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Dynamic Capabilities in IT-Assisted Alliance Creation: 
A Study Of Higher Education Institutions

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Abstract

Dynamic capabilities, a relatively new concept in strategic management, are subject to a variety of streams and points of view in the available literature, where the focus is still mainly on debating the general concepts, overall frameworks and classifications. The current consensus is that dynamic capabilities are highly context-based, depending on firm types, timeframes and a variety of other factors. However, what current research fails to adequately address are studies of individual cases of particular types of firms in their specific business environments, as well as how dynamic capabilities and their foundations are created and how they evolve in a specific, limited context. What these individual cases can contribute to the overall area of research are refined tools and frameworks for context-specific creation of dynamic capabilities, and thus their importance cannot be ignored.

This study uses qualitative research to observe a case of a commercial higher-education institution in Sarajevo, Bosnia and Herzegovina, a developing market. The organization is highly IT-reliant, and one of the main characteristics of the institution is its flexibility and adaptability to change. In the recent couple or years, the institution switched several crucial partners, whose resources it uses for teaching. These factors make this organization interesting for investigation of dynamic capabilities in the particular context of constant change. The study uses mainly observation, but is supplemented by an interview and questionnaires. The researcher spent time working at the institution during a crucial timeframe of alliance-switching, and this experience fuels the observation. The results, including a developed model, present a good way to observe dynamic capabilities in a particular context, one based on microfoundations – activities that fuel dynamic capabilities in organizations. A number of these context-specific microfoundations are identified as well.

Keywords: Dynamic capabilities, microfoundation, competitive advantage, IT-assisted higher education institutions, partnership, alliance, ad-hoc behavior, discontinuity, volatility.
Executive Summary

Dynamic capabilities are a difficult area to investigate through empirical research due to vagueness of the concept itself in current literature as well as their tendency to disperse across highly context-specific organizations and situations. While there have been several models and simulations developed for certain organizations, these are generally rarely found. The general consensus is that dynamic capabilities seem to thrive in volatile business environments, where risk is high and organizations are faced with unpredictable factors, influences and behaviors. However, current literature mostly ignores investigating individual cases of firms in discontinuous, volatile environments and their creation of dynamic capabilities, and thus overlooks what these cases may bring to the this academic concept as well as to organizations themselves. The aim of this research is to observe a higher education institution in a highly turbulent business environment, through several phases, and to look at specific activities that build dynamic capabilities of this institution. Another aim is to use this observation in conjunction with available literature to formulate a framework for observation of creation of these dynamic capabilities that may be used by organizations in similar predicaments. These aims form the research questions of this thesis work.

The research takes the form of a case study where observations over a two-year period are reported and analyzed. This process is aided with usage of a semi-structured interview, an open-ended questionnaire and informal communication. The analysis itself takes form of analyzing sequential narrative, and this is subsequently combined into a larger whole.

The results indicate that not only is it possible to combine relevant viewpoints in literature into a functional context-specific framework, but it is also this kind of delving into the specifics of a certain context and environment that brings a tangible aspect into the concept of dynamic capabilities. Specific activities and 'microfoundations' of dynamic capabilities integrate into the model well and indicate high degree of model versatility and possibility of application. The resulting model clearly displays the significant overlap of two major classifications of dynamic capabilities (fusing sensing, seizing and reconfiguring with product development, alliance creation and resource reconfiguration), integrates varying levels of discontinuity/ad-hoc behavior and categorizes microfoundations of dynamic capabilities into these levels and overarching categories. The research indicates that more insight into various organizations in various business environments could result in development of useful tools for recognizing dynamic capabilities and their microfoundations, and that these might be used effectively for strategic management in volatile business environments.
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1. INTRODUCTION

1.1 Background
Dynamic capabilities are a term that appeared relatively recently in strategic management literature (Teece and Pisano, 1994). This term was coined in order to clarify and explain what occurs with organizational/operational routines in an organization once it is faced with a discontinuous (volatile) environment. Since this inception in mid-1990s, the concept was investigated by a variety of authors (Helfat, 1997; Teece et al., 1997; Winter, 2003; etc.). These views come from the organizational learning academic knowledge base, which has been on focal point in management and knowledge-related literature for decades. Since the concepts of single-loop and double-loop learning in organizations were developed by Argyris and Schon (1978), there has been more research on the topic of organizational learning coming steadily. For instance, Kim (1993) used three models, including the one made by Argyris and Schon, to properly present the relationship of individual and organizational learning as a whole.

The concept was taken further in the ubiquitous model developed by Nonaka (1995), one that is commonly found in knowledge management literature. This model, bearing the concepts of dynamics of tacit and explicit knowledge, was further expanded by Nonaka & Konno (1998), whereby the concepts of ‘Ba’ were added, and knowledge transformations additionally explored. The concept of organizational learning exists on a higher level than the knowledge transformation, being advocated for in works such as that by Crossan et al. (1999) and Huber (1991). Crossan describes four processes of learning, and discusses routines, rules and procedures, and Helfat was engaged with creating a particular framework to explain organizational learning in more detail.

Finally, the dynamic capabilities term appeared, following ‘organizational routines’. Organizational routines were studied by a multitude of authors (Levitt and March, 1988, Cohen et al., 1996, Pentland and Rueter, 1994; Feldman and Rafaeli, 2002). Organizational routines are mostly defined as behavioral patterns that organizations use in order to operate and advance (Cohen and Bacdayan, 1994; Cohen et al., 1996; Feldman, 2000; Feldman and Rafaeli, 2002; Levitt and March, 1988; Pentland and Rueter, 1994). However, when faced with volatile markets, firms exhibit change to their routines, and obtain capabilities that aid them through these tumultuous times. Thus, the concept of ‘dynamic capabilities’ arose (Teece and Pisano, 1994; Teece et al., 1997). Today, dynamic capabilities are still an interesting area of research due to the mystery regarding their creation and relationship with organizational capabilities (Feldman, 2000).

Since there are many types of organizations, and many types of environments in which these organizations thrive (Zollo and Winter, 2000) there are particular types of organization that are faced with more change, and some that exist in a constantly volatile environment. If we were to observe one that has a record of surviving and thriving in such circumstances, what would we discover regarding creation of its dynamic capabilities? In the context of an organization faced with a multitude of switched partners in a relatively short period of time, and forced to adapt rapidly – these concepts, and how they relate to their dynamic capabilities and, to a limited extent, ad-hoc behavior, are an interesting area of investigation.
1.2 Problem Description

When speaking of dynamic capabilities, authors often turn their attention to explaining the actual terms, underlying meanings, or creating certain frameworks (Teece et al., 1997; Teece, 2007; Zott, 2003; Zollo and Winter, 2002; Winter, 2003), as to clear the frequent confusion with the term. Dynamic capabilities are, despite these efforts, an area of investigation where empirical research loses its strength, much due to the fact that context of a given firm, along with a large amount of additional variables, is important (Zollo and Winter, 2002). In addition, there have been very few attempts to actually place dynamic capabilities into a context of a particular industry, or particular type of firm. Certain authors who built simulation models (Zott, 2003; Romme et al., 2010) provide certain examples of firms building up dynamic capabilities in spheres of research and design, forging alliances, or redistribution of resources, but there is much work to be done regarding examining dynamic capabilities (drawing from organizational routines) in a particular context.

Due to the apparent codependency of dynamic capabilities and volatile environments (as these are the environments in which dynamic capabilities are forged), the concept is best observed within these volatile environments. In addition, since creation of alliances (aside from R&D and strategic management and resource redistribution initiatives) is one of the key activities related to dynamic capabilities (Eisenhardt and Martin, 2000), observation of specific types of firms – more specifically, small, commercial high-education institutions that depend greatly on their IT support teams - during frequent alliance creation in and volatile environments seems like a good idea for investigating dynamic capabilities. Dynamic capabilities have in general been shown as volatile themselves, developing unpredictably and offering momentary competitive advantage (Eisenhardt and Martin, 2000), exhibiting level hierarchy (Collis, 1994) and occasionally delving into ad-hoc behavior (Winter, 2003). When observed in a particular high-volatility environment marked with on-and-off alliances with a variety of partners, what could we learn regarding the creation of dynamic capabilities in these conditions? What can we offer such organizations as result of this research, that would aid them in times of volatile change and forging of alliances? This research attempts to answer these questions and shed light on dynamic capabilities in this, quite specific, context.

1.3 Research Questions

This study aims to observe creation of dynamic capabilities in education institutions that face continuously volatile markets due to frequent partnerships and alliances. It is done in a firm that has survived and beaten the competition for several years despite breaks in alliances, and always facing a difficult and volatile market in a developing country. Thus, the specific research questions that it asks are:

Q1: How can we effectively observe generation of dynamic capabilities by IT-assisted commercial high-education institutions going through partner alliances in a volatile market?

Q2: What activities build these dynamic capabilities?
1.4 Justification and Contribution of Research

Discussions on dynamic capabilities are often vague and there are conflicting opinions, largely because, to date, there are no specific examples where firms have been investigated in a particular context. A multitude of authors (Eisenhardt and Martin, 2000; Winter, 2003; Teece, 2007; Di Stefano et al., 2010) comment on this state of affairs, and suggest more empirical research which would examine specific situations and contexts. In addition, considering that the organization to be investigated in this study falls under a very specific profile (commercial high-education institution faced with many made and broken alliances over the years), it is very interesting to investigate the creation of dynamic capabilities, which themselves thrive in discontinuous environments (Teece and Pisano, 1994; Teece, 2007).

The research is focused on an organization that contains a relatively small number of primary staff, and focuses specifically on the IT team of the firm when assessing the dynamic capabilities and (in far lesser measure) ad-hoc behavior during a tumultuous period of time. More specifically, it observes how a flexible IT team, in close cooperation with the administration of the firm, takes on a multitude of roles and creates dynamic capabilities that reinforce the core organizational competences and routines. This IT team, responsible for cooperation with partners and integration into there IS systems, is an obvious embodiment of the IS-based view on dynamic capabilities. Thus, the contribution to the research on dynamic capabilities concept is twofold: the answers to the research questions aim to shed light on the strategic management angle of the company, while the fact that the IT-team (and its link to the rest of the staff) is primarily focused on gives an important IS-related perspective on the concepts presented in the research.

1.5 Scope and Limitations

Dynamic capabilities are a vast concept. Drawing from the base concepts of knowledge, organizational learning and operational routines, they imply a whole variety of contexts and categories to be taken into account, including learning investments, environmental conditions, organizational features and task features (Zollo and Winter, 2002). These will be taken into account when examining a commercial high-education institution, relying strongly on its IT unit, and faced with a variety of alliances and partnerships. Thus, a very specific environment will be observed. The goal is to limit the observation of dynamic capabilities creation to a specific set of circumstances over a two-year period of time, while taking into account the rest of the organization’s history. This organization survived for seven years from its founding and it continues to exist in a highly changeable environment, even after switching several partners and creating many alliances over the years. During this time, the organization was expected to adapt to the partners, who in all cases provided the necessary equipment and support required for day-to-day operation.

The two-year period of intense observation will be the key to answering the proposed research questions. The author of this thesis spent these two years as the head of IT team, which provides a unique, first-hand perspective, and ensures strong reliance on observation as a data collection method. This brings us to the following limitation of the research: the dynamic capabilities will mainly be driven by the observation of the IT team, their initiatives during this period, their impact on partnerships and alliances of the firm, etc. This is due to the fact that IT/IS support was crucial during the two
partner switches in the period of observation, and identification of dynamic capabilities and ad-hoc behavior is easier. That said, the relationship of the IT team and the rest of the staff will also be examined, since the size of the observed staff is rather small, and many initiatives were done in close (and invaluable) cooperation.

The third limitation of the research is in the limited observation of organization routines. They are observed briefly in this study - naturally as part of the established consensus in the literature regarding their close link to the dynamic capabilities themselves, and overall firm performance – but are not dwelled upon, as dynamic capabilities creation and activities that form them represent an angle that requires further investigation. This is due to the fact that the market (environment) in which this firm operates is highly changeable, volatile and unpredictable. Organization routines lose their grounding in such circumstances (Winter, 2003), giving way to dynamic capabilities, but unpredictable ad-hoc behavior as well.

1.6 Disposition
The thesis consists of the following:

- Introduction. Summarizes main points. Presents the background of the research problem. States the problem and the research questions. Explains the justification of the research as well as the scope. Presents limitations.

- Literature review. Covers establishment of the terms and key concepts. Relates terms to their organization routines background. Presents link to resource-based view of the firm. Covers noted simulation studies. Presents relationship of the key concepts with highly volatile environments. Gives minor link to ad-hoc behavior.

- Research methodology. Describes the type of research used. Focuses on presenting data collection methods, as well as type of analysis, validity and reliability of data and ethical considerations.

- Analysis. Covers the main analysis of the study, involving main concepts drawn. Presents a new, contextual dynamic capabilities model.

- Discussion. Presents results, conclusions drawn from the study, and opportunities for further research.
2. LITERATURE REVIEW

2.1 Establishment and Early Concepts

The concept of 'dynamic capabilities' has been a constantly present, yet many times misinterpreted area within strategic management. It has much to do with dynamic capabilities being a concept that builds on organizational capabilities (or routines) of an organization, and one that focuses almost exclusively on change and discontinuity. Since the work of Teece and Pisano (1994), and Teece et al. (1997), there has been plenty more focus on the concept in the academic world. This paper has first defined dynamic capabilities as “the ability of a firm to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.” (Teece et al., 1997). The research since has been mostly theoretical, due to the difficulty of applying empirical research to the concept (Jashapara, 2004). It was a common conclusion of these works that organizational routines of firms and organizations extend into unique dynamic capabilities when change is necessary.

Teece and Pisano (1994) were the first to openly state that it is the dynamic capabilities themselves that are a great factor for a competitive advantage, apparently following the complexity of the resource-based view of the firm. They go back to early research in innovation performance (Schumpeter, 1934 cited in Teece and Pisano, 1994), and describe the dynamic capabilities concept as drawing from this early research. They say that dynamic capabilities are based in organizational performance routines, and stem from them. This early proposal of the dynamic capabilities concept is described as closely linked to firm assets, non-transferrable, and taking very long time to be created within the firm (depending much from the organizational culture, history, routines learned over time, etc). This line of research continued with a noted work further propagating dynamic capabilities and their role in strategic management (Teece et al., 1997). Here, Teece et al. described what they saw as three paradigms regarding competitive advantage of firms. The third paradigm, efficiency-based approach, and its derivative, the resource-based view of the firm, had much to do with establishing a base for Teece et al. (1997) proposal of a fourth perspective, driven by the concept of dynamic capabilities. They suggested this concept as one that held much promise regarding assessing and aiding competitive advantage of firms and organizations in markets.

According to this group of authors, the dynamic capabilities concept bears its name from the fact that there is “…capacity to renew competences so as to achieve congruence with the changing business environment; certain innovative responses are required when time-to-market and timing are critical, the rate of technological change is rapid, and the nature of future competition and markets difficult to determine.” (Teece et al., 1997, p. 515). Here, crucial definitions were given as well, linking the concepts of resources, routines, competences, products, and dynamic capabilities themselves. Furthermore, the concept was given more footing with examination of factors such as processes, paths, positions, as well as examination of imitability and replicability between firms. This way, Teece et al. (1997) have established a good basis for further empirical research in support of distinguishing dynamic characteristics and capabilities of competing firms, however, the concepts have taken on subtle variations in meanings and interpretations within subsequent research.
2.2 Organizational Learning, Routines and Dynamic Capabilities

There is much to be said regarding the codependence of dynamic capabilities and organizational routines, and lines between them can often be blurred. Organizational routines, first seen as collections of rules, norms, procedures and other markings of the way a particular organization works, and seen as rigid and program-like (Cyert and March, 1963), have evolved in the academic world to take on several definitions and perspectives (Cohen and Bacdayan, 1994; Cohen et al., 1996; Feldman, 2000; Feldman and Rafaeli, 2002; Pentland and Rueter, 1994). The consensus, however, seems to be that these are behaviors that are pattern-based, recurring, and specific to the company. They serve to aid collective action in a variety of situations. They are subject to change, and their malleability, as well as factors that influence this malleability, have been discussed. For example, Feldman (2000) observes how routines change due to a variety of reasons, one of them being new possibilities in business. The specifics of changing organizational routines have been in the basis of early dynamic capabilities research (Teece and Pisano, 1994; Teece, 1997), as well as the rest of the research mentioned in this literature review.

Zollo and Winter (2002) have recently attempted to clarify the relationship between knowledge articulation, clarification and experience gathering, with the goal of investigating the codependence and creation of organizational learning, routines and dynamic capabilities. They state that organizational learning leads to building organizational or operating routines, which impact day-to-day work in an organization, but also dynamic capabilities, which basically represent the modification of the operating routines in times of change. Here, they define dynamic capabilities as “learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating activity in pursuit of improved effectiveness.” (Zollo and Winter, 2002, p. 340).

The authors move on to characterize dynamic capabilities as structured, predictable activity that aids firm performance in volatile environments and through change. Thus, they say that a firm that constantly relies on disjointed, unstable and ad-hoc activity in i.e. mergers does not actually build up dynamic capabilities. This is a valuable statement when observing the switch between ad-hoc behavior and dynamic capability build-up, while relying on the level-based categorization of dynamic capabilities in the work of Collis (1994). In creation of a simple model of operating routines development, Zollo and Winter (2002) observe three forms of learning mechanisms: experience accumulation, knowledge articulation and codification, as well as dynamic capabilities developed during process R&D activity, restructuring and reengineering, and post-acquisition integration:
Following this, relying on organizational routines in times of stagnation is normal firm behavior, and are actually a necessity, but one that becomes dangerous when there is unpredictability and change ahead. Then, it is time to develop dynamic capabilities, which can be done with learning, but speed is needed as well. Learning relies on what Zollo and Winter (2002) call ‘experience accumulation’, as well as knowledge articulation (articulating knowledge to others through conversation, evaluation, and similar activity) and knowledge codification (writing down and recording knowledge for further use by others). In particular, the authors stress the importance of knowledge codification in building up dynamic capabilities, where care needs to be taken regarding the cost and other pitfalls of this process in a volatile environment.

All this happens in a cyclical process, whereby knowledge is selected, replicated, retained and led through variations, which harkens back to models of knowledge transformation. This all serves in building up organization/operating routines. The authors go on to propose that dynamic capabilities actually arise from the combination of both tacit knowledge accumulation, and explicit knowledge articulation/codification. In order for this process to be effective, a number of factors need to be taken into consideration (Zollo and Winter, 2002), including:

- Learning investments (time, effort, resources).
- Environmental conditions (progress of technology, time to market lags).
- Organizational features (disposition to a variety of goals).
- Task features (the characteristics and importance of a given task that needs to be accomplished, including frequency, individual memory, coordination costs, and heterogeneity, and casual ambiguity).

This all serves the purpose of creating a comprehensive structure of following the creation and further development of dynamic capabilities. Zollo and Winter (2002) used the existing research on organizational learning and routines. In particular, they praise the ability of knowledge codification to assist dynamic capability build-up due
to the “inherently learning while codifying” pattern of behavior. The question that they leave for future studies is why certain firms, when faced with similar circumstances, end up codifying and enforcing more knowledge creation and building up more dynamic capabilities than others.

2.3 The Various Streams in Literature

There is an extensive body of literature with focus on dynamic capabilities, but to date it remains divided regarding the place of the term within strategic management (Di Stefano et al., 2010). In addition, the academic work seems to be scattered, with lack of clear focus. That said, there are interesting views and approaches present regarding this concept. The follows is a brief, general overview of the various streams of thought found in the research on dynamic capabilities. One of the earlier works is that of Helfat (1997), following the work of Teece (1994). This work is continued in the research of Helfat et al. (2007), dealing with the added perspective of strategic change. Dunning and Lundan (2010), as well as Knight and Cavusgil (2004) write on dynamic capabilities in multinational enterprises. Adner and Helfat (2003) write on managerial dynamic capabilities and corporate effects. Deeds et al. (2000) do more context-based research on high-tech ventures and biotechnology companies. Fujimoto (2000) does research on manufacturing systems, focusing on Toyota. There is also work that relates the resource based view of the firm as an essential underpinning of dynamic capabilities (Helfat and Peteraf, 2003; Eisenhardt and Martin, 2000).

Other interesting work includes acquisition-related research (Zollo and Singh, 2004), international markets (Pitelis and Teece, 2010) and the more close examination of dynamic capability features (Rinodva and Kotha, 2001). There are works on experience and managerial capability in the context of dynamic capabilities (King and Tucci, 2002), while Jacobides and Winter (2005) focus on the matter of transaction costs evolving with capabilities.

2.4 Models and Simulations

There have been attempts to create simulation models on creation of dynamic capabilities. One example is the study done by Zott (2003). This paper deals with the relationship between time, cost and resource deployment with dynamic capabilities. The simulation model indicates that these three factors, when taken into consideration during resource distribution, yield surprising variations in performance of firms within an industry with presence of similar dynamic capabilities across these firms. Thus, the relationship between dynamic capabilities’ attributes (cost, learning, time) and firm’s resource configuration are described. This is done through the lens of the learning process, with the stages of the process including variation, selection, retention and competition. The model thus recalls heavily the fact that knowledge and routine creation is of great importance in actual firm performance, as suggested by the work of Teece (1997) and other supporters of organizational routines concepts and their impact in strategic and knowledge management.
Thus, the model aims to investigate the actual firm performance, as directly influenced by dynamic capabilities. The research harkens back to Teece (1997) and Eisenhardt and Martin (2000), through the angle of observing the link between dynamic capabilities and organizational routines, and on the other hand Zollo and Winter’s (2002) (and their own) stance on how competencies, routines and resource distribution affect the organization’s performance in the end. The model, analyzed with a computer simulation, resulted with the conclusion that firms’ performance may differ, even when firms use similar dynamic capabilities, as firms diverge based on using imitation or experimentation, as well as different timing in resource allocation, which all makes a difference in performance. Cost of resource redistribution are factors as well, though many of these factors may be difficult to properly quantify. In the end, Zott (2003) implies that firms perform differently based on their context, that the simulation requires more attributes and that there is more research needed on i.e. predictions on what are crucial dynamic capability-related factor for outperforming competition, etc.

Another example is the research done by Romme et al. (2010). This research appeared to pursue the question of whether it is possible to simulate how dynamic capabilities actually grow and develop in relationship with deliberate learning, tacit knowledge and the complex environment, something that still remains unclear in the related literature. Their research starts at the point where Zollo and Winter (2002) observed deliberate and semi-automatic learning to develop a conceptual model. In addition, they go on to describe environmental dynamism, a concept described as vital in development of dynamic capabilities. By using certain theoretical postulates, as well as system dynamics, they have created a simulation that examines how routines, dynamic capabilities and knowledge are created in an organization faced with change. They used a dynamic and path-dependent view, where knowledge is viewed as something that may is gained, but also lost as the organization staff or resources accumulate or disperse. Based on the work of Sterman (2000, cited in Romme et al., 2010) and drawing on a ‘capacitated delay structure’, it observes how articulation and
codification of knowledge affect creation of dynamic capabilities, as well as their impact on change. The various structures in the model represent articulated and codified knowledge, routines, volatile dynamics in the environment, and finally dynamic capabilities, which appear as a product of the rest of the factors.

Figure 3. A simulation model of dynamic capabilities, deliberate learning and environmental dynamism (Romme et al., 2010, p. 1276)

This model, and the computer simulation applied, resulted with the findings that the link between deliberate learning and dynamic capabilities is very complex and context-sensitive. There seems to be no linear link between deliberate learning, tacit knowledge and dynamic capabilities; the link is far more complex and is influenced by a variety of factors in the environment, thus the unpredictable volatility of the environment contributes to this. The authors go on to promote initiatives of knowledge articulation in highly volatile environments, whereby firms end up with ‘simple rules’ to take into account when faced with new challenges.

2.5 Resource-Based View Reliance, Characteristics and Attributes

It is argued that dynamic capabilities are far from being a vague, nonspecific term (Eisenhardt and Martin, 2000). In fact, they postulate that there are definite qualities that dynamic capabilities take on and exhibit, across competing firms and organizations. Eisenhardt and Martin (2000) draw from a resource-based view perspective to come up with these common attributes. Resource-based view states that firms own individual and different collections of resources, which bring value and competitive edge to a firm based on the expectations and results that these unique
resources provide (Barney, 1991; Nelson, 1991; Penrose, 1959). However, the authors also point out on the difficulties that using a resource-based view entails in regards to highly changeable and discontinuous environments. To remedy this, they clarify the dynamic capabilities concept, and attempt to reinforce the resource-based view with this new perspective as well.

Here, Eisenhardt and Martin (2000) have characterized activities such as product development, strategic decision making, alliancing and similar forward-planning activities as dynamic capabilities themselves, as to attempt to stop the body of work criticizing and characterizing dynamic capabilities as a vague concept. They go on to define dynamic capabilities as “the firm’s processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die.” (Eisenhardt and Martin, 2000, p. 1107). This definition is obviously similar to the definition given by authors such as Teece et al. (1997). However, again, the authors argue that dynamic capabilities extend far beyond tautological terms and venture into the tangible sphere. According to them, dynamic capabilities are something recognizable, tangible and easily identifiable.

What further separates the work of Eisenhardt and Martin (2000) from other work on dynamic capabilities is their recognition of common features of dynamic capabilities. They identified a number of ‘commonalities’ that are shared across varying organizations’ dynamic capabilities. They did not disagree that there is uniqueness in terms of more specific details of respective organizations’ dynamic capabilities, but they rather focused on the key features, which all kinds of dynamic capabilities share. This was shown through a variety of examples in large corporations who follow the ‘best practice’ paradigm in facing the changing business environments. These common features are, according to Eisenhardt and Martin (2000):

- Equifinality (different starting points for acquiring dynamic capabilities, yet arriving at similar goals, best illustrated in Cockburn et al., 2000 cited in Eisenhardt and Martin, 2000).

- Substitutability based on key commonalities (going beyond what the theory says, dynamic capabilities seem to actually be possible to apply across multiple organizations or industries in certain situations).

- Limited competitive advantage (since resource-based view mandates that resources are inimitable, non-substitutable and immobile, which are countered by the equifinality principle, rendering dynamic capabilities may be competitive, but not sustainable).

- Limited idiosyncratic effects (based on study of research regarding idiosyncrasy in individual organizations, and their competitive advantage, Eisenhardt and Martin find evidence that the idiosyncrasy is overstated, which is further supported by the rest of the common features).
2.6 Dynamic Capabilities in Highly Volatile Environments

Dynamic capabilities are often observed through the lens of markets, whether they are moderately dynamic, or highly fickle and volatile. In fact, dynamic capabilities shine in highly volatile environments according to Eisenhardt and Martin (2000), but in the process end up relatively simple, as there is need to leave room for necessary improvisation. The simple dynamic capabilities serve as a basis that makes it easier to actually adapt to new situations and apply fresh perspectives during extensive change. They actually have a form of structure, (Burns and Stalker, 1966 cited in Eisenhardt and Martin, 2000) or “semi-structure”. The authors explain this with the necessity of firms for simple routines even in highly changeable business environments. This is where dynamic capabilities actually imply creation of routines on the spot, routines that are specific to the given challenge. Thus, we are actually talking about fast “switching” of learning and application, going back and forth from attempts and learning, and acquisition of situation-specific dynamic capabilities. It is a cyclical process, and one that is quite fast in its execution. Authors such as Pisano (1994) have investigated how in highly volatile markets, learning during action is preferred over learning before action, and this seems to hold true for dynamic capabilities.

Thus, in normal and moderately dynamic markets, dynamic capabilities have much in common with normal organizational routines (Zollo and Winter, 1999; Zollo and Winter, 2002; Jashapara, 2004). However, in volatile markets and circumstances, they imply heavy learning, application of this learning, and common features that make them far more tangible than suggested by some authors, who claim that they are indiscernible and vague (Williamson, 1999). This being said, it is argued that dynamic capabilities, though key in success during a time of change, are not themselves sustainable due to the constant threat of change and the possibility of applying something else (Eisenhardt and Bhatia, 2000; Eisenhardt and Martin, 2000). The argument here is that resource reconfiguration is key to prolonged competitive edge, not dynamic capabilities; but dynamic capabilities themselves are crucial in actually going through a change that might be of paramount importance in the survival of an organization. This goes back to the resource-based view and the Eisenhardt and Martin’s (2000) proposed new perspective. Thus, the role of dynamic capabilities, according to them, is to aid in resource reconfiguration, which (as part of this new perspective on the resource-based view) ensures long-term competitiveness and advantage in the market.

Currently available literature mostly mentions strategic management, alliancing, restructuring and product development (R&D) when it comes to dynamic capabilities (Teece et al., 1997; Eisenhardt and Martin, 2000), which are all activities concerned with change and reformation of organizations. Some examples of how dynamic capabilities grew and were implemented are seen in several cases presented in such literature as well.

Eisenhardt and Martin (2000) also discuss the evolution of dynamic capabilities during highly changeable environments. This evolution seems to be achieved through repeated practice, order of implementation, selection of using previous experience. Throughout all of this, it is advised to keep in mind that dynamic capabilities are not to become too rigid or too defined, as there should be opportunity and willingness to improvise and to add new practices to processes that occur in volatile environments. This reinforces the idea of “semi-structured” dynamic capabilities, which, even with their commonalities, remain flexible to some degree.
2.7 Microfoundations

Dynamic capabilities do go beyond an intangible concept that is difficult to quantify in managerial decision-making. There is a particular paper with significant relevance to this thesis, as it deals with the complexity of distinction between current dynamic capabilities classification and “skills, processes, procedures, organizational structures, decision rules and disciplines” (Teece, 2007). These are noted to fuel enterprise-level sensing, seizing and reconfiguring capacities. They constitute of particular activities that build sensing (research and development), seizing and reconfiguration in a particular company. Teece (2007) goes on to describe the general microfoundations that form the foundations of particular categories of dynamic capabilities.

For example, Teece (2007) identifies search and exploration activities relevant to sensing opportunities and threats, and adds such microfoundations such as forming analytical frameworks and innovation through various means. Activities relevant to seizing opportunities include selection of business models (existence of business models and strategic architectures), selecting enterprise boundaries, managing complements and platforms and avoiding bias. Regarding reconfiguration and managing threats, Teece identifies the need for achieving decentralization, managing co-specialization, as well as the necessity for concepts such as effective knowledge management, learning and corporate governance.

All these are identified with the notion that firms need to continuously change and adapt in order to attain and sustain competitive advantage. The necessity to recognize particular microfoundations, and then apply them to a particular context, is there for businesses that need a tangible way, model or framework for both observing a particular transition or occurrence and gaining valuable aid for strategic decision-making. This implies using a variety of factors, strategies and business practices to evolve the business in order to tackle the ever-changing business climate, and ultimately recognizing how these build and aid dynamic capabilities of a company during a particular time. Thus, microfoundations are pivotal for sensing, seizing and reconfiguring - dynamic capabilities in a company striving for competitive advantage and moving forward in business. The differences between these three types of dynamic capabilities (sensing, seizing and reconfiguring) necessitate specific approaches to recognizing each, as well as recognizing the differences between microfoundations that correspond to these three types.

The relevance of the concept of microfoundations to this thesis work is apparent in the necessity to identify specific activities that are in the foundation the three types of dynamic capabilities observed and classified in accordance with the current literature consensus. Seeing how various authors (Eisenhardt and Martin, 2000; Zollo and Winter, 2002; Teece, 2007) classify dynamic capabilities in three separate categories, and how microfoundations now rise in relevance to suit the need for specific benefit to strategic decision-making and competitive advantage, these concepts fit well into an overall foundation for devising an effective way to observe generation of dynamic capabilities, as well as actual identification of the foundations of dynamic capabilities, both of which are specific questions that this thesis work presents.
2.8 Dynamic Capabilities Versus Ad-Hoc Behavior

Dynamic capabilities do go beyond an intangible concept that is difficult to quantify in managerial decision-making. There is a particular paper with significant relevance to this thesis, as it deals with the complexity of distinction between dynamic capabilities and new, spontaneous behavior in times of change: Winter (2003) takes a distinct stance regarding hierarchies of dynamic capabilities, and their 'worth', cost effectiveness, and extent. He argues that dynamic capabilities actually do have a tangible, structured quality that puts them in 'between' of organizational routines (capabilities) and ad-hoc action during particularly intensive periods of change. He points out that dynamic capabilities indeed do seem to have distinct structure and organization, and that this stems from the necessity of firms to adjust their routines to a changeable environment. In this case, we might observe the dynamic capability concept as a repetitious behavior that is applicable during change. It carries with it certain costs and depends on a variety of factors, including the discontinuous/changing environment and competitor behavior and capability, among others.

2.8.1 Levels of Discontinuity and Ad-Hoc Behavior Rate

In addition, it is possible to distinguish between a number of levels of dynamic capability. This is also found in the work of Collis (1994), where multiple 'orders' of dynamic capabilities are found. Here, dynamic capabilities deal with alteration of normal organizational capabilities in accordance with their 'level', or order. Lower-level dynamic capabilities are closer to actual capabilities in their patterned quality, and higher-level capabilities lose their 'structured' nature. Winter (2003) goes into detail regarding what this entails – he attempts to explain the difference between higher-level capabilities and completely spontaneous, 'ad-hoc' action. Apparently, with higher levels of dynamic capabilities, the distinction becomes increasingly blurred. However, even here, constant ad-hoc activity may eventually result with formation of additional dynamic capabilities, as practiced and patterned behavior. There are cost factors to incorporate here as well, Winter (2003) argues; dynamic capabilities, as defined with their 'structured behavior' outlook, carry certain costs. Firms may decide to deliberately pursue dynamic capabilities in order to grasp new situations and opportunities better, etc., with the idea of perpetuating and developing the dynamic capability. However, there is also the possibility of going in the direction of ad-hoc activity, a behavior so liberated of previous, structured practice that it becomes cost-free and relies on the people of the organization taking on new, unexplored behaviors and roles.

This results in Winter saying that it's not always needed for managers to exercise dynamic capability potential, as there are many factors to assess (competition, market, potential for continued exploitation), and there is always ad-hoc action to fall back on if need be. However, he still argues that there is need of higher-order dynamic capabilities depending on a variety of factors, unlike Collis (1994), who doubts their usefulness. These factors differ based on the kind of firm, the staff faced with change, the market, the competition, and a multitude of others. If the cost of acquiring higher-level dynamic capabilities is higher than relying on lower-level capabilities, is such action worth the risk? The necessity of higher-level dynamic capabilities, as opposed to the lower-level kind, and the factor of ad-hoc action in all of this, combine into a challenging area of study and business application. Add in the historical lack of
clarity in the dynamic capability research (Di Stefano et al., 2010), and the challenge seems even greater.

2.9 Consensus in Literature
It should be noted that Zott (2003) observes a consensus on how the current literature observes the link between dynamic capabilities and eventual firm performance:

![Figure 4. What recent consensus looks like regarding link between dynamic capabilities and firm performance (Zott, 2003, p. 100)](image)

![Figure 5. How learning and dynamic capabilities influence routines (Zollo and Winter, 2002, p. 340)](image)

Zollo and Winter (2002) reiterate the dynamic capabilities types: process R&D (product development in some similar literature), restructuring, and post-acquisition integration (alliance forming). There is clear overlap with the identification of dynamic capability types of Eisenhardt and Martin (2000), where dynamic capabilities are shown to be identifiable in forms of product development,
**strategic decision making and alliancing.** This is the general classification and the literature backbone that will be used during data analysis in this thesis work. Authors such as Teece (1997) or Eisenhardt and Martin (2000) also involve strategic management. However, we will observe strategic management as an integral part of the other three dynamic capabilities categories. Many authors agree that the actual process of creation of dynamic capabilities in volatile environment requires additional investigation, and that it is highly context-specific. In the research that follows, the specific dynamic capabilities that a higher education institution generates will be investigated and listed as well.

Another new stream of literature attempts to create three new categories of dynamic capabilities that are conceptually similar to the already mentioned categories (Teece, 2007). Teece identifies **sensing, seizing and reconfiguring** dynamic capabilities – which in their own right could be seen responding the dynamic capabilities profiles of some other authors (R&D/product development, alliance/partnership creation, and resource reconfiguration). These will be integrated into the final analysis as well, upon convergence of ideas at the end of the analysis section.

Finally, there has been mention of the concept of **microfoundations.** This concept, first identified by Teece (2007), will be used extensively in replying to the second research question of this thesis. Specific microfoundations relevant to higher education institutions in times of volatility – skills, procedures, decision rules, etc., will be the direct product of the data presentation and analysis, and in conjunction with the aforementioned classification of Eisenhardt and Martin (2000) and Teece (2007) will also have an important role in devising an effective framework for presentation of these microfoundations, another primary focus of this research work.
3. RESEARCH METHODOLOGY

3.1 Type of Research
This thesis is using the qualitative research approach, which is regularly used in social sciences for research investigations. Qualitative research can be considered an emerging type of research that has recently been gaining ground in the information systems-related academic community. A distinguishing characteristic is the fact that data is being collected and interpreted in a relatively liberal and specific way in the participants’ setting, with great attention of the context (Orlikowski and Baroudi, 1991; Walsham, 1993). It implies observation, fieldwork, interviews, questionnaires, as well as researcher’s reactions to the collected data (Myers and Avison, 2002). The need for this research in this particular science stemmed because of the need to accommodate the social and organizational aspects of information systems. It is an inductive form of research (Cresswell, 2009), with the particularities observed before integrating them into a larger whole.

The reason why interpretive research is used here is the observation of a concept that finds its ground in organization science. A multitude of social factors are present here, and there is a very specific context in which the observation and other data collection methods are done; it is sensitive and requires heavy researcher involvement. Due to the fact that observation is very much accentuated, as one of the primary methods of this research, interpretive research seems most suited. The setting in which the research is done is natural and completely realistic, as the observations cover an uncontrolled environment of day-to-day business operations at a commercial high-education institution, with great emphasis to the relationships of this institutions with its associates and partners, as well as relationships between the departments of the organization. The complex phenomenon of human interaction and its effect on creation of such complex constructs as organizational learning, routines, capabilities and ad-hoc behavior requires an approach that suits such a complex environment. Positivist research falters in this context, as the main focus is a number of events that occur during a two-year period, switches in partners, and subsequent effect this has on a particular high-education institution as an example of a company that survives and thrives in discontinuous/volatile environments.

Finally, it is worth to reiterate that this particular qualitative research fits the interpretive epistemological category, the other two being positivist and critical (Chua, 1986; Myers and Avison, 2002). Epistemology (the assumptions regarding the knowledge at hand) was debated in the context of information systems by Hirschheim (1992).

3.2 Mode of Analysis
The primary mode of analysis in this research will be hermeneutics. In hermeneutics, which is argued to be both a mode of analysis and a specific philosophy (Bleicher, 1980 cited in Myers and Avison, 2002), understanding of meaning of text is crucial, where a large quantity of text, or observations, is made sense of (Radnitzky, 1970 cited in Myers and Avison, 2002). A vital aspect of hermeneutics as a mode of analysis is the hermeneutic circle (Gadamer, 1976). This particular concept will be used extensively in the study. There are other concepts as well, such as prejudice as an integral part of a research - Gadamer (1976) claims that objectivity is impossible to
fully achieve in an interpretive work. The idea of the hermeneutic circle is based on the fact that the researcher constantly 'reads' the individual parts of text against the whole of the text, thus there is interplay between the particular parts and the main body of the text as a whole. It is “… a circular relationship… the anticipation of meaning in which the whole is envisaged becomes explicit understanding in the the parts, that are determined by the whole, also determine this whole” (Gadamer, 1976). Hermeneutics as a mode of analysis can be flexible as well, ranging from subtle forms to forms adaptable to critical interpretive research (Bleicher, 1980; Palmer, 1969; Thompson, 1981 cited in Myers and Avison, 2002).

When applied to study of IS, itself in an organizational context, hermeneutics aims to “make sense of the whole” (Myers and Avison, 2002). This will be done in this particular study, as the observation and the opinions of participants may paint a confusing picture that requires good understanding and clarification of the textual “whole”. There can be various conflicts in opinions or actions of the people and participants, as well as. This needs to be clarified and a cohesive conclusion must be made from assessing the individual parts.

Another mode of analysis will be explanation building. As Yin (2003) points out, this is important in linking narrative analysis with current theory regarding the topic at hand (in this case, dynamic capabilities). This way, both the narrative and end results, and the resulting explanations, observe the current theoretical frameworks in this field.

3.3 Strategy of Inquiry

The strategy of inquiry in this thesis work will be the case study. Case studies have long been valued in the IS community due to their flexibility regarding study of organizational phenomena (Walsham, 1995). The basis for selecting this strategy of inquiry for this particular research is the fact it is dealing with a series of events are occurring in their normal, everyday, contemporary environment. Cresswell (2009) defines characterizes case studies as methods to explore events, programs, activities, processes and persons bound by time and certain activity. Case studies, their types and contributions to a wide variety of research work, were well-covered by the seminal work of Yin (2003), who distinguishes between three types of case studies with regards to the question a research work asks: exploratory, explanatory and descriptive study. The case study to be used in this case is of the explanatory type. It deals with questions such as “how” and “why”, and is not just interested in setting up an introductory exploration of a term, but also goes into the specifics of the process of creation of dynamic capabilities, in this case. It aims to have a result suitable for generalization. It is worth noting that it is a single-case study.

Seeing how the study covers a two-year period in which a commercial, high-education institution is observed over the period of two years, with great emphasis on interpersonal relations of the staff and their relations with partners, the case study approach seems to be a good fit for the task at hand. The setting is contemporary, the actors observed in a particular context and time frame, and the thesis is covering an organizational science/IS-related set of events in an explanatory way. That sad, the study will also contain narrative with plenty of description to aid the explanatory parts of the data analysis. These pieces of narrative text will be presented in first-person, as
the researcher was an integral part of the team, and bases his observations in his experience in the institution over this two-year timeframe. These chronological events will be given in order to “tell a story” (Baxter and Jack, 2008), while being focused on the research questions that this thesis work deals with. Thus, the method for reporting will primarily be linear, but constantly concerned with the whole, and the problem at hand.

3.4 Research Setting
The research is to be done at Sarajevo Graduate School of Business (short: SGSB), a commercial high-education institution based in Sarajevo, Bosnia and Herzegovina. The institution has, since its formation in 2004 (assisted by the USAID program in Bosnia and Herzegovina in the early years), focused on teaching MBA (master of business administration) courses and assigning postgraduate degrees, while linked two different partners at a time. The purpose of these partners (one domestic and the other an international partner based in the United States) is to provide two diplomas to the graduates of SGSB, one in association with the domestic partners, and provided in Bosnian language, and the other in association with the US partner, with the aim of prestige and international recognition. At its start, this master program lasted for two years, but this was eventually transformed into an 11-month (one year) master of business administration program. By June 2008, three generations of graduates were produced. A successful executive education program, based around seminars for managers and executives, was run concurrently. SGSB is financially viable for markets the size of Sarajevo, Bosnia and Herzegovina due to these initiatives.

One thing that makes Sarajevo Graduate School of Business a remarkable institution is its capacity to cope with constant change. It has been performing in a volatile business environment since 2004. Post-war Bosnia and Herzegovina is characterized by highly tumultuous market with plenty of competition, especially in the years after 2000. This ability of SGSB to adapt to change is primarily due to its flexibility in coping with a wide variety of partners it had over the years, while performing its educational duties. In 2008, the organization finished the partnerships with its current partners, University of Delaware (from the US) and the Faculty of Economics (from B&H). Its stakeholders and managers managed to locate two new partners for the institution: Henderson University (US) and the International University of Sarajevo (IUS). This is when the program slowly started shifting from the two-year master degree structure, and ventured forth with the one-year structure. However, the Henderson University gave up on the partnership next year due to its own restructuring of initiatives, and SGSB had to look for yet another partner. This was achieved with the Texas A.M. University – Commerce in 2009. In 2010, one final (to date) switch of partners occurred – partnership with IUS was broken, and one with the International Burch University (based in Sarajevo) was made.

What makes this an interesting turn of events is the fact that Sarajevo Graduate School of Business uses resources of their partners needed to teach (classrooms, equipment), and hires guest professors. Furthermore, the diplomas provided are not SGSB diplomas, but rather, the diplomas of its two respective partners. It is an organization that channels resources of others in order to break even in a financially viable business model. It is also an organization with an immensely small core team. The fact that Sarajevo Graduate School of Business had to adapt to a variety of
partners, their organizational structures and resources makes this institution an ideal
candidate for dynamic capability research in a dynamic business environment. SGSB
changed three domestic and three international partners, six in total. It remains in
business, which is an astounding statement of organizations’ ability to adapt, develop
dynamic abilities as well as think of solutions on the spot. Currently, SGSB remain
one of the pioneers in private higher education in Bosnia and Herzegovina, even
amidst the score of competitors that have since appeared in Sarajevo.

3.5 Data Collection
This thesis will rely on the analysis of collected data, done in the premises of Sarajevo
Graduate School of Business. It uses four modes of data collection, all of which
revolve around the transformative and adaptive nature of SGSB during its two partner
switches from early 2008 to the end of 2009. The observed teams and people
contribute with their own perspective through open-ended data collection methods.

Thus, the four methods used are:

- Direct observation. This implies actual observation of the events that transpired
during the set two-year timeframe, and feeds the main narrative of the thesis. The
researcher spent two years working in the research setting, during which significant
topic-relevant changes occurred. The researcher’s work was part-time during this
timeframe, totaling four hours a day, five days in a week. The narrative is presented in
first person.

- Semi-structured interview. This was made in person, in the premises of the research
setting. One interview was done, with the top management of the institution. The
interview was done in English and was recorded. The participant shares their opinions
regarding the build-up of new capabilities during the events of partner switching, as
well as other observations.

- Open-ended questionnaires. Questionnaires with five members of the institution
staff were done, due to small size of the core team. These questionnaires have
weighted question types as well as open-ended questions, where they are free to
express their own opinions. These were done via an online survey tool.

- Informal interaction. As part of the observation, this form of interaction was a
normal side effect. The team working in the researched institution was a team that the
researcher itself was a part of.

3.6 Data Analysis
Once again, it is worth to reiterate that, in the analysis of data, the mode to be used is
hermeneutics. Usage of the hermeneutic cycle will be constant throughout the
research. Even though hermeneutics is noted to be philosophical underpinning of a
research work, it is also a valid mode of analysis, as stated earlier. There is a large
quantity of text involving observations and the rest of the data collection. It is to be
made sense of through an empirical investigation and cohesive linking of the
observations with the research problem at hand. Thus, the research aims to make
sense of the ‘whole’ that is gathered throughout data collection and analysis. It is
worth noting that, even though there are clear ‘units’ of observation narrative, the conclusions drawn, and the sequential analyses of dynamic capabilities in relation to the research question, will be converged at the end of the study. Thus, the danger of observing narrative units independently will be avoided. Explanation building is another mode of analysis used. This particular type of analysis aims for the explanations of the narrative to integrate with existing theoretical propositions (Yin, 2003). This is evident in the constant linking of analysis of dynamic capabilities with the current stream of thought in the literature on dynamic capabilities.

3.6.1 Sequential Analysis of Presented Data

An additional explanation is necessary regarding the specific way data is presented and analyzed throughout this research work. The data is presented and then immediately analyzed in separate sections, corresponding to different phases of the observation period, and the findings are then combined into a whole. These phases that the researcher, upon writing down his experiences and observations at the company, recognized and classified include: a partner switch, evolution of roles, commercial response and move to new premises, working in a new environment, second partner switch, and the third partner switch. The reason for this is that it is necessary to observe actual periods of time and specific occurrences within these periods, in order to suitably identify particular activities and foundations of dynamic capabilities and observe their characteristics, repetition and affiliation to particular categories of dynamic capabilities. Another reason is that the thesis work, with its research questions, strives toward a particular framework for observing dynamic capabilities and their foundations in a specific context, and the sequential presentation and analysis technique lends itself well to this kind of framework generation and observation.

Regarding the data presentation, since there is a specific task of revealing individual activities that build and configure dynamic capabilities in this particular context, there is need of presenting the data sequentially, in chronological order. This is the optimal way of identifying activities and analysis of dynamic capabilities for each phase of the transition process of the institution, within the observation period. The data presented primarily involves observation through retrospective insight into the activities that occurred during the observation period, but also incorporates the data gained through the interview and the survey with the staff of the institution observed. These aid the researcher in producing a faithful presentation of the events that took place within the observation period, and are further assisted with peer review of the final write-up.

Regarding the subsequent data analysis, it follows the presented text in the individual sections named Analysis of Dynamic Capabilities. The microfoundations revealed through detailed study of the data write-up are observed through the lens of Eisenhardt and Martin’s (2000) classification of dynamic capabilities, as well as the classification of Teece (2007), both of which were found to correspond in certain key areas to one another during study of existing literature. The microfoundations are also classified according to their adherence to a particular observed level of discontinuity, which are also examined carefully.

In the end, the analyses of dynamic capabilities will be integrated into a whole, a framework for observation of creation of dynamic capabilities. Since the framework itself is founded on several concepts from available literature, this form of analysis seems well-suited to the task at hand. Thus, data will be presented and analyzed
sequentially, but these segments will serve the final focus of the research and will come together to form an integrated model and integrated results. The activities that the observed organization is seen to take and the circumstances it finds itself in differ throughout the phases of observation, and these varying circumstances influence the types of dynamic capabilities created as well as their microfoundations. However, the findings are still closely knit together when observing the situation as a whole and the research question presented. Thus, the final integration is essential in combining the findings of analysis from various phases of observation.

### 3.6.2 Data Collection and Analysis Framework

The following figure presents the overall process of integrating literature and data collection sources and analysis in the process of coming up with results.

<table>
<thead>
<tr>
<th>MAIN LITERATURE FOCUS</th>
<th>DATA COLLECTION AND ANALYSIS</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DYNAMIC CAPABILITIES CLASSIFICATION</strong></td>
<td><strong>OBSERVATION/RETROSPECTION</strong></td>
<td><strong>MODEL FOR OBSERVATION OF DYNAMIC CAPABILITIES CREATION</strong></td>
</tr>
<tr>
<td>SENSING, SEIZING, RECONFIGURING</td>
<td>SEMI-STRUCTURED INTERVIEW</td>
<td>+</td>
</tr>
<tr>
<td>PRODUCT DEVELOPMENT, ALLIANCE CREATION, RESOURCE RECONFIGURATION</td>
<td>OPEN-ENDED QUESTIONNAIRES</td>
<td>+</td>
</tr>
<tr>
<td>EISENHOFER AND MARITZ, 2000</td>
<td>INFORMAL INTERACTION</td>
<td>+</td>
</tr>
<tr>
<td>PROCESS R&amp;D, RECONSTRUCTURING, POST-AQUISITION INTEGRATION</td>
<td>SOURCES</td>
<td>+</td>
</tr>
<tr>
<td>ZOLO AND WINTER, 2002</td>
<td><strong>ANALYSIS</strong></td>
<td>+</td>
</tr>
<tr>
<td><strong>MICROFOUNDATIONS</strong></td>
<td><strong>ANALYSIS MODES</strong></td>
<td>+</td>
</tr>
<tr>
<td>THE MICROFOUNDATION CONCEPT</td>
<td><strong>SEQUENTIAL PRESENTATION</strong></td>
<td>+</td>
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<tr>
<td>TEICE, 2007</td>
<td><strong>SEQUENTIAL ANALYSIS</strong></td>
<td>+</td>
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<tr>
<td><strong>DISCONTINUITY LEVELS/AD-HOC BEHAVIOR</strong></td>
<td><strong>INTEGRATION OF FINDINGS</strong></td>
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<tr>
<td>LEVELS OF DYNAMIC CAPABILITIES</td>
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<td>COLIS, 1994</td>
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<td>AD-HOC BEHAVIOR</td>
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<td>AND DYNAMIC CAPABILITIES</td>
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<td>WINTER, 2002</td>
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<td>TEICE, 2007</td>
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</tbody>
</table>

Figure 6. Data collection and analysis framework.

### 3.7 Ethical Issues

Research of this kind brings with itself a number of ethical considerations. When considering potential ethical issues of a research, one should assess physical, psychological, social, economic and legal harm that it could have on the participants (Sieber, 1998). This is done in a variety of ways in this research process:

- **Consent form in data collection.** The participants are provided with a consent form on paper, if possible. If not possible, they are provided with an electronic form, as part of an electronic survey process. Participants must agree with the terms before submitting questionnaire answers.
- **Understanding of the academic purpose of data.** All participants are aware that the data collected is to be used for academic purposes, and agree on this account.

- **Consent regarding participation.** All participants agree that they are free to ask to be revoked from this work at any time.

### 3.8 Validity and Trustworthiness

In a paper on qualitative case study methodology, Baxter and Jack (2008) present several alternatives that deal with achieving research of good quality and trustworthiness. Quoting Russel, Gregory, Ploeg, DiCenso and Guyatt (2005), the elements that aid the overall trustworthiness of a study are the following. These are the elements that this thesis attempts to follow in answering its research question and following the case narrative, data collection and analysis:

- The research questions are clearly stated.

- The case study strategy corresponds with the aim of the research.

- Sampling strategies suited to case studies are provided.

- Data is collected and processed in a systematic manner.

- Data is analyzed correctly.

In addition, the researcher uses triangulation (multiple data sources), properly informing participants regarding the activities and results and convergence of ideas, which helps greatly in validating a case study research (Knafl and Breitmayer, 1989; Yin, 2003). Reflection and peer examination of the collected data is used as well, whereby key participants reviewed the observations made by the researcher and commented upon them. Thus, the observation process and data collected aim for transparency as well.
4. DATA PRESENTATION AND ANALYSIS

4.1 Introduction
As stated before, Sarajevo Graduate School of Business is a high-education institution focused on providing MBA (master of business administration) postgraduate degrees in cooperation with two permanent partners, one from Bosnia and Herzegovina, the other from USA, which enabled it to continuously deliver internationally recognized dual diplomas to its graduates. It was originally started in 2004, in partnership with the Faculty of Economics (University of Sarajevo) as the domestic partner, and University of Delaware, the US partner. A single MBA program lasted two years at the time, much like a standard two-year master program. The institution had three generations of graduates by June 2008 following this format. In the meantime, in addition to its main program, SGSB launched its Executive Education program, a series of custom seminars targeted toward a wider audience, with a number of subcategories. This helped SGSB remain financially viable as it acclimated to the market in its early years. Another thing that kept SGSB operating is the support by the USAID program in Bosnia and Herzegovina, which was present in the early years of the institution’s operations and made its survival considerably easier.

In 2008, SGSB faced great change. It parted ways with the University of Delaware and the Faculty of Economics. It lost both its partners in a chain reaction created when one of the institutions backed out and decided to pursue a similar program on their own. Instead, SGSB partnered with two new organizations: Henderson University from the US, and the International University of Sarajevo (IUS). This partnership proved to be very fruitful for all involved parties, with a number of guest lectures and cooperative activities. This year also marked the change of the MBA program format – the switch from a two-year degree to a one-year degree, a choice made due to the market being far more receptive to a shorter graduate program with classes held primarily in the evenings and on weekends. This generation of students graduated in June 2009. Henderson University and Sarajevo Graduate School of Business terminated their partnership the following year. It was once again up to the staff of SGSB and its founders to pursue a new US partner. After some negotiations and proposals, Texas A.M. University – Commerce agreed to venture into the MBA business with SGSB, and offer its resources in SGSB operations. Another generation of students graduated in June 2010. This was followed by a final switch of partners – the domestic partnership with IUS was canceled, and a new one, with the International Burch University (IBU, Sarajevo) was created.

Thus, SGSB intermittently switched three domestic and three international partners in the period between 2004-2011. Throughout all this, it remained viable and afloat in a very tumultuous business environment, and amid a variety of competitors, private universities of both undergraduate and graduate levels, starting up and establishing a name for themselves in the capital of Bosnia and Herzegovina. It used a relatively small team of primary staff during this time.

I was introduced to the staff of Sarajevo Graduate School of Business (SGSB) in the spring of 2008, my last year in undergraduate college. Three of my college friends worked there part-time on a rotating basis; a friendly arrangement between SGSB and Sarajevo School of Science and Technology, my institution. Prior to March of 2008, they had worked mainly on minute IT issues and minor graphic designs for the institution. In 2008, I had completed my work at an non-governmental organization,
and was ready to engage in work more closely related to my field of expertise, information systems, IT and graphic design. Two of my three friends have stopped working at SGSB due to school obligation, and the last one slowly introduced me to the team, his own work slowly phasing out in the following couple of weeks. I was introduced to J.S., a US citizen and one of the heads of the Flag International, at this time working in Bosnia as the SGSB Executive Director, A.R., the head of marketing at the time, N.A., the executive education program officer, and S.K., the accountant. I also met the professors who taught actual MBA courses, as well as the current student generation, set to graduate a couple of months later.

4.2 The First Partner Switch

I realized that I had arrived in the era of great change for SGSB. As I acclimated to the working environment, I started getting the picture of what SGSB was like as a higher education institution. It relied fully on its partners for resources and diploma accreditation, yet was persistent in building a unique product as a solid, integrated organization with its own identity, logo, and marketing. In a way, SGSB could be viewed as a dependent organization, one that cannot exist without its partners, since it relies on their resources and teaching capacity as much as it relies on its own. SGSB relied on the income from the MBA master program for its overhead, and was breaking even. However, third parties donated the computer equipment, including desktops used in classrooms, in the early stages of the organization’s work. Finally, the premises, office space and classrooms were given to SGSB by its domestic partner, as part of the agreement on domestic diploma accreditation. Again important fact is that USAID support was set to end that year; after summer of 2008, SGSB would move on to become an independent, self-sustained business without outside donations other from those mandated by the partnerships, including small amounts of equipment, etc. Professors were signed on with special contracts, with their flexible timing and roles, and this would continue to be so due to the fact that most classes in the next generation would be held in the evenings and on weekends.

At that time, SGSB still used the facilities of the Faculty of Economics, including classrooms and office space. My primary duties at this time involved tending to the IT network of the organization, including the main office and the two classrooms used for the main program and the seminars. The main office contained seven computers for the main staff and professors, with many bringing in their own laptops to use. My predecessors had not installed a wireless connection, and since the Ethernet cable infrastructure was more than adequate, I decided not to go for this solution either. I had not, actually, brought any significant changes to the IT network in the couple of months upon my arrival, partly because the network was well-established, and partly due to the fact that SGSB’s transition into a new partnership was already at that time a well-known fact, with Henderson University replacing the University of Delaware as the US partner, and IUS replacing the Faculty of Economics as the domestic partner. This naturally meant that all non-shared assets, including office equipment and all IT equipment, would have to be moved to new premises, owned by the IUS (International University of Sarajevo) - the new domestic partner. The equipment SGSB used was donated by the USAID government agency in Bosnia and Herzegovina, and it included the IT equipment with approximately 30 Dell OptiPlex education-grade desktops, and the computers used by the main staff. It also included several projectors, speakers, flipcharts and other essential teaching equipment. The
move would be done immediately upon the current student body graduation in early June 2008, and everyone was well aware of this fact.

4.2.1 Analysis of Dynamic Capabilities
SGSB, at the beginning stages of the timeframe, was a well-established organization that relied on its two partners for provision of resources, and the guest professors for teaching of students. The specificity of SGSB at this time was its advertising front and identity – containing the innate organization routines, identity, advertising logo, all of which formed a picture of an independent higher education institution. However, it was still highly dependent on the resources that its partners provided. In these stages, the resource distribution and configuration was mostly done by its partners regarding the classrooms, and USAID, which provided the original equipment for the administrative and IT staff. However, Sarajevo Graduate School of Business had the ability to control configuration of some of their resources. Since money from donations was still present at this time, SGSB controlled advertising and all administrative activities, but actual equipment and teaching aids were mostly in hands of donators. In this era, SGSB was mostly in a relatively calm business environment in the timeframe of 2004-2007. This was a time when the firm established its own administrative structure, created its identity, established its learning process and created a limited push into advertising and promotion.

Dynamic capabilities of the organizations were mostly dormant in two out of three categories. Active dynamic capabilities during this time involved mostly the product development category. We can observe some of their examples, or microfoundations (Teece, 2007). SGSB created the offered courses, signed contracts with professors and ran visibility campaigns for the main program and courses, and published a call for applications. In the area prior to early 2008, SGSB also created its executive education additional seminar-based program, which it developed in order to contribute to its financial viability in the capital of Bosnia and Herzegovina. Most of the resource configuration, as said earlier, was mainly in the hands of stakeholders and partners. On the IT side, the efforts of the IT team were also relatively dormant, due to previously established IT and IS infrastructure. This was still an era of relatively stagnant business environment, marked with high predictability. These observations and conclusions were affirmed in the interview and the open-ended questionnaires as well.

4.3 The Evolution of Roles
Upon my arrival, it immediately became clear that my role at SGSB would be far more flexible than I originally expected, and would span duties beyond IT services. Eventually, these duties, done in cooperation with the rest of the SGSB staff, proved to be monumental in SGSB growth and promotion to its next generation of students. The early 2008 was a transition period for SGSB. As mentioned, the school would move to a new building with a new set of partners, and the staff would have to adapt to a new set of technologies and approaches as well, since Henderson University and IUS were to provide their own input, guidance and software tools. However, there was another looming problem – the issue of marketing. SGSB had a fund for marketing in Sarajevo’s major newspapers – the popular daily newspaper Avaz, Business Magazine, Dani, and others. However, all the promotional materials for the
previous generations’ enrollment were designed by the colleagues that I succeeded at SGSB. This included a variety of ads in the newspapers, and the current website design, which was fast becoming obsolete and unsightly.

Regarding the advertisements, I was in my last year of undergraduate college, studying information systems and graphics, and have had experience with web development and graphic design - working while studying. As someone who had spent a considerable amount of time working on graphic designs for major NGOs in Sarajevo, I immediately noticed that the current advertisements SGSB used for its main and executive programs were visually inadequate, antiquated and followed a visual paradigm that could not hope to attract new customers. This is due to the fact that my predecessors have not been trained in the area of graphic design, whereas I have been, extensively. After talking to my office coworkers, and the head of marketing, A.R., we concluded that the institution would benefit from a brand identity reinvention. I talked about this with both A.R. and the incumbent executive director J.S., and upon reviewing my past work in graphic design, they decided to allow me to draft a few ideas, a process that was supervised by A.R. I was happy to take on this challenge, as the current IT-related duties were few and far in between; the infrastructure was effectively in place, and it was not until mid-summer that SGSB would initiate the move.

On the other hand, the website was in a similar state of disarray. It used an unattractive yellow color scheme that drew complaints from users. It also used an obtuse menu structure that made it difficult to locate proper information. Information on current events and the photo galleries were inadequate. The partnership pages reflected inadequate, obsolete information regarding now expiring partnerships with the Faculty of Economics and the University of Delaware. The colors chosen were partly based on the logos of the current partners. I found that, in order for SGSB to thrive and attract new students for the forthcoming generation, there would have to be a major website overhaul that would better reflect current partnerships with the new foreign and domestic institutions. The color schemes, navigation, content and structure would all have to be improved. They would have to reflect SGSB’s newfound independence from donations, but also the new partnerships with both domestic and foreign higher education institution. Thus, I decided to bring this issue up in the office as well, and the staff agreed to let me come up with a few ideas on this front as well. This was a crucial time for the institution, as the enrollment period was ongoing and would close in mid-summer. It was the right time to act.

Finally, there was the issue of inadequate visibility of SGSB regarding the relationships with its partners, and offers of executive education courses, something the executive education officer struggled with upon termination of the external donations. SGSB had to become financially viable in the Sarajevo market it had to attract a large number of students and executive education participants, and this could have been achieved with greater visibility among current associates as well as inquiries of new associates. I decided to create visual emails and newsletters sent to SGSB’s extensive mailing list. This would serve as a far better incentive for prospective customers to sign up for executive education seminars than simply releasing expensive printed advertisements.

Thus, I first started working on a fresh new visual identity for SGSB’s logos, colors, promotional material and the website, in cooperation with the current head of
marketing, A.R. She reviewed my ideas and provided the necessary support and feedback, and the rest of the team boosted the efforts by joining in with their opinions in as well. This support from A.R. proved to be invaluable and aided the designs considerably. My three colleagues, whom I replaced at SGSB, all provided their feedback as well, along with N.A., the executive education officer at that time. I decided to incorporate striking red elements to all the promotional materials that would be soon published in the newspapers, calling up images of the Henderson University partnership. We also decided to use blue color, invoking the visual identity of the IUS partners. Throughout all of this, we created a clear-cut visual identity for SGSB. The result was approximately dozen advertisements that would be published in the newspapers immediately, incorporating the new visual style, and advertising the new features of the SGSB program. We approached the advertising aggressively, going for radio advertisements as well, and everyone was part of the creative process.

On the website front, I decided to completely scrap the current website and go for another one from ground-up. However, due to my heavy workload my own university, I realized that I would not have time to build the website myself. SGSB gave me full creative freedom, and the freedom to select a subcontractor that would develop the website according to my exact instructions. Thus, I engaged the website design from both visual and structural perspectives. I developed a proposal that would serve as the basis for the preliminary website design. The rest of the team provided all the documentation and the content that was to be put on the website pages, including application processes, documents, press articles, staff information, documentation, etc. The current accountant, S.K., joined in to work with me on this. Her role as an accountant was expanded with her placement on this project with me. Again, the rest of the team remained tightly involved in all these creative processes. We selected a subcontractor, provided them with the proposal and gave them necessary guidance. I was on the email with the subcontractor several times a day, and had face-to-face meetings with their staff as well. In just under two months, the new website was ready for operation, and the application process could now be completed online.

The final idea I decided to incorporate for SGSB to become more visible to its partners were graphics-intensive emails and newsletters sent to associates. The newsletter idea was scrapped due to insufficient team support and the fact that we did not want current associates oversaturated with email content. Rather, we focused on simple, elegant graphics-based emails sending offers and application forms for executive education seminars on periodic basis. These were not designed to be obtrusive and to accost the recipients; rather, they were subdued but kept the new SGSB visual paradigm. We soon started sending these to the entire mailing list of SGSB on a weekly basis.

4.3.1 Analysis of Dynamic Capabilities
Nearing mid-2008, SGSB was made aware that the partnerships with the University of Delaware and the domestic Faculty of Economics were lost, due to the partners’ own restructuring and shifting of business initiatives and preferences. Administration of SGSB, however, soon managed to make key new partnerships with Henderson University and the International University of Sarajevo. Still, the key infrastructure and logistics changes would be made toward the end of the summer. At the end of spring and beginning of the summer, SGSB had its hands full with marketing. This was an initiative related to both resource reconfiguration and product development classes of dynamic capabilities. Marketing initiatives first included printed materials
and similar advertisements. However, SGSB, as said earlier, also worked on website redesign. Both these activities heavily involved the IT team. These were done due to the obsolete public image of the institution, but were greatly influenced by the coming changes in program structure and partnerships. In addition, visibility was greatly increased with new email advertisements and campaigns. This also contributed to the development of both alliance creation-related dynamic capabilities (new partnerships were drawing near) and product development class of dynamic capabilities.

There was much change during this period; however, the partnerships were still not fully enforced in terms of classes and actual program starting. Thus, the foundations of the dynamic capabilities exercised during these period had high focus on the IT team initiatives and included printed advertising, electronic advertising and website redesign/development. They contributed to both alliance-creation dynamic capabilities and product development. Meanwhile, on the resource reconfiguration front, finances were directed more to these activities. In addition, logistic preparations for the move that was to follow were underway. Administration handled the issue of equipment reconfiguration, which was another microfoundation to the resource reconfiguration dynamic capabilities. The move would imply an equipment audit, whereby old and useless donated equipment was to be handed back, and only the essentials would be retained. The period itself was marked with moderate discontinuity, a stance supported by the interview and questionnaires with the staff as well.

4.4 Commercial Response and the Move to New Premises

These three developments, advertisements, the new website and email offers, resulted an overwhelmingly positive response from SGSB associates. We were often commended in email responses and visitors, our pending partners, and more importantly, the response of new potential students rose and superseded expectations. SGSB accepted a record number of applications by mid-summer of 2008, more than 30 for the current generation, and response to printed ads, a more accessible website, and the emails was extremely satisfying. I received commendations from the executive director and the Flag International foundation. I was often contacted by current students directly and they expressed satisfaction with the current direction SGSB was going for. Executive education seminars also saw a significant rise in number of attendees. Henderson University’s prestigious AACSB MBA accreditation provided a respectable MBA diploma, while the IUS domestically recognized certificate complemented the dual-diploma system.

It was almost summer of 2008, and I was aware that my support in moving and reinstalling computer network equipment would be vital. However, before this could be done, it was time to bring the SGSB partnership with the Faculty of Economics and University of Delaware to a close with a graduation ceremony in early June. The entire staff prepared for the event, with everyone taking on a new set of roles. The small size of the team at the time (six people in the primary team) called for each member to take on new roles and actively take part in the event organization activities. I was told that this was the case in the previous years as well. We all participated in selection of the hall where the ceremony would be held. I provided IT support and designed the diplomas and invitations. I negotiated with the printing companies on prices and service. Guests from Delaware and Faculty of Economics
started arriving for the ceremony, and it was up to the team to give them a warm welcome. In fact, we were all involved in the most basic tasks like organizing the graduation walk and selection of music. I brought two laptops from the offices and set up a slideshow that would be displayed to the guests.

It was a highly hectic time for SGSB. These activities were done under high pressure, as it after the diploma ceremony it was time to move office equipment to the current SGSB storage warehouse. I did not expect to be fully involved in these warehouse-related activities. However, this proved to be exactly the case. I was expected to involve in a variety of activities regarding listing of equipment for the forthcoming audit by the USAID (the original equipment donor); the equipment was to be examined, listed, defective equipment was to be disposed of, and tight documentation of this was expected every step of the way. We would spend the entire July of 2008, and the beginning of August, doing this move. It was a pivotal moment; between the equipment move, clearing computer labs from Faculty of Economics premises, the equipment audit, and the selection of students for the upcoming MBA generation program starting in September 2008, Sarajevo Graduate School of Business had its hands full.

SGSB moved all the necessary equipment from its former offices and labs in Faculty of Economics, and from the warehouse where unused equipment sat. I was involved with creating lists for audits and evaluating the state of the IT equipment. The move of the existing IT equipment itself consisted of transporting nearly thirty computers and UPS batteries from the main lab to the new premises, provided to SGSB by its domestic partner IUS. These were located in a three-storey building close to the main IUS building. SGSB was to occupy office space on the second, and computer labs on the third floor, and after negotiations, the rooms were deemed adequate. There were problems with the space; the rooms had not been used in a long time, and there had been concerns regarding Internet access and power outlets. The office space on the second floor consisted of three separate offices connected by a small hallway. There were two mid-sized computer labs on the third floor. The SGSB team, myself included, conducted the move with an SUV-type vehicle, and carried all the computers from the parking lot to the third floor, bringing them into both lecture labs. The IUS IT team - head of IT and his assistant - aided us in bringing the education OptiPlex desktops to the computer labs. We transported the rest of the equipment, one that would be used in the offices, ourselves.

4.4.1 Analysis of Dynamic Capabilities
Naturally, the move to the new premises represented a period of high discontinuity and volatility. A multitude of logistical and organizational factors changed for the institution in this time. SGSB had to juggle the move and the rest of their initiatives. This was a time when the alliance-creation category of dynamic capabilities was exercised and developed in an intensive fashion. The rest of the initiatives taking place at the same time included conclusion of the current generation’s program and their graduation, ongoing efforts at marketing, and high levels of resource restructuring due to the move to different premises and the concurrent equipment audit that was done by administrative, financial and IT teams at the same time. Product development was heavily present, with formation of the new, one-year program and the accompanying curriculum. The graduation ceremony was done in cooperation with the (now) former partner, University of Delaware from the US. This showcases the dynamic capability of both product development and alliance-creation,
even if the partnership with the University of Delaware was fleeting at this point. Naturally, this also included high levels of ad-hoc behavior, as this was unprecedented for Sarajevo Graduate School of Business. Faced with a completely new situation, staff members occasionally improvised in their solutions. Ideas were exchanged, brainstorming was done as well as plenty of conversation, and high levels of cooperation were par for the course.

Further implications for foundations of dynamic capabilities (specific initiatives) are readily apparent. *Staff cooperation* was vital. *Program restructuring* occurred, with the end of the program in June 2008, and appearing of plans for the following year of education. This activity was pointer out in the open-ended interview. *Coordination of moving* and equipment audits formed the basis for resource restructuring / transformation dynamic capabilities. In addition, *partner switch / alliance building* occurred between SGSB and its old and new partners in a variety of ways. The old partner had the opportunity to witness SGSB’s organizing initiatives during the diploma awards ceremony in the beginning of summer 2008. *Working space reconfiguration* followed the resource reconfiguration dynamic capability paradigm as well, as administrative offices had to be set up from the ground up. This was also a time of high volatility, a fact again confirmed by the majority of observed participants of the study.

4.5 A New Working Environment

There were two computer labs; one would be used for the main MBA program, and the other would serve the executive education program with intermittent seminars. I was in charge of creating a network of computers in the computer labs, which I soon started working on. Since we had a shortage of desktop tables, some were loaned by the IUS representatives from empty classrooms. In late August 2008, I was faced with a room full of disconnected computers, components, cables and other equipment, with only one patch cable providing Internet access. IUS decided to loan us their Internet connection, and we terminated the contract with our current provider. With some help from the IUS IT staff, I created the computer lab layout, connected the computers and created a local network. It was difficult due to the fact that the rooms were not originally meant to house a computer lab; there was an inadequate number of power outlets and insufficient connectivity. One relieving factor was that I had been greatly aided by my office peers at this time. They negotiated terms with IUS regarding the computer lab move, helped me select and purchase equipment, and even helped me to physically install equipment during times of heavy workload.

We solved the power supply issue by using extension cables; the only reasonable solution at the time. I used UPS batteries to protect computers in case of power failure. The electrical components were old and there were not many of them, and we decided to use more expensive, high-quality components to minimize risk of power failure. However, this entailed a very intricate network of power extension cables and Ethernet cables and switches, which I devised with the IUS IT assistant. Finally, at the end of August, the labs were ready for the beginning of a new year of teaching.

When the academic year 2008/2009 started, I had many changing roles at SGSB, and so did my co-workers. A.R. took the role of the Executive Director, and J.S. became a board member based in the United States. S.K., the accountant, left to pursue another
job, and an external accountant/auditor was hired. Another person was hired; P.M., and he took the position of the administrative assistant. Although inexperienced in the area of IT services and consultancy, he was of great help in maintaining the computer labs. Eventually, he learned many things from our cooperation in the computer labs, and in return, I helped him in various administrative issues and challenges that he faced in his work. We worked together on contacts, surveys, library management, faxes, etc. Students were getting familiarized with the new building, the professors, and the new program. L.P., the Student Services Director, was overwhelmed with work and constant correspondence. The students expressed dissatisfaction with the premises at first, and it was a challenge to keep satisfaction levels high amid the chaos of the move. Classes started, but students constantly came to the office, often with minor complaints. That year, the generation of MBA students was far too large for the given space. It was a time of growing pains.

I was not only expected to tend to the MBA students, but also attendees of the executive education program seminars, which often took place in the adjoining computer lab on the third floor. Being aimed at professionals, they often took place in the evenings concurrently with the MBA program classes. My duties involved staying every day after working hours for potential troubleshooting regarding the IT equipment. There were many equipment failures at this time, the hot summer, inadequate cooling systems and the fact that the classrooms were in the loft of the building were not without consequence for the sensitive equipment. Most of these problems went away over time, though, but were a considerable challenge when the classes started. The problems were exacerbated by the fact that I was often monitoring two classrooms at the same time. Weekends were no different; Saturday mornings there were MBA classes, and at times, entire Saturdays were reserved for the executive education seminars. The support of the entire SGSB team was evident throughout all this; they were always available via phone and ready to arrive back to the premises immediately if something was amiss to aid me. Henderson University provided access to its ANGEL learning platform, and the administration of usernames was handed over to me. While not all professors used the ANGEL software, some of them were avid users. For the rest, I decided to provide SGSB homepage with a link to ‘online resources’ – essentially, a forum-based community where users could discuss courses and share materials. I created profiles for all students and distributed original passwords, to lighten the transition into this system.

These IT-related duties continued as time moved on, but they were not the only ones present in my workload. Since SGSB was now financially independent, it was of great importance to continue pushing advertisements and press releases for greater visibility. These were primarily my duties, but the entire team was continually involved. In early 2009, N.A., the executive education officer, left for another work opportunity, and a current MBA student, B.D., took her place for several months. Together, we continued creating advertisements and sending emails and faxes. A.R. devised a lottery drawing for participants of a survey that we devised to scan the needs of the Bosnian business community regarding executive education; the entire staff packed and sent out these surveys, and J.S., supporting us from the US as an SGSB board member and occasional guest lecturer, aided us with ideas together with his associates from Flag International. Together, the team devised the new slogan for the company, “Always First”, that I incorporated in my promotional material designs. I designed business cards for the team, executive education certificates, printed advertisements, and more.
4.5.1 Analysis of Dynamic Capabilities

During this time, and after the administrative offices were set up and equipped for work, the IT involvement was at its peak. This exercised and developed the resource reconfiguration dynamic capabilities and their foundations. The highly IT-dependent activities of the new one-year MBA degree program required extensively elaborate and functional high-technology environment. This was difficult to achieve due to the problems with the space that the partner provided. However, with cooperation with partner IT staff, these activities were under way. At this time, SGSB IT staff learned new and useful skills that were born from the high levels of inter-organizational cooperation. This was also true with the administrative department and their day-to-day communication with the staff of new partner, IUS. This happened on domestic front. However, the new partnership with the overseas partner Henderson, based in the US, required initiatives as well. Their courseware had to be adapted by SGSB, an implementation of which was, again, in the hands of the IT team. The SGSB team had to use courseware provided by Henderson and train both professors and students how to use it as well, which marked the growth of the product development dynamic capabilities. In addition, there were initiatives on the new website, which came into its own as well in during this time. In these crucial times, levels of cooperation between the staff and the IT team were very high, and the entire staff worked together. The arrival of a new employee aided the process as well. Resource reconfiguration happened constantly with one of the staff leaving their job, another one coming in, and additional computer equipment being bought and lent to SGSB by its local partner.

The specific underlying foundations of the dynamic capabilities throughout this period included the apparent heightened staff cooperation due to the heightened activity and constant change, IT reconfiguration with the restructuring of classrooms and computer labs, IS synchronization with the both the integration of the US partner’s courseware and the ANGEL software, and the local partner’s IS infrastructure. Acceptance of new workforce and departure of the current executive education director resulted with significant core team restructuring. During this time, certain forms of damage control was in place as well, since the program started in classrooms that were at times insufficiently outfitted with equipment during the early phases. The partner-switch-induced schedule alteration was marked as well, since the classes were now operating primarily in the evenings and on weekends. In this volatile environment, building of dynamic capabilities of all categories (Eisenhardt and Martin, 2000) was at its peak. Product development, partner integration, and restructuring of resources made for a highly active time period in which the dynamic capabilities were exercised to their full potential. We will reiterate that this too was a time of constant and, at times, unpredictable change. Certain amount of ad-hoc behavior occurred, and was expected. Dynamic capabilities and their underlying microfoundations were easy to identify.

4.6 The Second Partner Switch and Further Evolution of Roles

It had been a full year since I started working at SGSB, and it was time for another open call for applications. This meant that there would have to be another push in marketing. In February 2009, the team sat down for a special meeting where everyone gave opinions on how SGSB should proceed with its marketing efforts. I suggested
another website revamp, one that would employ a more attractive homepage in lieu of the Ivy League websites. The team proposed a number of new marketing materials. The ideas included postcard distribution, T-shirts, folders, flash banners on major website portals in Bosnia and Herzegovina, and a TV advertisement. We decided to move on with all these, and all the design decisions were given to me. I was supervised by A.R. and L.P., but the rest of the team had an active insight into this too, as usual. I created new promotional materials, T-shirts, postcards and notebooks, and was on my way to create a website overhaul. The second website overhaul included a muted red and blue scheme with focus on large photographs and a more prominent visual impact. Though most of the links led to the previous design of individual website pages, they were also slightly altered to cater to the new style. This overhaul, much like the previous one, was also met with acclaim. It is now present at www.sgsb.ba. The final step for marketing visibility was adoption of the social networking approach, and A.R. created groups on Facebook and LinkedIn.

There was a new problem, however, and one that Sarajevo Graduate School of Business was no stranger to. Henderson University, the US-based partner responsible for the AACSB-accredited diploma, decided to end the partnership upon completion of the 2008/2009 academic year, based on their changing interests in the MBA field. The current generation of students was to receive Henderson’s AACSB MBA degree, but the partnership was to end after the graduation event. This was a great problem for SGSB, as it was to lose a certified partner for its AACSB-accredited MBA diploma. SGSB’s associates based in the United States, and led by J.S., went to work on creating a new partnership in a record amount of time. The time for the new marketing campaign was nigh, and the search for a US-based AACSB-accredited partner was essential for SGSB’s survival. After some time, J.S. was able to propose the partnership to the prestigious Texas A&M University-Commerce. This was excellent news for everyone at SGSB, as it meant that a new generation of MBA students was to become reality. Texas A&M-Commerce representatives soon arrived in Sarajevo, and the SGSB team, myself included, greeted them and gave them a presentation of SGSB, something that left them impressed. The Texas A&M-Commerce staff offered its full assistance on the enrollment of the new generation and any other matter, which was invaluable during the difficult transition period that occurred only one year after the last.

With the support of Texas A&M-Commerce, the SGSB team was much relieved and could continue its pursuit for the upcoming generation of MBA students. Up to the beginning of the summer of 2009, the team went back to promotion in the printed media. I personally designed all the printed advertisements. A.R. had the idea to market the website on online news portals in Bosnia and Herzegovina, and the portal of the Business Magazine. I did this by designing Flash-based banners of varying sizes that would display the basic info, and lead the potential customers to the online application area of the SGSB website. In order for the applications to be processed more extensively, I developed a simple Microsoft Access-based database in cooperation with our website subcontractor. This database served for easier retrieval of application entries. Consequently, the team was able to obtain better reports regarding individual applications. Other efforts in the marketing area involved development of a TV commercial in cooperation with a popular independent media production house. A brief TV spot concept was reviewed by the entire SGSB team before being sent into final production. The response of interested MBA students was on par with the last year, which was considered a success - the partner switch was not
deemed by interested clients to be of great importance; furthermore, the reputation and credibility that Texas A&M-Commerce brought to SGSB was a factor that ameliorated the switch considerably.

The graduation ceremonies occurred in early June 2009, and the first (and last) Henderson/IUS MBA generation of students received their dual diplomas, with representatives of respective institutions attending. The first ceremony was focused on the Henderson-provided AACSB MBA diploma. The other, domestic ceremony was held in IUS premises, together with other IUS graduates. Once again, the entire team was responsible for organizing essential parts of the ceremonies. After the graduation, the team went back to work on preparations for the forthcoming generation of students. B.D. left the position of the executive education program officers, and P.M. took over this position. The Sarajevo-based team was now smaller than ever, counting only four people, and it was vital to make the right business decision, particularly in the area of the executive education program.

In the summer, I went back to my regular duties as the IT administrator. The computer labs were outfitted with new equipment that I selected and ordered from retailers. The executive education program lab contained all-new computers and refreshed technology. There was a complete reinstall of the Windows operating system in the MBA student computer lab. I made sure that everything was in place for a new generation. Several introductory seminars were held in the labs before the program took off. At this time, I was to soon leave for my master-level studies in Sweden. When I finally left, I was sure that the SGSB IT infrastructure was in good hands, with one of my colleagues returning to replace me. He later provided SGSB with access to the Moodle learning platform, replacing the forum-based system that I implemented.

### 4.6.1 Analysis of Dynamic Capabilities

Having started to form a grasp on its new way of operations, and with its new local and international partners, SGSB nevertheless had much on its agenda. Namely, the large number of existing and new initiatives made it difficult for the staff to stick to their defined roles. This marked the time a true multi-role environment. SGSB reconfigured its resources, namely its staff, vigorously and constantly, with individuals working on tasks they had not faced before. Another restructuring in the marketing initiatives implied full participation of the executive director, student services director, executive education officer and the IT staff, whereby advertisements and the complementary design of the website went through a rigorous process of approval by all staff. Meetings occurred often and required participation of the entire staff, something that was not accentuated before the move. Product development was reinforced with the creation of a social networking environment – initiatives were made regarding online push of social communities revolving around the brand SGSB was making an extensive move to become a well-known entity in the commercial higher-education market in the capital of Bosnia and Herzegovina. Another striking development was of note: much like in the year before, the current international partner, Henderson University, announced that they were no longer interested in the partnership with SGSB. This meant that the Henderson partnership, and the product associated with it, would only be given to the current generation of students, not the one beyond. This meant that SGSB would have to locate another US-based partner in time for the fall semester of 2009. This represented a significant impact, but also a boost, in the alliance-forging area of dynamic capabilities of SGSB.
administration located in the US started looking for a new partner. The survival of SGSB as a dual-diploma MBA provider was in question. However, after heavy alliance-seeking activity, SGSB made an agreement with another prestigious US-based partner – Texas A&M University-Commerce.

This again marked an area of exercising all three categories of dynamic capabilities at SGSB: alliance creation, product development and resource restructuring. Since another generation of students was to arrive in Fall 2009, an intensive *call for applications via program promotion* was devised boosted by another *marketing push* that promoted the new partnership. It was time again to organize the *partner switch / alliance building* with new partners coming to Sarajevo to meet the SGSB team. It was time to make a *new curriculum* as well. High rate of *staff cooperation* was present as usual, as the team kept an open mind regarding taking on multiple roles. This hectic time was, once again, marked with noted discontinuity and volatility. Creating another partnership in such a short timeframe was highly straining for the core team. Thus, all classes of dynamic capabilities were exercised again, a normal occurrence in volatile business environments and alliance creation.

4.7 The Third Partner Switch

In 2010, SGSB was faced with a final partner switch. This time it was the domestic partner, International University of Sarajevo. With the fact that IUS maintained a strong presence as an undergraduate institution, the management of IUS decided that it was time to pursue their own MBA postgraduate program. The MBA programs in Sarajevo became an excellent potential investment for a variety of institutions. This meant termination of the current partnership with SGSB. However, the team of SGSB, including Flag International representatives, were able to realize a new domestic partnership. In October 2010, Sarajevo Graduate School of Business partnered with the International Burch University, formed in 2008 in Sarajevo, Bosnia and Herzegovina. This way, SGSB was able to continue delivering a locally accredited MBA diploma, while maintaining its strong Texas A&M-Commerce partnership. While I was a passive observer of this final switch, I was confident that the SGSB team would have the capacity and the skill to follow through. Indeed, today Sarajevo Graduate School of Business is a recognizable brand associated with the MBA degree in Southeastern Europe. Throughout the years of volatile partner changes and discontinuity, SGSB preserved its own identity and it remains financially viable in the Sarajevo business environment to this day. The organization, owing much to resources of its partners, but far more to its own flexibility, was able to still be vocal and recognizable in the ever-growing market for postgraduate private education in the capital of Bosnia and Herzegovina.

4.7.1 Analysis of Dynamic Capabilities

In the beginning of 2010, SGSB was faced with its final partner switch (to date). Though this switch does not exactly correspond to the two-year timeframe set by this research, its occurrence is to be noted. Through constant communication with the core SGSB staff, the researcher was able to gain more information regarding exercising of dynamic capabilities during this final partner switch. Since the IUS decided to open their own MBA program, SGSB was left without a local partner this time. The SGSB team, overseas administration, and the overarching foundation managed to forge a
new partnership, this time with the newly opened International Burch University, a Turkish higher education initiative and institution. Thus, SGSB was able to preserve its local product offer (local diploma) as well.

According to the SGSB staff interviewed in the data collection process, this again repeated some of the foundations of dynamic capabilities seen before: high staff cooperation and multiple roles, partner switch / alliance building, program restructuring, etc. Assisted by these dynamic capability foundations, SGSB continued with its initiatives into the 2011 and 2012. All categories of dynamic capabilities were exercised here as well: alliance creation, product development and resource restructuring.

4.8 Convergence of Analyses

This section will cover the convergence of all the sequential analyses in the previous sections of this research work, and in accordance with the latest and seminal academic work regarding classes and attributes of dynamic capabilities (Eisenhardt and Martin, 2000; Zollo and Winter, 2002), as well as their underlying microfoundations (Teece, 2007). This thesis uses the three-category framework of dynamic capabilities as presented by Eisenhardt and Martin (2000) and Zollo and Winter (2002), drawing from the work of Teece (1997). In addition, in examining the dynamic capabilities developed in this particular research setting and context, it identifies the foundations, or practices, upon which these dynamic capabilities are built. Finally, it places these into a framework done by Teece (2007), where he classifies the dynamic capabilities as those concerned with “sensing, seizing and reconfiguring”.

The analysis part was concerned with first presenting the narrative of the observation, and then analyzing it through identification of microfoundations (or simply foundations) of the main categories of dynamic capabilities as shown by authors such as Eisenhardt and Martin (2000) or Zollo and Winter, 2002. Teece (2007) presents this concept of dynamic capability microfoundations. According to him, these are the “distinct skills, processes, procedures, organizational structures, decision rules and disciplines” (Teece, p. 1319) that form the basis of organizational capabilities creation. He identifies three levels of dynamic capabilities: sensing, seizing and reconfiguring capacities. This bears much similarity to work done by Eisenhardt and Martin (2000) and Zollo and Winter (2002), whereby similar categories of dynamic capabilities are shown (product development/R&D, reconfiguring, alliance creation and strategic management initiatives).

After identifying all of these ‘microfoundations’ of dynamic capabilities, it is necessary to reiterate that they are extremely dependent on the context of the firm and its circumstances. In this specific case, we are observing a highly IT-reliant, commercial higher education institution that has been faced with significant change and a multitude of partners over a number of years. Thus, the results of the study will be limited to this particular type of organization, and to these circumstances. Regarding the terms used in the analysis of dynamic capabilities, it is important to note that the ‘resource reconfiguration’ instead of just generally “restructuring” dynamic capability angle was chosen due to the fact that this particular organization is specific in the way that it utilizes mostly resources of its partners, and less its own and this terminology seems more appropriate. It is also important to note that the
microfoundations are observed from the standpoint of tiered volatility/discontinuity of the business environment, which corresponds the idea of levels of dynamic capabilities (Winter, 2003).

A large number of microfoundations was identified after sequential analysis of the available observation narrative and other data sources (interview, questionnaires). Among them are activities such as: visibility campaigns, professional contracts, curriculum forming, applications call, advertising, logistic preparations, equipment reconfiguration, alliance/partnership building, website development, various forms of restructuring, staff taking on multiple roles, partner switching, and many more. These are highly dependent on the context present – an IT-assisted higher education institution of a particular profile going through rapid and unpredictable change. Thus, the observation of these in an emerging framework (model) will only be applicable to such institutions, but the model itself may found use even beyond this particular context, something that is discussed later.

In addition, these microfoundations all correspond to the three categories of dynamic capabilities that this thesis work uses, and can be classified under these respective types of dynamic capabilities in a visual manner, with a model that also integrates the various levels of discontinuity/uncertainty. These levels of discontinuity are what stemmed from sequential analysis of events; by dividing major initiatives and events, it was possible to observe how volatile the environment was in particular points in time; in addition, it was easier to recognize how the identified microfoundations fit into these levels of discontinuity. Ad-hoc behavior was not a primary focus of this research, and remains only an aid when recognizing the varying levels of business environment volatility.

In the end, what we are left with is a new and potentially very useful way to represent dynamic capabilities according to the need of an organization. The analysis has, in fact, resulted with a model that integrates all these components into a novel way to represent the evolution of dynamic capabilities, driven by their foundation activities. An in-depth discussion on this model and its creation is found in the following section.
5. DISCUSSION AND RESULTS

5.1 Results
The combination of the major concepts in literature on dynamic capabilities and actual identified microfoundations of dynamic capabilities yields an interesting mix of overlapping elements. For instance, the classification of dynamic capabilities into three main categories, observed in several authors (Eisenhardt and Martin, 2000; Zollo and Winter, 2002; Teece, 2007) makes it easy to draw comparisons between the three categories and to discern their apparent similarities. Two of these classifications in particular (Eisenhardt and Martin, 2000, and Teece, 2007) correspond to each other particularly well, and it is easy to see the overlap of concepts such as sensing and product development (looking into the future), reconfiguring and resource reconfiguration, and seizing and alliance creation. These categorizations can be easily visually represented, with each class shown on top of its corresponding class found in work of a different researcher.

Another major factor in composition of a functional framework for observation of dynamic capabilities creation are the discontinuity levels. This thesis work observes three separate levels of discontinuity upon close observation and analysis of presented data. These levels of discontinuity correspond with higher rates of ad-hoc behavior as they rise in severity, as discussed in previous sections. The sequential presentation and analysis of data proves to be particularly useful here; it is possible to observe the organization as it tackles the changing business climate through a variety of situations with varying volatility, as well as to identify microfoundations that find themselves fundamentally dependant on these diverse levels of discontinuity and uncertainty.

The identified activities that build and fuel dynamic capabilities – microfoundations – vary with their particular context, level of discontinuity and the overarching class of dynamic capabilities. After sequential analysis of these microfoundations, their categorization into their respective brackets is fairly simple: while certain activities may cross boundaries of levels of discontinuity, and even belong to multiple classes, the visual representation of these activities is straightforward and possible to achieve with a circular diagram. In fact, the levels of discontinuity themselves, as well as the overarching classes, can also be easily projected onto such a diagram.

The results seem to infer that there is possibility of adding a very tangible dimension to dynamic capabilities through observation of particular microfoundations that build them, all within a particular context. Through combination of classes of dynamic capabilities, severity of volatility in the environment and the identification of microfoundations, it is feasible to map the entire structure of dynamic capabilities in a certain type of organization going through a time of high volatility. This could provide a useful tool for management and decision-making entities guiding organizations through times of uncertainty. With education on dynamic capabilities and practical mapping of important activities that build these, this form of model could be valuable in strategic decision-making, revisiting the circumstances of high volatility, and for other applications.

The model that follows is context-specific: following the problem and research questions of this thesis, it shows dynamic capabilities and microfoundations that suit an IT-assisted higher education institution in times of change, adaptation and
reorganization. However, its use may not only be limited to this form of organization, and its malleability may prove useful for other types of organizations as well.

5.1.1 Dynamic Convergence Model

The model above – called dynamic convergence - represents the embodiment of the analysis results of this thesis work. As stated before, two key class frameworks of dynamic capabilities are observed and related (sensing, restructuring and seizing by Teece, 2007; development, reconfiguring and alliance creation by Zollo and Winter, 2002; Eisenhardt and Martin, 2000). The model works in the following way:

- In the middle of the model are operating routines, which have been touched upon but are beyond the scope of this research. They thrive in times of low
volatility/discontinuity, and are influenced and evolved by the dynamic capabilities that occur through change (Zollo and Winter, 2002, p. 340)

- The **spheres of varying grey** color represent discontinuity/volatility levels. The darker the color, the higher the business environment/market volatility.

- The **spheres of varying grey** also indicate the tendency of the organization to engage in ad-hoc behavior. Usually, the greater the volatility of the environment, the greater tendency there is for ad-hoc behavior (Winter, 2003).

- The **two outer shells** of the model simply show two representations of dynamic capability classes. They have been aligned to show correspondence of the classes to one another (product development to sensing, resource reconfiguration to reconfiguring, alliance/partnership creation to seizing) as well as the similarity of the underlying ideas.

- **Microfoundations** (or simply foundations) of dynamic capabilities (Teece, 2007) – activities that form the basis of dynamic capabilities - are identified in the data analysis. They are listed under their corresponding dynamic capability. Some of these activities correspond to two at a time (crossing the dividing lines).

### 5.2 Revisiting Research Questions

What is accomplished with this model? First, the research questions asked in the introductory parts of this thesis work have been tended to, in the following way:

**Q1**: How can we effectively observe generation of dynamic capabilities by IT-assisted commercial high-education institutions going through partner alliances in a volatile market?

The model devised attempts to make observation of dynamic capabilities generation easier. It is a conceptual model that takes into account the recognized classes of dynamic capabilities, aligns them, and presents it in a simple way. It can be used as an assistance tool in strategic management (itself a dynamic capability). This way, observation of dynamic capabilities is made intuitive and approachable. The model is flexible as well; after a context has been stated, it is possible to add levels of discontinuity and additional parameters, if needed.

**Q2**: What activities build these dynamic capabilities?

A multitude of activities was identified throughout the analysis, and are shown in the model within the discontinuity “shades of gray” levels. They are bound to the context at hand – in this case, it is a commercial higher-education IT-reliant institution faced with a multitude of partnership changes. They are useful to observe for companies who are in a similar context, as they basically constitute “best practices”, which themselves are dynamic capabilities within a certain context. (Eisenhardt and Martin, 2002).

Again, in the end, what we are left with is a novel tool that could be used in strategic management initiatives and overall in organization management, depending on the need. In general, the dynamic capabilities concepts can seem rather vague and the consensus may seem hard to reach in the available literature. However, the concept of
dynamic capabilities itself is not overly complex, nor is it obtuse. It is rather the absence of context-based research and available frameworks that is holding this type of research back. With tools like this, it could have an opportunity to venture forth into a new era of context-based understanding.

5.3 Significance for The Dynamic Capabilities Concept
As shown by Eisenhardt and Martin (2000), dynamic capability classes are not difficult to reach and quantify. Dynamic capabilities, despite the presence of a large number of streams and opinions in the literature, represent a concept that is solid and grounded in common sense. The problem that this thesis identified in the wide variety of research on dynamic capabilities (Di Stefano et al., 2010) is that there is little context-based research that shows specific activities that fuel creation and evolution of dynamic capabilities, and by extension, organization operative routines. Since the concept of dynamic capabilities being “best practices” within a certain context is present in literature, it is time to identify what Teece (2007) calls microfoundations of dynamic capabilities – specific activities that lie in the basis of organizations’ dynamic capabilities. Much of the covered literature laments the fact that dynamic capability research lacks necessary empirical research. Using more qualitative research that is context-based can rectify this. There are simulation models (Zott, 2003; Romme et al., 2010), but what dynamic capability research needs is actual visual representation of activities that build these “best practices” for certain firms. The fact that it is on a case-by-case basis bears little relevance, as each contribution to such research paradigm is very welcome.

This particular thesis work limits itself extensively. It observes a very specific context (higher-education institution that is exceedingly reliant on the IT-staff, has a small number of staff and is faced with an unpredictable, volatile business environment). The reason why this particular setting was chosen is the specific nature of the organization to be flexible and cope with change effectively. In this way, the organization that serves as the research setting can be observed as a success story. The microfoundations of dynamic capabilities, as well as the visual representation of the creation and evolution of dynamic capabilities in various levels of discontinuity may serve a similar organization faced with heavy alliance-creation activity. Other similar context-based research may tend to different types of organizations, and in different context. What is important is not to halt the contributions to this particular type of research. Its potential and usefulness in strategic management seem to be exhibited intensely, and the there is great necessity for studies done in diverse industries and context (Easterby-Smith et al., 2009).

5.4 Significance for Information Systems
This particular work emphasizes the strong link that IT/IS teams often have with other departments, teams and individuals. The observed flexibility of this particular organization required considerable flexibility of the IT/IS team. The team took on many roles and expanded its field of work immensely. That is why the organization that served as the research setting is referred throughout this research work as “IT-reliant”. The IT team was a crucial part of all the transformations that the organization went through in the period of observation, and later. This particular work showcases
some of the microfoundations of dynamic capabilities related to product development, resource restructuring and alliance/partnership creation, and many of these microfoundations are IS and IT-related. The flexibility of the institution and all the dynamic capability classes required significant IS/IT initiatives for their establishment and evolution.

Dynamic capabilities themselves are often mentioned in the context of knowledge management and strategic management (Jashapara, 2004). However, all these initiatives are inherently related to the field of information systems via their organizational and social science paradigm. By contributing to the core concept (established with a certain context and limitations), this thesis work inherently aids information systems initiatives as well.

5.5 Opportunities for Further Research
The concept of dynamic capabilities greatly depends on the ability of researchers to create studies regarding certain firm types and contexts (Easterby-Smith et al., 2009), and especially using qualitative research. Already some key studies exist, but more are needed. Some examples of context-based studies on dynamic capabilities include the study of pharmaceutical companies and their drive to evolve dynamic capabilities (Narayanan et al., 2009; Newey and Zahra, 2009; Bruni and Verona, 2009), semiconductor manufacturing (longitudinal study by Macher and Mowery, 2009) involving IT initiatives related to dynamic capabilities, new firms and ventures (McKelvie and Davidsson, 2009), top management perceptions (Ambrosini et al., 2009), etc. These are only some of the recent examples regarding context-based dynamic capability studies, and rounded up by Easterby-Smith et al. (2009). These studies showcase how research on dynamic capabilities can get more specific and context-based.

The largest benefit of these context-specific studies is in their potential for adding substance and tangibility to the concept of dynamic capabilities. If dynamic capabilities are as context-specific as the available literature indicates, then why not create more individual, specific, context-based studies to show how dynamic capabilities can be studied and investigated using detailed models? Not only can the individual types of organizations and businesses benefit from these frameworks when faced with change and uncertainty, but these can also lend to subsequent overarching models that may have more widespread use and applicability. In a world where dynamic capabilities seem to exist as an often intangible and unclear notion, such recourse seems to be needed in order to contribute effectively to this elusive, yet fascinating concept.
REFERENCES


Appendix A. Observation Timeline

Website Redesign Launch  Move to New Premises  Start of 2008/2009 Academic Year  Henderson Partnership Canceled

Mar 2008 | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan 2009 | Feb

My Arrival at SGSB  2006/2008 Graduation


Mar 2009 | Apr | May | Jun | Jul | Aug | Sep | Oct | ... | Oct 2010 | Nov | Dec

Texas A&M Partnership Started  2nd Website Redesign Launch  Burch Partnership Started

Ongoing IT Efforts
Ongoing Executive Education Program
Ongoing Marketing Efforts
Appendix B. Interview Questions

1. You’ve been the executive director of SGSB for three years now. Can you share your perspective on what makes SGSB special and different from its competitors?

2. SGSB went through a difficult time from 2008 to 2011. Can you reflect on some of the alliance-focused events that took place then and what you learned from them?

3. How important is close staff cooperation to you? Can you give a good example of how effective staff cooperation helped the company in a particular situation?

4. What is your opinion on staff taking on multiple roles in a time of crisis? How does this help the company?

5. Do you think that an IT team should focus solely on IT and infrastructural activity, or should it also lend a hand with activities like promotion, advertising and logistics when needed?

6. How high do you value the role of staff meetings?

7. What are some of the ways you developed to cope with stress during discontinuous activity and alliance switching?

8. What are some of the crucial activities that need to take place during partner switches for everything to go as smoothly as possible?

9. Do you believe that SGSB built up specific capabilities during these last few years that can help you should another partnership switch occur? Can you identify some of these?

10. What obstacles does SGSB currently face? How do you plan to tackle them?
Appendix C. Questionnaire Items

1. A firm is capable of surviving through multiple crucial partnership switches.

2. How would you rate the business environment in which SGSB operated with its partners from 2008-2011?
   A1: Calm A2: Moderately volatile A3: Volatile A4: Highly Volatile

3. The organizational integrity and competence of SGSB was aided by frequent partner switches in the 2008-2011 timeframe.

4. SGSB needed to exhibit high flexibility in the alliance creation initiatives of 2008-2011.

5. Share your reflections on the partner initiatives that SGSB was involved with in the 2008-2011 timeframe.
   A: (Free Text Entry)

6. Rate SGSB’s initiatives based on their importance in transitioning into new partnerships during the 2008-2011 timeframe:
   A: (The following are rated on a grid, on a scale A1: Irrelevant A2: Not Important A3 Neutral A4: Important A5: Crucial): Advertising, Multiple Roles Website Development, IS/IT activities, Logistics, Program Management. An additional item, “Other – please specify”, is added as free text entry).

7. SGSB employees needed to take on extra roles and do extra work during the times of new partnership creation.

8. The IT team played a vital role in SGSB adapting to the environments and resources of its partners during 2008-2011.

9. SGSB is a highly IT-reliant organization.

5. Share some of the lessons you learned at SGSB in the 2008-2011 timeframe.
   A: (Free Text Entry)
Appendix D. Data Collection Agreement Form

DATA COLLECTION AGREEMENT
BETWEEN TARIK MEHMEDOVIC (RESEARCHER) AND SGSB STAFF (RESEARCH PARTICIPANTS)
For the purpose of master thesis research.

Developed by: Tarik Mehmedovic

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Tarik Mehmedovic</th>
<th>Research Setting</th>
<th>Sarajevo Graduate School of Business</th>
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<tr>
<td>Program</td>
<td>Master in Information Systems (2 years)</td>
<td>Verified by</td>
<td>SGSB Executive Director</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:tarik_take@yahoo.com">tarik_take@yahoo.com</a></td>
<td>Date Created</td>
<td>June 2011</td>
</tr>
</tbody>
</table>

DATA COLLECTION METHODS

1. Observation
2. Semi-structured Interview
3. Questionnaire distributed to staff via online survey tool
4. Informal communication

AGREEMENT DETAILS

1. You will be asked to:
   - **Executive Director**: Review observation narrative. Provide simple reflection on your experience during the 2008-2011 period and partner switches – alliances between SGSB and its partners.
   - **Staff**: Fill up an anonymous open-ended questionnaire.

2. Benefits of Research:
   - The research focuses on flexible higher education institutions surviving through partnerships and building up their dynamic capabilities and their microfoundations. The benefit of the research involves better insight into this process and identification of particular capability microfoundations that such firms exhibit in the form of ‘best practices’.

3. Confidentiality:
   - Initials shall be used in the narrative text. The interview will list its participant as “SGSB executive director”. The questionnaire will be completely anonymous. The interview transcript shall be attached to the main thesis as an appendix, as well as the list of questionnaire items. The observation narrative will be made public (in the thesis text) after participant review and approval.

4. Data Protection:
   - The data will be stored in a safe area and will only be available to the researcher, or to the participant (SGSB) upon request.

5. Withdrawal:
   - The participants are able to withdraw from this research and data question collection whenever they please.

6. Risk:
   - The researcher does not expect any risk or misuse of this data, as most of it is publicly available. Only public and limited information on SGSB partners will be used.

ADDITIONAL COMMENTS

1. 
2. 
3. 
4. 
5. 

VERIFICATION

I hereby agree to participate in the thesis project “Dynamic Capabilities in IT-Assisted Alliance Creation: A Study Of Higher Education Institutions by Tarik Mehmedovic. I understand this project and consent to participation based on the terms listed above.

YES ☐ NO ☐

Date and Location          October 2011, Sarajevo          Researcher          Participant