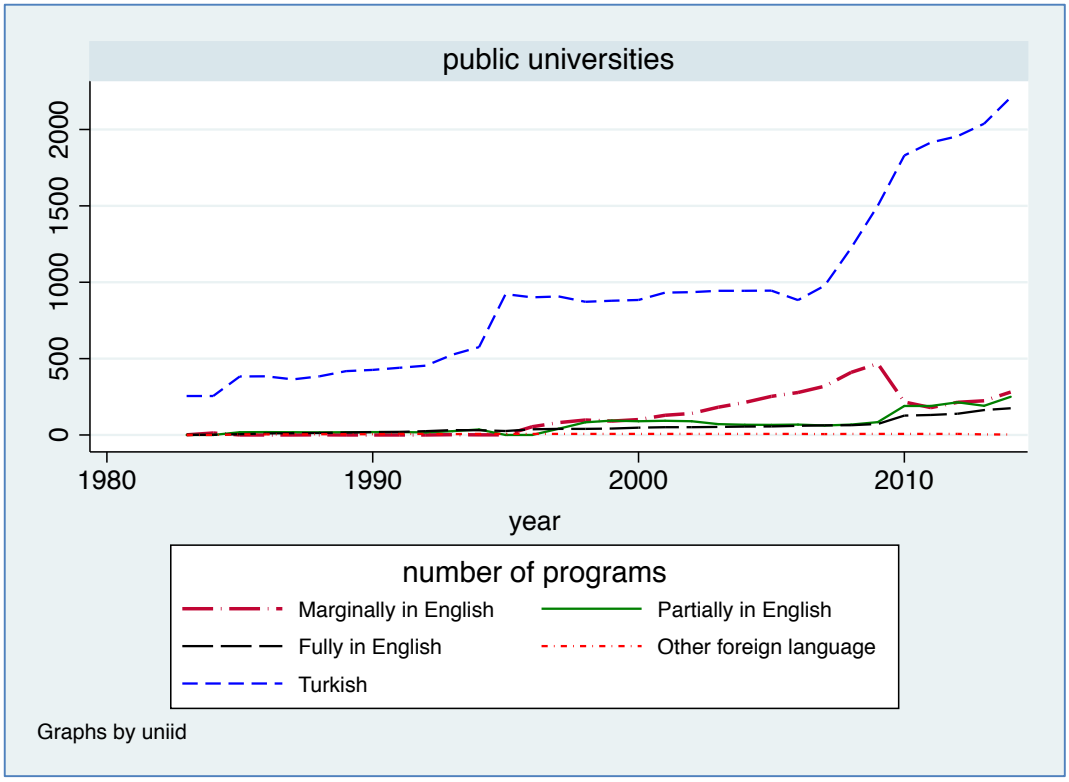


Figure 5.3 Language of instruction (private universities)

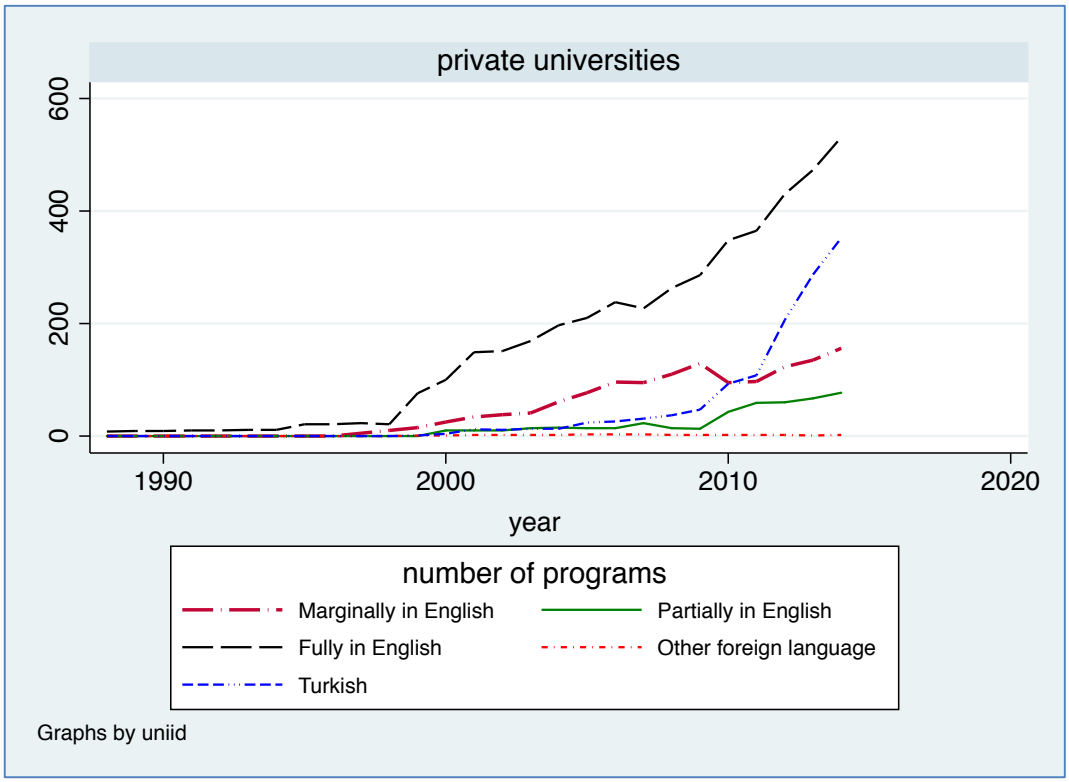


Figure 5.4 The interaction of identification with the 'Continental European' model and private ownership

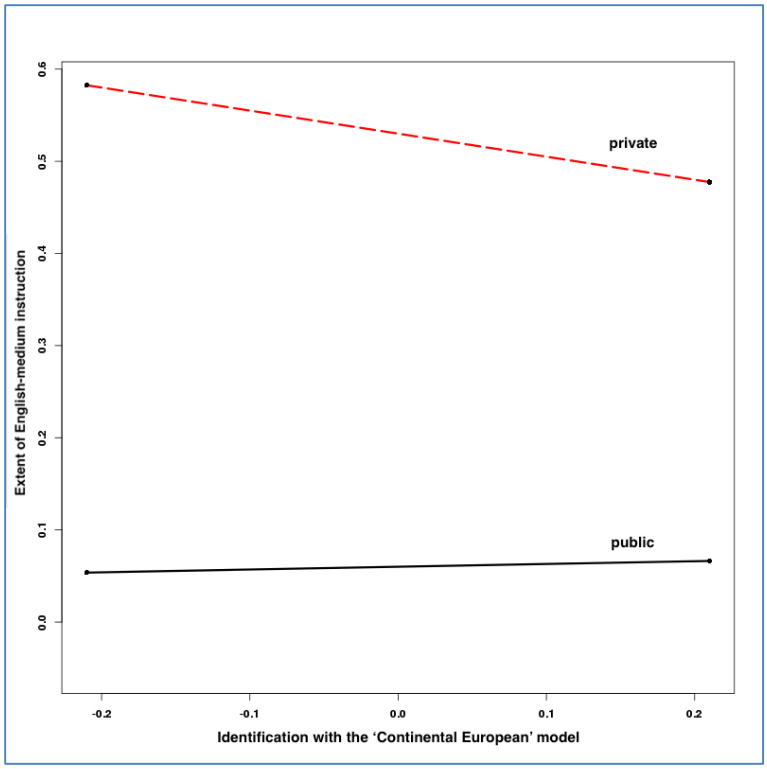


Figure 5.5 The interaction of academic fit and competition

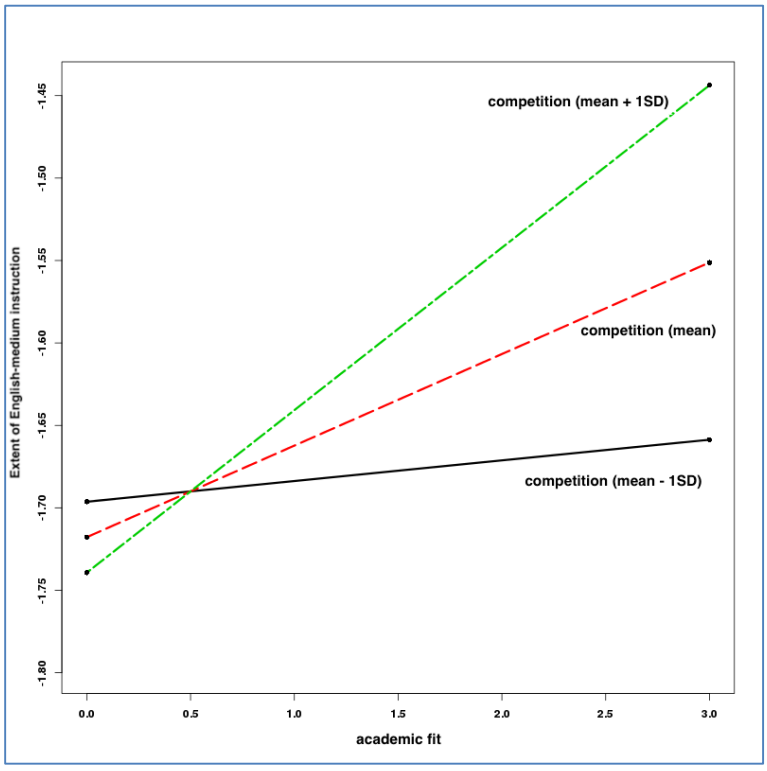


Table 5.1 Means, standard deviations and correlations

	Study Variables	*Mean*	*SD*	1	2	3	4	5	6	7
1	English for privileged	*.64*	*.48*							
2	Monitoring	*.06*	*.23*	-.19***						
3	Identification with 'Continental European' (1981)	*.32*	*.23*	.40***	-.03					
4	Identification with 'Continental European' (logic)	*.36*	*.24*	.36***	-.03	.93***				
5	English in the same region	*.16*	*.18*	-.34***	.13***	-.01**	-.03			
6	English in the same region and same ownership	*.20*	*.26*	-.50***	.18***	-.13***	-.15***	.86***		
7	Academic fit	*.01*	*.98*	.22***	-.02	.30***	.26***	.24***	.08**	
8	Student fit	*-.05*	*.53*	.27***	.01**	.24***	.19***	.34***	.11***	.47***
9	Competition	*8.88*	*10.75*	-.46***	.25***	-.12***	-.10***	.80***	.63***	.06*
10	Year/1000	*2.00*	*.01*	-.48***	.26***	-.09**	-.03	.14***	.12***	.04+
11	Year1992	*.02*	*.14*	.06**	-.02	.02	.01	-.01	-.03	.00
12	Year1995-1996	*.04*	*.21*	.06**	-.04+	.00	-.01	-.11***	-.11***	-.02
13	Year2006-2008	*.13*	*.34*	.02	-.09**	-.04	-.02	.05*	.06*	.01
14	Post2008	*.37*	*.48*	-.44***	.22***	-.03	.00	.07**	.03	.03
15	Size/1000	*3.90*	*3.50*	.46***	-.19***	.30***	.35***	-.14***	-.34***	.00
16	City development	*.99*	*.90*	-.18***	.16***	.04*	.08***	.84***	.70***	.31***
17	Private	*.25*	*.43*	-.59***	.32***	-.24***	-18***	.68***	.89***	.05*

Table 5.1 (cont'd)[a]

	Study Variables	8	9	10	11	12	13	14	15	16
1	English for privileged									
2	Monitoring									
3	Identification with 'Continental European' (1981)									
4	Identification with 'Continental European' (logic)									
5	English in the same region									
6	English in the same region and same ownership									
7	Academic fit									
8	Student fit									
9	Competition	.25***								
10	Year/1000	-.02	.36***							
11	Year1992	-.00	-.05+	-.19***						
12	Year1995-1996	-.02	-.11***	-.20***	-.03					
13	Year2006-2008	.03	-.02	.16***	-.04	-.08**				
14	Post2008	-.04+	.24***	.74***	-.08**	-.19***	-.30***			
15	Size/1000	.11***	-.23***	.09***	-.00	-.05*	.02	.05**		
16	City development	.43***	.62***	-.03	-.03	-.07**	-.04*	.01**	-.10***	
17	Private	.06+	.60***	.27***	-.04+	-.10***	.06*	.19***	-.44***	.56***

a. N= 1695 ; Private: 1=private, 0=public

+p<.10; *p<.05; **p<.01; ***p<.001, two-tailed test

Table 5.2 Multilevel random intercept models[a]

	Model 1		Model 2		Model 3		Model 4		Model 5	
	estimate	*SE*	*estimate*	*SE*	*estimate*	*SE*	*estimate*	*SE*	*estimate*	*SE*
Intercept	.22***	*.03*	-6.4	*1.3*	-5.6***	*1.4*	-6.2***	*1.4*	-5.8	*1.4*
Level 1										
Identification with Continental European			-.04*	*.02*	-.04*	*.02*	-.04*	*.02*	.03+	*.02*
English in the same region			.39***	*.09*	.38***	*.09*	.37***	*.10*	.36***	*.09*
sq_English in the same region			-.81***	*.18*	-.77***	*.18*	-.73***	*.18*	-.65***	*.18*
Academic fit			.01**	*.01*	.02**	*.01*	.01*	*.01*	.01*	*.01*
Student fit			.01	*.01*	.01	*.01*	.01	*.01*	.01	*.01*
Competition			-.00**	*.00*	-.00**	*.00*	-.00**	*.00*	-.00	*.00*
Year/1000			3.3***	*.66*	2.8***	*.68*	3.1***	*.69*	2.9***	*.67*
Year1992			.00	*.02*	.00	*.02*	.00	*.02*	.01	*.02*
Year19951996			-.00	*.01*	-.00	*.01*	-.01	*.01*	.00	*.01*
Year20062008			-.01+	*.01*	-.01+	*.01*	-.01*	*.01*	-.00	*.01*
Post2008			-.01+	*.01*	-.01	*.01*	-.01+	*.01*	-.01+	*.01*
Size/1000			-.01***	*.00*	-.01***	*.00*	-.01***	*.00*	-.01***	*.00*
Level 2										
English for privileged					.03	*.05*	.03	*.05*	.03	*.05*
Monitoring					-.20***	*06*	-.20***	*06*	-.20***	*06*
City development					.03**	*.01*	.02*	*.01*	.02*	*.01*
Private					.45***	*.05*	.45***	*.05*	.46***	*.05*
Level 1 interactions										
Academic fit X Competition							.00***	*.00*	.00***	*.00*
Student fit X Competition							-.00	*.00*	.00	*.00*
Level 1*2 interactions										
Identification with Continental European X Private									-.33***	*.04*
Random components										
var(intercept)	.12	*.01*	.11	*.01*	.06	*.01*	.06	*.01*	.06	*.01*
var(residual)	.005	*.00*	.004	*.00*	.004	*.00*	.004	*.00*	.004	*.00*
Model fit										
Log Likelihood	2282.6342		1800.1197		1844.4894		1851.1076		1883.6829	
Wald (χ2)	NA		84.34		203.24		21765		287.42	

a. N= 1695 (154 universities); Private: 1=private, 0=public

+p<.10; *p<.05; **p<.01; ***p<.001, two-tailed test

Table 5.3 Multilevel random intercept models without excluding İstanbul, Ankara, and İstanbul Technical University[a]

	Model 3		Model 5	
	estimate	*SE*	*estimate*	*SE*
Intercept	-6.1***	*.3*	-5.6***	*1.3*
Level 1				
Identification with Continental European	-.06***	*.02*	.01	*.02*
English in the same region	.38***	*.10*	.39***	*.10*
sq_English in the same region	-.79***	*.18*	-.79***	*.18*
Academic fit	.01	*.00*	.01	*.00*
Student fit	-.00	*.01*	-.00	*.01*
Competition	.00	*.00*	.00	*.00*
Year/1000	3.0***	*.65*	2.8***	*.64*
Year1992	.00	*.02*	.00	*.02*
Year19951996	-.01	*.01*	-.00	*.01*
Year20062008	-.01+	*.01*	-.01+	*.01*
Post2008	-.01	*.01*	-.01	*.01*
Size/1000	-.01***	*.00*	-.01***	*.00*
Level 2				
English for privileged	.03	*.05*	-.03	*.06*
Monitoring	-.20***	*.06*	-.20***	*.06*
City development	.03*	*.01*	.02+	*.01*
Private	.45***	*.05*	.46***	*.05*
Level 1 interactions				
Academic fit X Competition			.00*	*.00*
Student fit X Competition			-.00	*.00*
Level 1*2 interactions				
Identification with Continental European X Private			-.34***	*.04*
Random components				
var(intercept)	.06	*.01*	.06	*.01*
var(residual)	.005	*.00*	.005	*.00*
Model fit				
Log Likelihood	1902.6785		1938.9756	
Wald (χ2)	201.58		278.89	

a. N= 1791 (157 universities); Private: 1=private, 0=public
+p<.10; *p<.05; **p<.01; ***p<.001, two-tailed test

Table 5.4 Multilevel random intercept models for the alternative operationalization of the dependent variable[a]

	Model 3		Model 5	
	estimate	*SE*	*estimate*	*SE*
Intercept	-6.4***	*1.3*	-6.4***	*1.3*
Level 1				
Identification with Continental European	.02	*.02*	.10***	*.02*
English in the same region	.37***	*.08*	.34***	*.08*
sq_English in the same region	-.40**	*.14*	-.31*	*.14*
Academic fit	.02***	*.01*	.02***	*.01*
Student fit	.01	*.01*	.01+	*.01*
Competition	-.00***	*.00*	-.00***	*.00*
Year/1000	3.2***	*.66*	3.2***	*.65*
Year1992	-.00	*.02*	.00	*.02*
Year19951996	-.01	*.01*	-.01	*.01*
Year20062008	-.01*	*.00*	-.01*	*.00*
Post2008	-.01+	*.01*	-.01+	*.01*
Size/1000	-.01***	*.00*	-.01***	*.00*
Level 2				
English for privileged	.03	*.05*	.03	*.05*
Monitoring	-.16**	*.05*	-.16**	*.05*
City development	.03***	*.01*	.03**	*.01*
Private	.46***	*.05*	.45***	*.05*
Level 1 interactions				
Academic fit X Competition			.00***	*.00*
Student fit X Competition			.00	*.00*
Level 1*2 interactions				
Identification with Continental European X Private			-.35***	*.04*
Random components				
var(intercept)	.06	*.01*	.06	*.01*
var(residual)	.00	*.00*	.00	*.00*
Model fit				
Log Likelihood	1903.3942		1952.1129	
Wald (χ2)	321.98		434.00	

a. N= 1695 (154 universities); Private: 1=private, 0=public
+p<.10; *p<.05; **p<.01; ***p<.001, two-tailed test

6.

DISCUSSION

The early literature on diffusion implicitly assumed homogeneity of diffusing practices across time and space, treating them as essentially invariant. Accordingly, practice adoption is considered as an either-or proposition and efforts concentrated on explaining the determinants of the decision to adopt a diffusing practice.

The subsequent realization of variation in the form and extent of practice implementation, redirected research on understanding the dynamics of this variation in diffusion processes (Lounsbury, 2007; Ansari, Fiss, & Zajac, 2010). Although researchers have made significant advances in identifying the organizational as well as field-level determinants of this variation, they substantially considered the emergence of practice variation as an essential aspect of the implementation process (Gondo & Amis, 2013; Chandler, 2015). Accordingly, the main focus has been on explaining how the content or extent of the practice may vary once it is adopted by organizations.

Yet, widespread diffusion of a practice does not necessarily imply greater homogeneity of organizations. Increasing evidence shows that full convergence is not a necessary or even likely outcome of diffusion (Kraatz & Zajac, 1996; Fiss, Kennedy, & Davis, 2012; Klingler-vidra & Schleifer, 2014). In this dissertation, I explored the dynamics of this variation in the adoption of a controversial practice violating certain institutionalized norms of the field, which provides a richer ground in terms of the forces at play.

Existing research primarily attributes variation in practice adoption to the purposeful adaptation by those implementing them. Though I expect these organizational evaluations of market conditions or consistency with organizational characteristics, I additionally propose institutional processes that lead to variation in the extent of embracement for a diffusing practice. Accordingly, I developed a theoretical

framework that included institutional, competitive and organizational mechanisms that are likely sources of heterogeneity in the extent of practice adoption.

The first institutional argument concerns the long-lasting impact of the institutional framework that is present in the founding period of organizations. Drawing on imprinting theory, I argued that organizations founded in periods where there was a more restrictive cognitive or regulative institutional framework were likely to adopt the practice to a lesser extent.

Next, I proposed that the existence of alternative organizational models as a likely source of diversity in the field. Emulation towards an organizational model that is characterized by resistance to the diffusing practice was, I argued, likely to lead to lower levels of adoption by the organization.

Then, I considered the influence of competitive processes on the extent to which organizations adopted the diffusing practice. Here I predicted an inverted-U-shaped relationship; the extent of adoption first increasing then decreasing with the extent to which competitor organizations adopt the diffusing practice.

Finally, I argued that organizations will be concerned about the compatibility between the characteristics of the diffusing practice and organizational resources such that lower levels of compatibility will lead to lower levels of adoption.

6.1. Discussion of Findings

Empirical analysis on the diffusion of English-medium instruction in the Turkish higher education field lend considerable support for the above stated predictions.

In line with the imprinting argument, I find that universities founded in the post-2008 period where English-medium instruction is made subject to monitoring of the Higher Education Council adopted the practice less extensively. Yet, the related prediction for universities founded in the pre-1996 period where English-medium instruction was perceived as a characteristic of a privileged class of universities within the field did not hold. An underlying cause for this unexpected finding may be that there is some degree of fading in the imprinted patterns in this group of relatively early established universities. Though imprinted characteristics are expected to be quite persistent, there is also evidence that imprints may fade under certain conditions

(Bamford, Dean, & McDougal, 2000; Marquis & Tilcsik, 2013). Another interpretation may be that cognitive restrictions regarding the use of the practice in the period before 1996 are not as influential as regulative restrictions that became effective in the period after 2008.

The findings also show that universities with greater levels of identification with the 'Continental European' model engage in lower levels of English-medium instruction. This further indicates that emulation of an alternative organizational model may work like a barrier in the diffusion of organizational practices. My prediction regarding the moderating effect of imprinting of early dispositions in the organizational collectives also find support. I find that the blocking effect of identification with the 'Continental European' model on the extent of English-medium instruction is stronger for private universities. What was unexpected is the finding that the effect of identification with the 'Continental European' model on the extent of English-medium instruction is not only weaker but even positive for public universities.

The results provide strong evidence for the predicted effect of competitive processes as well. The results suggest that universities more extensively adopt English-medium instruction as the practice is increasingly adopted by a reference group of competitor universities. Yet, this tendency for rivalvary-based imitation dies down as the extent of adoption among these competitors go beyond a certain threshold, where incentives for differentiation come into prominence.

The final set of predictions regarding the effect of organizational compatibility with the practice find mixed support. In line with the prediction, the availability of academic resources is strongly related to the extent of English-medium instruction in a university. This concern for academic 'fit' with the practice gets even stronger in the presence of higher levels of competition. Notably though, the additional analyses I conducted by including the three earliest universities in the country (Istanbul, Ankara and Istanbul Technical University) did not produce significant results with respect to the effects of the availability of academic resources. It may well be that there are differences in the extent to which these three universities as opposed to their counterparts took into consideration their academic resources in moving towards instruction in English. That the decisions to do so in these three universities were not sensitive to academic resources may have had to do more with the motivation to recover some of the lost ground to the two American-modeled universities in the country. Moreover, in moving in that direction they may have relied on their presumed capacities

as the oldest universities in the country to carry out instruction in English at least in some of their departments.

I failed to find support for the corresponding predictions for the student profile. One potential reason for this finding may be that universities are more concerned with the degree to which they possess the required academic resources which are emphasized in the related regulations, compared to the background of their students. An alternative explanation may be that universities share the common perception that English preparatory programs will be effective in bringing in a satisfactory proficiency in English, regardless of the background of the entrant students.

As explained in the previous two chapters, the main operationalization for the extent of English-medium instruction only counts those programs that use the practice in full. The results of the additional analysis for an alternative operationalization of the dependent variable that also takes into account those programs with marginal or partial forms of adoption shows that universities' level of identification with the 'Continental European' model does not show the predicted negative influence on extent of English-medium instruction. This observation, although unexpected, is valuable in that it may infer a conceptual distinction between the original form of the diffusing practice that is introduced with the pioneer adopters (all courses instructed in English) and other forms that have evolved over time (some of the courses are instructed in English). In the presence of market pressures towards the increased use of English-medium instruction, those universities that were cognitively more distant to the practice (those having higher degrees of identification with the 'Continental European' model) might be heading towards these alternative forms of usage in an effort to stay committed to Turkish-medium instruction at the same time.

6.2. Theoretical Contributions

The current study expands the extant literature on diffusion by shifting attention away from convergence models and provides a more detailed understanding of the mechanisms that create variation.

The findings overall suggest that heterogeneity in the acceptance of a diffusing practice across the members of an organizational field is an important yet neglected

determinant of practice variation in diffusion processes. As identified by Ansari, Fiss and Zajac (2010), new practices and ideas do not diffuse into a cultural void but, rather, into a preexisting cultural universe that delineates the boundaries of appropriate behavior. Accordingly, many diffusing practices may not be in line with the theories and values of the potential adopters and prevailing norms (Klingler-vidra & Schleifer, 2014).

One source of heterogeneity in the acceptance of a diffusing practice is inter-organizational variation in the founding institutional environment and resulting imprinted influences on organizations. This mechanism likely to be especially effective in growing organizational fields that incorporate variation in organizational founding periods, and when there are changes in institutional environment.

A second source of this heterogeneity is inter-organizational variation in the level of identification with alternative organizational models existing in the field. Even directly contradictory models in an organizational field may have the imprints of legitimacy and become likely candidates for emulation (Hambrick et al. 2005; Heugens & Lander, 2009). Given widespread adoption and the resulting pressure for further diffusion of a practice, the presence of a visible alternative organizational model that is characterized by resistance seem to work as a barrier since the members of the field that identify with this model likely to have lower levels of acceptance for the practice.

Beyond these organization-level influences, the present study offers institutional processes operating at the level of organizational collectives. It is considered that patterns established in the early entrants of the collective under the constraints of the founding economic, technological, and institutional conditions have imprints on the practice norms of the following members of the collective (Stinchcombe, 1965). In the context of Turkish higher education, public and private universities represent distinct sub-populations that also have differing founding conditions and early formations on language of instruction. As discussed in Chapter 3, the finding that the above mentioned hindering effect of identification with the 'Continental European' model is stronger for private universities may indicate that a cognitive rapprochement with an alternative organizational model leads to a disengagement from what became the normatively accepted pattern within an organizational sub-population. Alternatively, members of the collective who identifies with the alternative model might be more committed to its elements to get the benefits of differentiation from the dominant orientation within the sub-population which is towards the 'American' model.

The study also strengthens the previous evidence on the role of competitive processes on practice adoption (Lieberman & Asaba, 2006). Competitive interaction is shown to be influential in the diffusion of controversial practices as well (Kraatz & Zajac, 1996; Kraatz, Ventresca, & Deng, 2010). Yet, rather than validating a linear effect of competitive mimicry predicted by these studies, I show that the tendency for mimicry of competitor organizations dies off at a certain point when increased extent of adoption within the reference group increases intensity of competition.

The final theoretical contribution of the study is to show that the concern for organizational compatibility with a diffusing practice is an important determinant of extent of adoption. Previous research indicates that organizations are concerned about the availability of required resources for implementation (Compagni, Mele, & Ravasi, 2015), and the diffusion process across time and across adopters should be assessed as an issue of dynamic 'fit' between practice and adopter (Ansari, Fiss, & Zajac, 2010). This study is an effort towards a better understanding of the relationship between this practice-organization 'fit' and extent of practice adoption, and provides initial empirical evidence in support of this effect.

Overall, this study demonstrates that institutional, competitive and organizational processes are altogether likely to lead to practice variation in diffusion. The degree to which organizations accept a diffusing practice is influenced by cognitive and regulative institutional processes as well as the mimicry of alternative organizational models that visibly exist in the field. Extent of adoption is also shaped through competitive interactions among similar organizations and the degree to which organizational resources are compatible with the diffusing practice.

Beyond the diffusion literature, the study also contributes to the recently growing studies on institutional sources of practice variation. This stream of research demonstrates how ambiguity in the institutional environment (Edelman, 1992), active promotion of an organizational practice by field-level associations (Lounsbury, 2001), and the existence of competing institutional logics (Lounsbury, 2007) lead to variation in practice adoption. What this study adds is to show that practice variation may also be emanating from temporal variations in the cognitive and regulative institutional framework regarding the diffusing practice as well as the existence of visible organizational models with alternative templates for the practice in question.

DiMaggio and Powell (1983) emphasized that legitimate organizational models in an organizational field will diffuse to other organizations through imitation. More recent

research draw attention to the potential existence of alternative organizational models in place (Hambrick et al., 2005; Heugens & Lander, 2009). An additional contribution of this study is to provide a mechanism through which existence of alternative legitimate organizational models in a field may lead to organizational heterogeneity.

6.3. Empirical Contributions

Reinforcing these theoretical contributions, this study also makes a number of empirical contributions to the literature. As stated in the previous chapters, language of instruction has been a very long-standing debate in the Turkish higher education field. The diffusion of English-medium instruction started in early 1980s, after about three decades after its first introduction to Turkish higher education with Middle East Technical University. There has been a rapid increase in the number of English-medium programmes offered by Turkish universities, especially after early 1990s. Despite the perceived higher status of the practice both among the receivers and the producers in the higher education system, it continues to be controversial not only in sociopolitical terms, but also with respect to cognitive-pedagogical and educational policy perspectives (Selvi, 2014).

Given this background, it is important to see how widespread English-medium instruction became in the field, as well as potential heterogeneity in its distribution. Empirical analyses conducted in this dissertation show that the extent of adoption has varied significantly among universities and over time. Though private universities, on average, have higher levels of adoption compared to public universities, there seems to be a recent move towards Turkish-medium instruction within the former sub-population. This finding is in line with the global trend presented in a recent report by British Council on the size of English-medium instruction in countries, where the first language of the majority of the population is not English (Dearden, 2015). Yet, there also exist significant variation among the members of both private and public university sub-populations in the context of the Turkish higher education field.

Another important observation is that universities located in larger and developed cities also have higher extent of English-medium instruction. The opposite is true for larger universities; they adopt the practice to a lower extent.

There is also notable variety in the forms of medium of instruction present in programmes offered by Turkish universities. Though English is the most common, other foreign languages such as German and French are also used as the medium of instruction. Moreover, beyond programmes using foreign language medium instruction in full, the share of adoption in marginal or partial forms is significant. These latter type of applications is more common among public universities.

6.4. Study Limitations and Directions for Future Research

In testing the predictions put forth by this study, I controlled for certain alternative factors that may lead to variation in the extent to which universities adopt English-medium instruction. These are the ownership structure, location and size of the university as well as some field-level events concerning the use of the practice. Yet, archival methodology applied in this study did not allow for the direct examination of intra-organizational processes such as political and social interests of the members (Compagni et al., 2015; Fiss & Zajac, 2004).

Moreover, though the study considers the imprinting of founding environmental conditions and imprinting of the organizational collective, it does not capture the characteristics of the founding rector or the founder (in the case of private universities) which might also have a lasting impact on university practices.

Although decision making in universities is expected to be highly centralized in the context of Turkish higher education, the initiative for foreign language-medium instruction may begin from the faculties or programs in certain instances. Yet, the ultimate decision has to be made by the university. Moreover, this bottom-up process is less likely to be present in those universities following a uniform language of instruction policy.

Some disciplinary dynamics might also be influential in the adopted language of instruction in universities. Certain disciplines such as engineering and sciences may be more amenable to foreign language-medium instruction, when compared to other disciplines such as law. There may be value in understanding these kind of disciplinary dynamics, perhaps with a qualitative approach, and considering the potential implications on language of instruction.

In addition to above stated concerns, some contextual conditions might have influenced my observations. Turkish higher education is a highly structured field under the influence of strong institutional pressures. The empirical analyses suggest that universities have strong inertia in the medium of instruction, they are to a great extent committed to initial choices at founding. Thus, the decision to adopt and the extent of adoption is very much shaped at the founding stage. Other researchers have focused on contexts where organizational change is more common (e.g., Kraatz & Zajac, 1996). Inertial tendency present in the context of this study provides a ground for the hypothesized imprinting processes both at the organization and collective levels, which may not be that strong in more volatile populations of organizations.

Next, unique features of the practice I studied may have influenced my findings. The concern for technical compatibility with the diffusing practice may be less prevalent in other contexts such as the diffusion of corporate governance practices (Fiss & Zajac, 2004; Fiss et al., 2012). Future studies, may investigate whether the dynamics I have observed occur in the case of other controversial or legitimate practices.

REFERENCES

Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of Innovations. *Academy of Management Review*, 16: 586–612.

Ahmad, F. (1995). *The making of the modern Turkey*. London: Routledge.

Aiken, L. S., & West, S. G. (Eds.) (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.

Akyüz, Y. (2006). *Türk Eğitim Tarihi: M.Ö.1000-M.S.2006*. Ankara: Pegem A Yayıncılık.

Amis, J., Slack, T., & Hinings, C. R. (2004). The pace, sequence, and linearity of radical change. *Academy of Management Journal*, 47: 15-39.

Anheier, H. K., Gerhards, J., & Romo, F. (1995). Forms of capital and social structure in cultural fields: Examining Bourdieu's social topography. *Amer. J. Sociology*, 100(4): 859–903.

Ansari. S. M., Fiss, P. C. & Zajac, E. J. (2010). Made to fit: How practices vary as they diffuse. *Academy of Management Review*, 35: 67-92.

Ataünal, A. (1993) *Cumhuriyet döneminde yükseköğretimde gelişmeler*. Ankara: Milli Eğitim Bakanlığı Yükseköğretim Genel Müdürlüğü.

Atay, D. (2005). Reflections on the cultural dimension of language teaching. *Language and Intercultural Communication*, 5: 222–236.

Bamford, C. E., Dean, T. J., & McDougall, P. P. (2000). An examination of the impact of initial founding conditions and decisions upon the performance of new bank start-ups. *Journal of Business Venturing*, 15(3): 253-277.

Bansal, P., Gao, J. & Qureshi, I. (2014). The Extensiveness of Corporate Social and Environmental Commitment across Firms over Time. *Organization Studies*, 35(7): 949–966

Barblan, A., Ergüder, Ü. & Gürüz, K. (2008). *Higher education in Turkey: Institutional autonomy and responsibility in a modernising society*. Bologna: Bononia University Press.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*. 17(1): 99–120.

Barney, J. B. (1986). Strategic factor markets: expectations, luck, and business strategy. *Management Science*, 42: 1231–1241.

Baum, J. A. C, Li, S.X., & Usher, J. M. (2000). Making the next move: How experiential and vicarious learning shape the locations of chains' acquisitions. *Administrative Science Quarterly*, 45: 766-801.

Baum, J. A. C., & Mezias, S. J. (1992). Localized competition and organizational failure in the Manhattan hotel industry. *Administrative Science Quarterly*, 37: 580-604.

Baum, J. A. C., & Singh, J. V. (1994). Organizational niches and the dynamics of organizational mortality. *American Journal of Sociology*, 100: 346–380.

Bayraktaroğlu, S. (2011). *Yabancı Dil Eğitimi Gerçeği; Yabancı Dille Eğitim Yanılgısı, Öğretmen Dünyası*, Ankara: ISBN: 978-605-61916-1-9

Bear, J. M. (1985). Historical factors influencing attitudes towards foreign language learning in Turkey. *Journal of Human Sciences of Middle East Technical University*, 1: 27–36.

Berns, M. (1988). The cultural and linguistic context of English in West Germany. *World Englishes*, 7(1): 37–49.

Briscoe, F., & Murphy, C., (2012). Sleight of hand? Practice opacity, third-party responses, and the interorganizational diffusion of controversial practices. *Administrative Science Quarterly*, 57 (4): 553–584.

Briscoe, F., & Safford, S. (2008). The Nixon in China effect: Activism, imitation, and the institutionalization of contentious practices. *Administrative Science Quarterly*, 53: 460–491.

Bromley, P., & Powell, W. (2012). From Smoke and Mirrors to Walking the Talk: Decoupling in the Contemporary World, *The Academy of Management Annals*, 6(1): 1-48.

Browne, W., & Rasbash, J. (2009). *Multilevel modeling*. In M. Hardy & A. Bryman (Eds.), Handbook of data analysis, p.481-504. London: Sage Pub.

Burns, L. R., & Wholey, D. R. (1993). Adoption and abandonment of matrix management programs: Effects of organizational characteristics and interorganizational networks. *Academy of Management Journal*, 36: 106–138.

Byun, K., Chu, H., Kim, M., Park, I., Kim, S., & Jung, J. (2011). English-medium teaching in Korean higher education: Policy debates and reality. *Higher Education*, 62: 431–449.

Carroll, G.R, & Huo, Y.P. (1986). Organizational task and institutional environments in ecological perspective: Findings from the local newspaper industry. *American Journal of Sociology*. 91: 838-873.

Carroll, GR., & Wade, JB. (1991). Density dependence in the organizational evolution of the American brewing industry across different levels of analysis. *Social Science Research*, 20: 271-302.

Casile, M., & Davis-Blake, A. (2002). When Accreditation Standards Change: Factors Affecting Differential Compliance of Public and Private Organizations. *Academy of Management Journal*, 45: 180-195.

Chandler, D. (2015). Organizational Susceptibility to Institutional Complexity: Critical Events Driving the Adoption and Implementation of the Ethics and Compliance Officer Position. *Organization Science*. 25(6): 1722–1743.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. NJ: Lawrence Erlbaum.

Coleman, James A. (2006). English-medium teaching in European higher education. *Language Teaching*, 39, 1–14.

Compagni A., Mele V., & Ravasi, D. (2015). How early implementations influence later adoptions of innovation: Social positioning and skill reproduction in the diffusion of robotic surgery. *Academy of Management Journal*, 58(1): 242-278.

Covaleski, M. A., & Dirsmith, M. W. (1988). An institutional perspective on the rise, social transformation, and the fall of a university budget category. *Administrative Science Quarterly*, 33: 562-588.

Crystal, D. (2003). *English as a global language (2nd ed.)*. Cambridge: Cambridge University Press.

Curran, P. J., Lee, T., Howard, A. L., Lane, S., & MacCallum, R. A. (2012). *Disaggregating within-person and between-person effects in multilevel and structural equation growth models*. In J. R. Harring & G. R. Hancock (Eds.), Advances in longitudinal methods in the social and behavioral sciences (pp. 217–253). Charlotte, NC: Information Age.

Czarniawska, B., & Sevon, G. (Eds.). (1996). *Translating organizational change*. Berlin: Walter de Gruyter.

Dacin, M. T. (1997). Isomorphism in context: The power and prescription of institutional norms. *Academy of Management Journal*, 40: 46–81.

Davis, G. F., & Greve, H. R. (1997). Corporate elite networks and governance changes in the 1980s. *American Journal of Sociology*, 103: 1–37.

Dearden, J. (2015). *English as a medium of instruction: A growing global phenomenon*. British Council.

Deephouse, D. L. (1999). To be different, or to be the same? It's a question (and theory) of strategic balance. *Strategic Management Journal*, 20: 147-166.

Demircan, Ö. (1988). *Dünden Bugüne Türkiye'de Yabancı Dil*. İstanbul: Remzi Kitabevi.

Demirel, Ö. (2004). Yabancı Dil Öğretimi, Ankara: Pegem Yayıncılık.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48: 147-160.

Dodd, C. H. (1962). *The Middle East Technical University*. In C. H. Dodd (Ed.), Studies in university government and administration (pp. 63-74). Ankara: ODTU.

Dogancay-Aktuna, S. (1995). An evaluation of the Turkish language reform after 60 years. *Language Problems and Language Planning*, 19(3), 221–249.

Doğançay-Aktuna, S. (1998). The Spread of English in Turkey and its Current Sociolinguistic Profile. *Journal of Multilingual and Multicultural Development*, 19(1): 24-39.

Doiz, A., Lasagabaster, D., & Sierra, J.M. (2011). Internationalisation, multilingualism and English-medium instruction. *World Englishes*, 30 (3), pp. 345–359.

Dokko G, Gaba V. 2012. Venturing into New Territory: Career Experiences of Corporate Venture Capital Managers and Practice Variation. *Academy of Management Journal* **55**(3): 563- 583.

Dölen, E., (2009). *Türkiye üniversite tarihi*. İstanbul: İstanbul Bilgi Üniversitesi Yayınları.

Edelman, L. B. (1992). Legal ambiguity and symbolic structures: Organizational mediation of civil rights law. *American Journal of Sociology*, 97: 1531-1576.

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, 12: 121–138.

Erdem, E. (1990). *Türkiye'de yabancı dille oğretim yapan öğretim kurumlarında fen öğretimi ve sorunları [Science education and its problems in Turkish institutions of foreign language medium instruction]* (Unpublished master's thesis). Hacettepe University, Ankara, Turkey.

Ergüder, Ü. (2015). *Yükseköğretimin fırtınalı sularında*. İstanbul: Doğan Kitap.

European Commission. (2006). *Europeans and their languages*. Special Eurobarameter, 243.

Fiegenbaum, A., & Thomas, H. (1995). Strategic groups as reference groups: Theory, modeling and empirical examination of industry and competitive strategy. *Strategic Management Journal*, 16: 461-476.

Fishman, J.A., Cooper, R.L. & Conrad, A.W. (eds) (1977). *The Spread of English: The Sociology of English as an Additional Language*. Rowley, MA: Newbury House.

Fiss, P. C, & Zajac, E. J. (2004). The diffusion of ideas over contested terrain: The (non) adoption of a shareholder value orientation among German firms. *Administrative Science Quarterly*, 49: 501-534.

Fiss, P. C., Kennedy, M.T. & Davis. G. F. (2012). How golden parachutes unfolded: diffusion and variation of a controversial practice. *Organization Science*. 23(4) 1077-1099.

Freely, J. (2009). *A bridge of culture: Robert College – Boğaziçi University, How an American College in İstanbul became a Turkish university*. İstanbul: Boğaziçi Üniversitesi Yayınevi.

Gelman, A., & Hill, J. (2006). *Data analysis using regression and multilevel /hierarchical models*. Cambridge: Cambridge University Press.

Goldstein, H. (2002). *Multilevel statistical models*. London: Hodder Arnold.

Gondo, M.B. &Amis, J .M. (2013). Variations in practice adoption the roles of conscious reflection and discourse. *Academy of Management Review*, 38 (2): 229-247.

Goodrick, E., & Salancik, G. R. (1996). Organizational discretion in responding to institutional practices: Hospitals and cesarean births. *Administrative Science Quarterly*, 41: 1-28.

Granovetter. M. (1985). Economic and social structure: The problem of embeddedness. *American Journal of Sociology*. 91: 481-510.

Greenwood, R., & Hinings, C. R. (1988). Design archetypes, tracks and the dynamics of strategic change. *Organization Studies*, 9: 293-316.

Greenwood, R., & Hinings, C. R. (1996). Understanding radical organizational change: Bringing together the old and the new institutionalism. *Academy of Management*

Review, 21: 1022–1054.

Greenwood, R., Suddaby, R., & Hinings. C. R. (2002). Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Acad. Management J.*, 45 58–80.

Greve, H. R. (1998). Managerial cognition and the mimetic adoption of market positions: What you see is what you do. *Strategic Management Journal*, 19: 967-988.

Gürüz, K. (1994). *Türkiye'de ve dünyada yükseköğretim bilim ve teknoloji raporu*. İstanbul: Türk Sanayicileri ve İşadamları Derneği (TÜSİAD).

Gürüz, K. (2008). *Yirmi Birinci Yüzyılın Başında Türk Milli Eğitim Sistemi*. İstanbul: Türkiye İş Bankası Kültür Yayınları.

Hambrick, D. C., Finkelstein, S., Cho, T. S., & Jackson, E. M. (2005). *Isomorphism in reverse: Institutional theory as an explanation for recent increases in intraindustry heterogeneity and managerial discretion*. In P. J. DiMaggio & W.W. Powell, Research in organizational behavior, 26: 307–350. Greenwich, CT: JAI Press.

Hannan, M, Ranger-Moore, J. & Banaszak-Holl, J. (1990). *Competition and the evolution of organizational size distributions*. In Jitendra V. Singh (ed.), Organizational Evolution: New Directions: 246-268. Newbury Park, CA: Sage.

Hannan, M. T., &Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 49: 149-164.

Haunschild, P. R., Miner. A. S. (1997). Modes of interorganizational imitation: The effects of outcome salience and uncertainty. *Admin. Sci. Quart*. 42: 472–500.

Haveman, H. A. (1993). Follow the leader: Mimetic isomorphism and entry into new markets. *Administrative Science Quarterly*, 38: 593-627.

Heugens, P., & Lander. M. (2009). Structure! Agency! (And other quarrels): Meta-analyzing institutional theories of organization. *Acad. Management J*., 52(1): 61–85.

Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Theoretical and methodological implications for organizational science. *J. Management,* 23: 623–641.

Hox, J. J. (2010). *Multilevel analysis. Techniques and applications (2nd ed.)*. New York: Routledge.

İlkin, S. (1972), "1920-1970 döneminde Turkiye'deki iktisat ve ticaret eğitimi ile ilgili kuruluşların gelişim tarihi üzerine bir deneme', F. Görün (der), *Türkiye'de okutulan iktisat üzerine*, Ankara: ODTU, 3-38.

İnalcık, H., & Quataert, D. (1994). *An economic and social history of the Ottoman Empire, 1300-1914*. Cambridge: Cambridge University Press

Jamshidian, M. (2009). *Strategies for analysis of incomplete data*. In M. Hardy & A. Bryman (Ed.), Handbook of data analysis, p.113-130. London: Sage Pub.

Johnson, V. (2007). What is organizational imprinting? Cultural entrepreneurship in the founding of the Paris Opera. *American Journal of Sociology*, 113(1): 97-127.

Josefy, M., Kuban, S., Ireland, D., & Hitt, M. (2015). All things great and small:

Organizational size, boundaries of the firm, and a changing environment. *The Academy of Management Annals*. 9(1): 715-802.

Kachru, B. (1992). *The Other Tongue: English across cultures*. Urbana: University of Illinois Press.

Kang, S., C. & Yanadori, Y. (2011). Adoption and coverage of performance-related pay during institutional change: An integration of institutional and agency theories. *Journal of Management Studies*, 48: 1837-1865.

Karahan, F. (2005). *Bilingualism in Turkey*. Proceedings of the 4th International Symposium on Bilingualism.

Kayaoglu, M. N., & Saglam, E. B. (2010). Sustainability and Feasibility of English-medium Instruction at Turkish Universities. *2nd International Symposium on Sustainable Development*, June 8-9, Sarajevo

Kennedy, M. T., & Fiss, P. C. (2009). Institutionalization, framing, and diffusion: The logic of TQM adoption and implementation decisions among U.S. hospitals. *Academy of Management Journal*, 52: 897-918.

Kimberly, J. R. (1976). Organizational size and the structuralist perspective: A review, critique, and proposal. *Administrative Science Quarterly*, 21, 571–597.

King, B. G., Clemens, E. S., & Fry, M. (2011). Identity realization and organizational forms: Differentiation and consolidation of identities among Arizona‘s charter schools. *Organization Science*, 22: 554-572.

Klingler-vidra, R., & Schleifer, P. (2014). Convergence more or less: why do practices vary as they diffuse?. *International Studies Review*, 16: 264-274.

Kirkpatrick, A. (2011). Internalization or Englishization: Medium of instruction in today’s universities. *The Hong Kong Institute of Education working paper series*. No. 2011/003.

Kocabaşoğlu, U. (2000). *Anadolu’daki Amerika: Kendi Belgeleriyle Osmanlı’daki Amerikan Misyoner Okulları (3. ed.)*. Ankara: İmge Kitabevi.

Kostova, T., & Roth, K. (2002). Adoption of an organizational practice by subsidiaries of multinational corporations: Institutional and relational effects. *Academy of Management Journal*, 45: 215–233.

Köksal, A. (2006). Yabancı dille öğretim: Türkiye’nin büyük yanılgısı. *Öğretmen Dünyası*. Ankara.

Köse, R. (1999). Üniversiteye Giriş ve Liselerimiz. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 15: 51-60.

Kraatz, M. S. (1998). Learning by association: Interorganizational networks and adaptation to environmental change. *Acad. Management J.,* 41(6): 621–643.

Kraatz, M. S., & Zajac, E. J. (1996). Exploring the limits of the new institutionalism: The causes and consequences of illegitimate organizational change. *American Sociological Review*, 61: 812-836.

Kraatz, M., Ventresca, M., & Deng, L. (2010). Precarious Values and Mundane Innovations: Enrollment Management in American Liberal Arts Colleges. *Academy of Management Journal*, 53: 1521-1545.

Kurdaş, K. (2004). *ODTÜ Yıllarım: Bir Hizmetin Hikayesi*. Ankara: ODTÜ Yayıncılık.

Lant, T. K., & Baum, J. A. C. (1995). *Cognitive sources of socially constructed competitive groups*. In W. R. Scott and S. Christensen (eds.), The Institutional Construction of Organizations: 31-47. Thousand Oaks, CA: Sage.

Lieberman, M. B., & Asaba, S. (2006). Why do firms imitate each other? *Academy of Management Review*, 31: 366–385.

Lounsbury, M. (2001). Institutional sources of practice variation: Staffing college and university recycling programs. *Administrative Science Quarterly*, 46, 29–56.

Lounsbury, M. (2007). A tale of two cities: competing logics and practice variation in the professionalizing of mutual funds. *Academy of Management Journal*, 50(2): 289-307.

Marquis, C., & Tilcsik, A. (2013). Imprinting: Toward a multilevel theory. *Academy of Management Annals*, 7: 193-243.

Mıhçıoğlu, C. (1969). Üniversitelerarası Giriş Sınavında Aldıkları Suçlara Göre Türkiye deki Liselerin Başarı Durumları. *Ankara Üniversitesi SBF Dergisi*.

Mızıkacı, F. (2010). Isomorphic and diverse institutions among Turkish foundation universities. *Eğitim ve Bilim*, 35(157), 140-151.

Nielsen, J. S. (2012). Religion, Ethnicity and Contested Nationhood in the Former Ottoman Space. Leiden: Brill.

Okçabol, R. (2007). *Yükseköğretim Sistemimiz*, Ankara: Ütopya Yayınları, Eğitim Dizisi

Oktay, A. (2015). Foreign Language Teaching: A Problem in Turkish Education. *Procedia - Social and Behavioral Sciences*, 174: 584–593.

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*. 16: 145-179.

Oliver. C. (1996). The institutional embeddedness of economic activity. In J. A. C. Baum & J, Dutton (Eds.). *Advances in strategic management*, 13: 163-187. Greenwich CT- lAI. Press.

Öncü, A. (1993). *Academics: The West in the Discourse of University Reform*. In Heper, M., Öncü, A., Kramer, H. (Eds.). Turkey and the West: Changing Political and Cultural Identities, 142-176. London: I.B. Tauris & Co Ltd Publishers.

Öniş, Z. (1992). Redemocratization and Economic Liberalization in Turkey: The Limits of State Autonomy. *Studies in Comparative International Development*, 27(2): 3-23.

Öniş, Z. (2011). Power, interests and coalitions: The political economy of mass privatization in Turkey. *Third World Quarterly*, 32(4): 707-24.

Özbay, F. (1990). *Üniversite çevresi.* In Yükseköğretimde sorunlar ve çözümler, 109-137. İstanbul: Cem Yayınevi.

Özdemir, E. (1992). *Terim hazırlama kılavuzu*, İstanbul: İTÜ

Palmer, D., Jennings, P., & Zhou, X. (1993). Late adoption of the multidivisional form by large U.S. corporations: Institutional, political and economic accounts. *Administrative Science Quarterly*, 38: 100–131.

Payaslıoğlu, A. (1996), *Türk yükseköğretiminde bir yeniliğin tarihi: Barakadan*

kampusa, 1954-1964. Ankara: ODTÜ.

Peteraf, M. A., & Shanley., M. (1997). Getting to know you: A theory of strategic group identity. *Strategic Management J*. 18: 165–186.

Philipson, R. (1992). *Linguistic imperialism*. Hong Kong: Oxford University Press.

Phillips, D. J., & Zuckerman, E. W. (2001). Middle-status conformity: Theoretical restatement and empirical demonstration in two markets. *The American Journal of Sociology*, 107(2): 379-429.

Phillips, D. J., Turco, C. J., & Zuckerman, E. W. (2010). *High-status conformity and deviance: Pressures for purity among U.S. corporate law firms*. Working paper, University of Chicago.

Porac, J. F., Thomas, H., Wilson, F., Paton, D., & Kanfer, A. (1995). Rivalry and the industry model of Scottish knitwear producers. *Administrative Science Quarterly*, 40: 203-227.

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, 31: 437–448.

Rao, H., Davis, G. F., & Ward. A. (2000). Embeddedness, social identity, and mobility: Why firms leave the NASDAQ and join the New York Stock Exchange. *Admin. Sci. Quart*. 45(2): 268–292.

Raudenbush, S., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods*. SAGE Publications.

Reed, H. A. (1975). *Hacettepe and Middle East Technical universities: New universities in Turkey*, Minerva, 13(2): 200-235.

Rhee, M., Kim, Y.C., & Han, J. (2006). Confidence in imitation: Niche-width strategy in the U.K. automobile industry. *Management Science*, 52: 501–513.

Rogers, E. M. (1995). *Diffusion of innovations*. Free Press, New York.

Rumelt, R. P. (1984). *Toward a strategic theory of the firm*. In Robert B. Lamb, (ed.) Competitive Strategic Management, Prentice-Hall, Englewood Cliffs, NJ, 557-570.

Sahlin, K., & Wedlin, L. (2008). *Circulating ideas: Imitation, translation and editing*. In R. Greenwood, C. Oliver, K. Sahlin-Andersson, & R. Suddaby (Eds.), The Handbook of Organizational Institutionalism: 218-242. Thousand Oaks, CA: Sage.

Sahlin-Andersson, K. 1996. Imitating by editing success: The construction of organizational fields. In B. Czarniawska & G. Sevon (Eds.), *Translating organizational change*: 69–92. Berlin: de Gruyter.

Sakaoğlu, N. (2003). *Osmanlı'dan günümüze eğitim tarihi*. İstanbul: İstanbul Bilgi Üniversitesi Yayınları, Eğitim.

Sanders, W. G., & Tuschke, A. (2007). The adoption of institutionally contested organizational practices: The emergence of stock option pay in Germany. *Academy Management Journal*, 50(1): 33–56.

Sarıçoban, G. (2012). Foreign language education policies in Turkey. *Procedia – Social and Behavioral Sciences*, 46: 2643–2648.

Sarıtosun, N. (1994). Türkiye Türkçesinde bilim dili ve terim sorunu. *İstanbul Üniversitesi İletişim Fakültesi VIII. Dilbilim Kurultayı*. İstanbul.

Schneiberg, M., & Clemens, E. S. (2006). The Typical Tools for the Job: Research Strategies in Institutional Analysis, Sociological Theory, 24(3), 195-227.

Schneiberg, M., & Soule, S. A. (2005). *Institutionalization as a contested, multilevel process: The case of rate regulation in American fire insurance*. G. F. Davis, D. McAdam, W. R. Scott, M. N. Zald, eds. Social Movements and Organization Theory, 122–160. New York: Cambridge University Press.

Scott, W. R. (2001). *Institutions and organizations*. 2nd ed. Sage.

Scott, W. R. (2003). *Organizations: Rational, Natural, and Open Systems*, 5th ed. (Prentice-Hall, New York).

Selvi, A. F. (2014). The medium-of-instruction debate in Turkey: Oscillating between national ideas and bilingual ideals. *Current Issues in Language Planning*, 15(2): 33-152.

Sevon, G. (1996*). Organizational imitation in identity formation*. In B. Czarniawska & Sevon (Eds.), Translating organizational change, 49-67. NY: Walter de Gruyter.

Sinanoğlu, O. (2000). *Bye bye Türkçe*. İstanbul: Otopsi Yayınları.

Skinner, C. J., Holt, D., & Smith, T. M. F. eds. (1989) *Analysis of Complex Surveys*. Chichester: Wiley

Smith, K. G., Grimm, C., Gannon, M., & Chen, M. (1991). Organizational information processing, competitive responses, and performance in the U.S. domestic airline industry. *Academy of Management Journal*, 34: 60–85.

Snijders, T., & Bosker, R. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modelling*. London: Sage.

Soule, S. (1999). The diffusion of an unsuccessful innovation. Annals of the American *Academy of Political and Social Science*, 566: 120–131.

StataCorp (2013). *Longitudinal data / panel data reference manual*, Release 13, Texas: Stata Press Publication.

Stinchcombe, A. L. (1965). *Social structure and organizations*. In J. G. March (Ed.), Handbook of organization: 142-193. Chicago: Rand-McNally.

Strang, D., & Macy, M. W. (2001). In search of excellence: Fads, success stories, and adaptive emulation. *American Journal of Sociology*, 107: 147–182.

Strang, D., & Meyer, J. W. (1993). Institutional conditions for diffusion. *Theory and Society*, 22: 487-511.

Strang, D., & Soule, S. (1998). Diffusion in organizations and social movements: From hybrid corn to poison pills. *Annual Review of Sociology*, 24: 265-290.

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20: 571–610.

Suchman, M.C., & Edelman, L.B. (1997). Legal Rational Myths: The New Institutionalism and the Law and Society Tradition. *Law & Social Inquiry*, 21 (4): 903-941.

Şengül, M. (2014). Türkiye'de üniversite ile iktidar ilişkileri ve taşra halleri. *Toplum ve*

Demokrasi, 8: 79-104.

Şimşek, Z., Fox, B. C. & Heavey, C. (2015). What's past is prologue: A framework, review, and future directions for organizational research on imprinting. *Journal of Management*, 41(1): 288-317.

Şişman, A. (2006). *XX. Yüzyıl başlarında Osmanlı Devletinde Yabancı Devletlerin Kültürel ve Sosyal Müesseseleri*. Ankara: Atatürk Araştırma Merkezi.

Tekeli, İ. (2010). *Tarihsel Bağlamı içinde Türkiye'de Yükseköğretimin ve YÖK'ün Tarihi*. İstanbul: Tarih Vakfı Yurt Yayınları.

Tekeli, İ., & İlkin, S. (1993). *Osmanlı İmparatorluğu'nda Eğitim ve Bilgi Üretim Sisteminin Oluşumu ve Dönüşümü.* Ankara: Atatürk Kültür, Dil ve Tarih Yüksek Kurumu Türk Tarih Kurumu Yayınları, VII (154).

Terlaak, A., & Gong, Y. (2008). Vicarious learning and inferential accuracy in adoption processes. *Academy of Management Review*, 33: 846–868.

Thornton, P. H., & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: executive succession in the higher education publishing industry, 1958-1990. *The American Journal of Sociology*, 105(3): 801-43.

Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal structure of organizations: Diffusion of civil service reform, 1800-1935. *Administrative Science Quarterly*, 28: 22-39.

Topaler, B., Üsdiken, B., Koçak, Ö., & Divarcı, A. (2015). *Constrained marketization and organizational responses: Universities in Turkey*. Presented in 31st EGOS Colloquium, Greece.

Tozlu, N. (1991). *Kültür ve eğitimi tarihimizde yabancı okullar*. Ankara: Akçağ Yayınları: 76.

Töreci, E. (2007). Bilim-eğitim dili olarak Türkçe ve 30 yillik bir deneyim. *Elektrik Mühendisliği Dergisi*, 431.

Turkish Higher Education Council (YÖK). (2004). *Türk Yükseköğretiminin Bugünkü Durumu [Present Situation of Turkish Higher Education*]. Ankara: YÖK

Uluçay, Ç., & Kartekin, E. (1958), *Yüksek Mühendis Okulu (Yük. Mühendis ve Yük. Mimar Yetiştiren Müesseselerin Tarihi*. İstanbul: Berksoy Matbaası

Üçoluk, G. (2002). Yabancı dilde eğitim neden toplumsal takıntımız? [Why foreign language teaching is our national obsession?]. *Üniversite ve Toplum*, 2(3),

Üsdiken, B. (2004). The French, the German and the American: Higher Education for Business in Turkey, 1883-2003, *New Perspectives on Turkey*, 5-38.

Üsdiken, B. (2011). *Transferring American models for education in business and public administration to Turkey, 1950-1970*. In Bilge Nur Criss, Selcuk Esenbel, Tony Greenwood and Louis Mazzari (eds.), *American Turkish Encounters: Politics and Culture, 1830-1989*, Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 316-330.

Üsdiken, B., Topaler, B., & Koçak, Ö. (2013). Yasa, Piyasa ve Örgüt Tiplerinde Çeşitlilik: 1981 Sonrasında Türkiye'de Üniversiteler. *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, 68(3), 187-223.

Uygun, S. (2003). Türkiye'de dünden bugüne özel okullara bir bakış (gelişim ve etkileri). *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*. 36: 1-2.

Uysal, H., Planks, L., & Dembovskaya, S. (2008). English language spread in local contexts: Turkey, Latvia and France. *Current Issues in Language Planning*, 8(2): 4-7.

Vinke, A., Snippe, J., & Jochems, W. (1998). English-medium content courses in non-English higher education: A study of lecturer experiences and teaching behaviours. *Teaching in Higher Education*, 3(3).

Wachter, B., & Maiworm, F. (2014). *English-taught programmes in European higher education: The picture in 2014*. Bonn: Lemmens.

Wang, L., & Maxwell, S. (2015). On disaggregating between-person and within-person effects with longitudinal data using multilevel models. *Psychological Methods*. 20 (1): 63-83.

Washington, M., & Ventresca, M. J. (2004). How organizations change: Three mechanisms supporting the incorporation of emerging strategies in U.S. higher education. *Organization Science*, 15(1):82–97.

Washington, M., & Zajac, E. J. (2005). Status evolution and competition: Theory and evidence. *Academy of Management Journal*, 48: 282–296.

Weber, K.F., Davis, G.F. & Lounsbury, M. (2009). Policy as myth and ceremony? The global spread of stock exchanges, 1980–2005, *Academy of Management*, 52(6): 1319–1347.

Wejnert, B. (2002). Integrating models of diffusion of innovations: A conceptual framework. *Annual Review of Sociology*, 28: 297–326.

Westphal, J. D., Gulati, R., & Shortell, S. M. (1997). Customization or conformity? An institutional and network perspective on the content and consequences of TQM adoption. *Administrative Science Quarterly*, 42: 366-394

Wright, S. (2006). French as a lingua franca. *Annual Review of Applied Linguistics*, 26, 35–60.

Zbaracki, M. (1998). The rhetoric and reality of total quality management. *Administrative Science Quarterly*, 43:602- 636.

Zeitz, G., Mittal, V., & McAulay, B. (1999). Distinguishing adoption and entrenchment of management practices: A framework for analysis. *Organization Studies*, 20: 741– 776.

Zukin, S., & DiMaggio, P. (1990). *Introduction.* In Structures of capital: The social organization of the economy, 1-36. Cambridge [England], New York: Cambridge University Press.

Appendix A
ÖSS Minimum Entrance Scores in Selected Disciplines (1974-1984)

1974						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		401696	*2*	NA	
ITU (1944)	425489	*2*	NA		NA	
Ankara (1946)	NA		NA		352687	*5*
Ege (1955)	NA		NA		384104	*2*
KTU (1955)	392643	*5*	NA		NA	
METU (1956)	418605	*4*	398784	*3*	360282	*4*
Atatürk (1957)	NA		338915	*4*	340145	*6*
Hacettepe (1967)	424400	*3*	NA		366993	*3*
Boğaziçi (1971)	431963	*1*	426262	*1*	397363	*1*

1975						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		477912	*3*	NA	
ITU (1944)	503830	*2*	NA		NA	
Ankara (1946)	NA		NA		422532	*5*
Ege (1955)	NA		NA		442363	*2*
KTU (1955)	468858	*5*	NA		NA	
METU (1956)	493004	*4*	478652	*2*	430104	*3*
Atatürk (1957)	NA		405076	*4*	412444	*6*
Hacettepe (1967)	503018	*3*	NA		428651	*4*
Boğaziçi (1971)	519019	*1*	506083	*1*	478139	*1*

1976						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		478514	*3*	NA	
ITU (1944)	496618	*3*	NA		NA	
Ankara (1946)	520194	*2*	NA		420474	*6*
Ege (1955)	NA		NA		448164	*2*
KTU (1955)	465541	*6*	NA		434371	*4*
METU (1956)	485258	*5*	484423	*2*	436060	*3*
Atatürk (1957)	NA		414674	*4*	413498	*7*
Hacettepe (1967)	495894	*4*	NA		425844	*5*
Boğaziçi (1971)	539392	*1*	508134	*1*	483470	*1*

Appendix A (cont'd)

1977						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		478514	*3*	NA	
ITU (1944)	496618	*2*	NA		NA	
Ankara (1946)	482120	*5*	NA		433580	*5*
Ege (1955)	NA		NA		448164	*2*
KTU (1955)	465591	*6*	NA		434371	*4*
METU (1956)	485258	*4*	484423	*2*	436060	*3*
Atatürk (1957)	NA		414674	*4*	413498	*7*
Hacettepe (1967)	495894	*3*	NA		425844	*6*
Boğaziçi (1971)	539392	*1*	508134	*1*	483470	*1*

1978						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		484762	*3*	NA	
ITU (1944)	481088	*4*	NA		NA	
Ankara (1946)	482678	*5*	NA		434291	*5*
Ege (1955)	492127	*2*	NA		456862	*2*
KTU (1955)	465655	*7*	NA		423469	*6*
METU (1956)	475549	*6*	494783	*2*	446708	*3*
Atatürk (1957)	NA		433146	*4*	422394	*7*
Hacettepe (1967)	486677	*3*	NA		435031	*4*
Boğaziçi (1971)	546042	*1*	526371	*1*	496979	*1*

1979						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	NA		483283	*3*	NA	
ITU (1944)	469557	*5*	NA		NA	
Ankara (1946)	468317	*6*	NA		439166	*5*
Ege (1955)	493911	*3*	NA		458882	*2*
KTU (1955)	NA		NA		432736	*6*
METU (1956)	502019	*2*	501622	*2*	453333	*3*
Atatürk (1957)	NA		442485	*4*	431837	*7*
Hacettepe (1967)	478547	*4*	NA		441424	*4*
Boğaziçi (1971)	529427	*1*	523146	*1*	494901	*1*

Appendix A (cont'd)

1982						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	409164	*2*	435312	*3*	NA	
Ankara (1946)	390765	*6*	416700	*4*	368414	*3*
ITU (1944)	402293	*3*	NA		NA	
Ege (1955)	401675	*4*	NA		362654	*5*
KTU (1955)	NA		NA		349132	*7*
METU (1956)	396850	*5*	451371	*2*	385080	*2*
Atatürk (1957)	NA		364038	*5*	351636	6
Hacettepe (1967)	388695	*7*	NA		367950	*4*
Boğaziçi (1971)	465470	*1*	472082	*1*	429229	*1*

1983						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	407490	*2*	441416	*3*	376907	*3*
Ankara (1946)	387026	*7*	432338	*4*	363127	*6*
ITU (1944)	405305	*3*	NA		NA	
Ege (1955)	398583	*5*	NA		363502	*5*
KTU (1955)	NA		372931	*6*	347798	*7*
METU (1956)	404220	*4*	483707	*2*	389827	*2*
Atatürk (1957)	NA		NA		341088	*8*
Hacettepe (1967)	390633	*6*	420810	*5*	365760	*4*
Boğaziçi (1971)	487253	*1*	527712	*1*	422483	*1*

1984						
	Chemical E.	*rank*	Business A.	*rank*	Mathematics	*rank*
İstanbul (1933)	398882	*3*	437457	*4*	375964	*3*
Ankara (1946)	384866	*6*	438697	*3*	356977	*6*
ITU (1944)	394717	*4*	NA		NA	
Ege (1955)	393047	*5*	NA		364460	*4*
KTU (1955)	NA		371678	*6*	333139	*8*
METU (1956)	409549	*2*	484061	*2*	399197	*2*
Atatürk (1957)	NA		NA		336024	*7*
Hacettepe (1967)	374027	*7*	396881	*5*	363041	*5*
Boğaziçi (1971)	484568	*1*	526854	*1*	426859	*1*

Appendix B
Faculty Composition of the Continental European-modeled Universities as of 1981

İstanbul University	**Ankara University**	**İstanbul Technical University**
Tıp (1933)	Hukuk (1946)	Elektrik (1944)
Hukuk (1933)	DTCF (Edebiyat) (1946)	İnşaat (1944)
Edebiyat (1933)	Fen (1946)	Makine (1944)
Fen (1933)	Tıp (1946)	Maden (1953)
İktisat (1936)	Veteriner (1948)	Kimya (1963)
Orman (1948)	Ziraat (1948)	Gemi İnşaat (1971)
Eczacılık (1962)	İlahiyat (1949)	Metalurji (1976)
Diş Hekimliği (1964)	Siyasal Bilgiler (1950)	İşletme Mühendisliği (1977)
İşletme (1968)	Eczacılık (1960)	
Kimya (1969)	Tıp (1963)	
Veteriner (1972)		
Yer Bilimleri (1978)		
Siyasal Bilgiler (1979)		

Appendix C
Faculties that Characterize the Uni-disciplinary Faculty Structure

Continental European	**Not Continental European**	**Not counted**
Denizcilik	Bilgisayar Bilimleri	Eğitim/Eğitim bilimleri
Diş Hekimliği	Bilgisayar ve Bilişim Bilimleri	Endüstriyel Sanatlar Eğitimi
Eczacılık	Deniz Bilimleri	Fen-Edebiyat/Temel Bilimler
Edebiyat/DTCF	Deniz Bilimleri ve Teknolojisi	İktisadi İdari Bilimler
Elektrik-Elektronik	Doğa Bilimleri, Mim. ve Müh.	Mesleki Eğitim/Mes.Yay.Eğitim
Fen	Fen İnsani Bilimler ve Edebiyat	Mesleki ve Teknik Eğitim
Gemi İnşaat	Gemi İnşaatı ve Deniz Bilimleri	Mimarlık/Mimarlık ve tasarım
Hava Ulaştırma	Gemi İnşaatı ve Denizcilik	Mühendislik
Hemşirelik	Güzel Sanatlar	Mühendislik ve Mimarlık
Hukuk	Güzel Sanatlar Tasarım ve Mim.	Teknik Eğitim/Teknoloji
İktisat	Güzel Sanatlar ve Mimarlık	
İlahiyat	Güzel Sanatlar ve Müzik	
İletişim	Güzel Sanatlar ve Tasarım	
İnşaat	Havacılık ve Uzay Bilimleri	
İşletme	İktisadi İdari ve Sosyal Bilimler	
Kimya	İlahiyat Bilimleri / İslami İlimler	
Maden	İletişim Bilimleri	
Metalurji	İnsan ve Toplum Bilimleri	
Makine	İnsani Bilimler ve Edebiyat	
Orman	İnsani ve Sosyal Bilimler	
Siyasal Bilgiler	İşletme ve Yönetim Bilimleri	
Su Ürünleri	Kimya-Metalurji	
Tıp	Kültür ve Sosyal Bilimler	
Turizm	Mühendislik ve Bilgisayar Bilimleri	
Veteriner	Mühendislik ve Doğa Bilimleri	
Ziraat	Mühendislik ve Fen Bilimleri	
	Mühendislik ve Tasarım	
	Mühendislik ve Teknoloji	
	Müzik ve Sahne Sanatları	
	Sağlık Bilimleri / Sağlık Eğitim	
	Sanat ve Sosyal Bilimler	
	Sanat ve Tasarım	
	Sanat, Tasarım ve Mimarlık	
	Sinema Sanatları	
	Sosyal ve Beşeri Bilimler	
	Spor Bilimleri	
	Tarım ve Doğa Bilimleri	
	Tarımsal Teknoloji ve Gıda Bilimleri	
	Tarım Bilimleri ve Teknolojileri	
	Tekstil Teknolojileri ve Tasarımı	
	Ticaret ve Turizm Eğitimi	
	Ticari Bilimler	
	Uçak ve Uzay Bilimleri	
	Uluslararası İslam ve Din Bilimleri	
	Uygulamalı Bilimler	
	Yer Bilimleri	
	Yönetim Bilimleri	
	Ziraat ve Doğa Bilimleri	

Appendix D
Turkish Statistical Institute - Classification of Statistical Regional Units

Code	Definition
TRA	*KUZEYDOĞU ANADOLU*
TRA1	ERZURUM, ERZİNCAN, BAYBURT
TRA2	AĞRI, KARS, IĞDIR, ARDAHAN
TRB	*ORTADOĞU ANADOLU*
TRB1	MALATYA, ELAZIĞ, BİNGÖL, TUNCELİ
TRB2	VAN, MUŞ, BİTLİS, HAKKARİ
TRC	*GÜNEYDOĞU ANADOLU*
TRC1	GAZİANTEP, ADIYAMAN, KİLİS
TRC2	ŞANLIURFA, DİYARBAKIR
TRC3	MARDİN, BATMAN, ŞIRNAK, SİİRT
TR1	*İSTANBUL*
TR10	İSTANBUL
TR2	*BATI MARMARA*
TR21	TEKİRDAĞ, EDİRNE, KIRKLARELİ
TR22	BALIKESİR, ÇANAKKALE
TR3	*EGE*
TR31	İZMİR
TR32	AYDIN, DENİZLİ, MUĞLA
TR33	MANİSA, AFYON, KÜTAHYA, UŞAK
TR4	*DOĞU MARMARA*
TR41	BURSA, ESKİŞEHİR, BİLECİK
TR42	KOCAELİ, SAKARYA, DÜZCE, BOLU, YALOVA
TR5	*BATI ANADOLU*
TR51	ANKARA
TR52	KONYA, KARAMAN
TR6	*AKDENİZ*
TR61	ANTALYA, ISPARTA, BURDUR
TR62	ADANA, MERSİN
TR63	HATAY, KAHRAMANMARAŞ, OSMANİYE
TR7	*ORTA ANADOLU*
TR71	KIRIKKALE, AKSARAY, NİĞDE, NEVŞEHİR, KIRŞEHİR
TR72	KAYSERİ, SİVAS, YOZGAT
TR8	*BATI KARADENİZ*
TR81	ZONGULDAK, KARABÜK, BARTIN
TR82	KASTAMONU, ÇANKIRI,SİNOP
TR83	SAMSUN, TOKAT, ÇORUM, AMASYA
TR9	*DOĞU KARADENİZ*
TR90	TRABZON, ORDU, GİRESUN, RİZE, ARTVİN, GÜMÜŞHANE

Appendix E
Universities Established in Turkey as of 2014

University	Year of Founding	Ownership
İSTANBUL UNI (İSTANBUL)	1933	public
İSTANBUL TEKNİK UNI (İSTANBUL)	1944	public
ANKARA UNI (ANKARA)	1946	public
EGE UNI (İZMİR)	1955	public
KARADENİZ TEKNİK UNI (TRABZON)	1955	public
ATATÜRK UNI (ERZURUM)	1957	public
ORTA DOĞU TEKNİK UNI (ANKARA)	1956	public
HACETTEPE UNI (ANKARA)	1967	public
BOĞAZİÇİ UNI (İSTANBUL)	1971	public
ANADOLU UNI (ESKİŞEHİR)	1973	public
ÇUKUROVA UNI (ADANA)	1973	public
DİYARBAKIR/DİCLE UNI (DİYARBAKIR)	1973	public
CUMHURİYET UNI(SİVAS)	1974	public
İNÖNÜ UNI (MALATYA)	1975	public
ONDOKUZ MAYIS UNI (SAMSUN)	1975	public
ULUDAĞ UNI (BURSA)	1975	public
FIRAT UNI (ELAZIĞ)	1975	public
SELÇUK UNI (KONYA)	1975	public
ERCİYES UNI (KAYSERİ)	1978	public
MARMARA ÜNIVERSİTESİ (İSTANBUL)	1982	public
DOKUZ EYLÜL UNI (İZMİR)	1982	public
GAZİ UNI (ANKARA)	1982	public
YILDIZ TEKNİK UNI (İSTANBUL)	1982	public
AKDENİZ UNI (ANTALYA)	1982	public
MİMARSİNAN GÜZELSANATLAR UNI (İSTANBUL)	1982	public
TRAKYA UNI (EDİRNE)	1982	public
YÜZÜNCÜYILUNI (VAN)	1982	public
İ.D.BİLKENT UNI (ANKARA)	1984	private
GAZİANTEP UNI (GAZİANTEP)	1987	public
İZMİR YÜKSEK TEKNOLOJİ ENSTİTÜSÜ (İZMİR)	1992	public
ABANT İZZET BAYSAL UNI (BOLU)	1992	public
MUĞLA ÜNIVERSİTESİ (MUĞLA)	1992	public
PAMUKKALE UNI (DENİZLİ)	1992	public
AFYON KOCATEPE UNI (AFYON)	1992	public
ADNAN MENDERES UNI (AYDIN)	1992	public

Appendix E (cont'd)

University	Year of Founding	Ownership
MERSIN UNI (İÇEL)	1992	public
CELAL BAYAR UNI (MANİSA)	1992	public
ÇANAKKALE ONSEKİZ MART UNI (ÇANAKKALE)	1992	public
BALIKESİR UNI (BALIKESİR)	1992	public
DUMLUPINAR UNI (KÜTAHYA)	1992	public
GAZİOSMANPAŞA UNI (TOKAT)	1992	public
GEBZE YÜKSEK TEKNOLOJİ ENSTİTÜSÜ (GEBZE)	1992	public
HARRAN UNI (ŞANLIURFA)	1992	public
KAFKAS UNI (KARS)	1992	public
KAHRAMANMARAŞ SÜTÇÜ İMAM UNI (K. MARAŞ)	1992	public
KIRIKKALE UNI (KIRIKKALE)	1992	public
KOCAELI UNI (KOCAELI)	1992	public
MUSTAFA KEMAL UNI (HATAY)	1992	public
NİĞDE UNI (NİĞDE)	1992	public
SAKARYA UNI (SAKARYA)	1992	public
SÜLEYMAN DEMİREL UNI (ISPARTA)	1992	public
ZONGULDAK KARAELMAS UNI (ZONGULDAK)	1992	public
KOÇ UNI (İSTANBUL)	1992	private
OSMANGAZİ UNI (ESKİŞEHİR)	1993	public
BAŞKENT UNI(ANKARA)	1993	private
GALATASARAY UNI (İSTANBUL)	1994	public
FATİH UNI (İSTANBUL)	1996	private
IŞIK UNI (İSTANBUL)	1996	private
İSTANBUL BİLGİ UNI (İSTANBUL)	1996	private
SABANCI UNI (İSTANBUL)	1996	private
YEDİTEPE UNI (İSTANBUL)	1996	private
ATILIM UNI (ANKARA)	1997	private
BEYKENT UNI(İSTANBUL)	1997	private
ÇAĞ UNI (TARSUS)	1997	private
ÇANKAYA UNI (ANKARA)	1997	private
DOĞUŞ UNI (İSTANBUL)	1997	private
İSTANBUL KÜLTÜR UNI (İSTANBUL)	1997	private
KADİR HAS UNI (İSTANBUL)	1997	private
MALTEPE UNI (İSTANBUL)	1997	private
BAHÇEŞEHİR UNI (İSTANBUL)	1998	private

Appendix E (cont'd)

University	Year of Founding	Ownership
HALİÇ UNI (İSTANBUL)	1998	private
OKAN UNI (İSTANBUL)	1999	private
UFUK UNI (ANKARA)	1999	private
İSTANBUL TİCARET UNI (İSTANBUL)	2001	private
İZMİR EKONOMİ UNI (İZMİR)	2001	private
YAŞAR UNI (İZMİR)	2001	private
TOBB EKONOMİ VE TEKNOLOJİ UNI (ANKARA)	2003	private
ADIYAMAN UNI (ADIYAMAN)	2006	public
AHİ EVRAN UNI (KIRŞEHİR)	2006	public
AKSARAY UNI (AKSARAY)	2006	public
AMASYA UNI (AMASYA)	2006	public
BOZOK UNI (YOZGAT)	2006	public
DÜZCE UNI (DÜZCE)	2006	public
ERZİNCAN UNI(ERZİNCAN)	2006	public
GİRESUN UNI (GİRESUN)	2006	public
HİTİT UNI (ÇORUM)	2006	public
KASTAMONU UNI (KASTAMONU)	2006	public
MEHMET AKİF ERSOY UNI (BURDUR)	2006	public
NAMIK KEMAL UNI (TEKİRDAĞ)	2006	public
ORDU UNI (ORDU)	2006	public
RİZE UNI (RİZE)	2006	public
UŞAK UNI (UŞAK)	2006	public
İSTANBUL BİLİM UNI (İSTANBUL)	2006	private
KARABÜK UNI (KARABÜK)	2007	public
AĞRI İBRAHİM ÇEÇEN UNI (AĞRI)	2007	public
ARTVİN ÇORUH UNI (ARTVİN)	2007	public
BATMAN UNI (BATMAN)	2007	public
BİLECİK UNI (BİLECİK)	2007	public
BİNGÖL UNI (BİNGÖL)	2007	public
BİTLİS EREN UNI (BİTLİS)	2007	public
ÇANKIRI KARATEKİN UNI (ÇANKIRI)	2007	public
KARAMANOĞLU MEHMETBEY UNI (KARAMAN)	2007	public
KIRKLARELİ UNI (KIRKLARELİ)	2007	public
KİLİS 7 ARALIK UNI (KİLİS)	2007	public
MARDİN ARTUKLU UNI (MARDİN)	2007	public

Appendix E (cont'd)

University	Year of Founding	Ownership
MUŞ ALPARSLAN UNI (MUŞ)	2007	public
NEVŞEHİR UNI (NEVŞEHİR)	2007	public
OSMANİYE KORKUT ATA UNI (OSMANİYE)	2007	public
SİİRT UNI (SİİRT)	2007	public
SİNOP UNI (SİNOP)	2007	public
ACIBADEM UNI (İSTANBUL)	2007	private
İSTANBUL AREL UNI (İSTANBUL)	2007	private
İSTANBUL AYDIN UNI (İSTANBUL)	2007	private
İZMİR UNI (İZMİR)	2007	private
ÖZYEĞİN UNI (İSTANBUL)	2007	private
YALOVA UNI (YALOVA)	2008	public
HAKKARİ UNI (HAKKARİ)	2008	public
ARDAHAN UNI (ARDAHAN)	2008	public
BARTIN UNI (BARTIN)	2008	public
BAYBURT UNI (BAYBURT)	2008	public
GÜMÜŞHANE UNI (GÜMÜŞHANE)	2008	public
IĞDIR UNI (IĞDIR)	2008	public
ŞIRNAK UNI (ŞIRNAK)	2008	public
TUNCELİ UNI (TUNCELİ)	2008	public
GAZİKENT UNI (GAZİANTEP)	2008	private
GEDİZ UNI (İZMİR)	2008	private
İSTANBUL KEMERBURGAZ UNI (İSTANBUL)	2008	private
İSTANBUL ŞEHİR UNI (İSTANBUL)	2008	private
MELİKŞAH UNI (KAYSERİ)	2008	private
PİRİ REİS UNI (İSTANBUL)	2008	private
İSTANBUL MEDİPOL UNI (İSTANBUL)	2009	private
KTO-KARATAY UNI (KONYA)	2009	private
MEVLANA UNI (KONYA)	2009	private
NUH NACİ YAZGAN UNI (KAYSERİ)	2009	private
TED UNI (ANKARA)	2009	private
TOROS UNI (MERSİN)	2009	private
TURGUT ÖZAL UNI (ANKARA)	2009	private
YENİ YÜZYIL UNI (İSTANBUL)	2009	private
ZİRVE UNI (GAZİANTEP)	2009	private
YILDIRIM BEYAZIT UNI (ANKARA)	2010	public

Appendix E (cont'd)

University	Year of Founding	Ownership
İZMİR KATİP ÇELEBİ UNI (İZMİR)	2010	public
BURSA TEKNİK UNI (BURSA)	2010	public
ERZURUM TEKNİK UNI (ERZURUM)	2010	public
İSTANBUL MEDENİYET UNI (İSTANBUL)	2010	public
KONYA/NECMETTİN ERBAKAN UNI (KONYA)	2010	public
KAYSERİ ABDULLAH GÜL UNI (KAYSERİ)	2010	public
TÜRK-ALMAN UNI (İSTANBUL)	2010	public
AVRASYA UNI (TRABZON)	2010	private
BEZMİALEM VAKIF UNI (İSTANBUL)	2010	private
CANİK BAŞARI UNI (SAMSUN)	2010	private
FATİH SULTAN MEHMET VAKIF UNI (İSTANBUL)	2010	private
İSTANBUL 29 MAYIS UNI (İSTANBUL)	2010	private
İSTANBUL SABAHATTİN ZAİM UNI (İSTANBUL)	2010	private
SÜLEYMAN ŞAH UNI (İSTANBUL)	2010	private
ŞİFA UNI (İZMİR)	2010	private
ULUSLARARASI ANTALYA UNI (ANTALYA)	2010	private
ADANA BİLİM VE TEKNOLOJİ UNI (ADANA)	2011	public
ALANYA HAMDULLAH EMİN PAŞA UNI (ALANYA)	2011	private
ALTIN KOZA/İPEK UNI (ANKARA)	2011	private
BİLGE/YÜKSEK İHTİSAS ÜNİVERSİTESİ (ANKARA)	2011	private
BURSA ORHANGAZİ UNI (BURSA)	2011	private
GEDİK UNI (İSTANBUL)	2011	private
İSTANBUL GELİŞİM UNI (İSTANBUL)	2011	private
TÜRK HAVA KURUMU UNI (ANKARA)	2011	private
ÜSKÜDAR UNI (İSTANBUL)	2011	private
İSTANBUL MEF UNI (İSTANBUL)	2012	private
MURAT HÜDAVENDİGAR UNI (İSTANBUL)	2012	private
NİŞANTAŞI UNI (İSTANBUL)	2012	private
ANKARA SOSYAL BİLİMLER UNI (ANKARA)	2013	public
ANKA TEKNOLOJİ UNI (ANKARA)	2013	private
İSTANBUL ESENYURT UNİ (İSTANBUL)	2013	private
KANUNİ UNİ (ADANA)	2013	private
KONYA GIDA VE TARIM UNI (KONYA)	2013	private
SANKO UNI (GAZİANTEP)	2013	private
SELAHADDİN EYYUBİ UNI (DİYARBAKIR)	2013	private
BİRUNİ UNI (İSTANBUL)	2014	private