Dynamic Capabilities in SMEs: The Integration of External Competencies

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Abstract

In spite of substantial body of theoretical and conceptual contributions, empirical evidence of nature of dynamic capabilities and their influence on firm performance is still relatively scarce. We present review of empirical studies of well-known processes that highlight constituting elements of dynamic capabilities, and conclude that relatively little research has been conducted to address managerial practices and processes employed to integrate external competencies. We propose concept of 'relationship capability', that denotes integrative dynamic capability constituted of managerial practices and processes that are employed in SMEs, first, to sense and interpret firm's environment, second, to reconfigure internal organizational processes to integrate external competencies in the firm and third, to develop specialized offerings based on platforms.

Keywords: Dynamic Capabilities, SMEs, Relationship Capability, External Competencies, External Environment.

1. INTRODUCTION

The field of strategic management is dedicated to the explanation of differences in firm performance. Strategists are particularly interested in conditions which lead to improvements in performance and sustainable competitive advantage. The level of analysis (of strategy formulation) has deepened from explanation of observed inter-firm profitability differences, through understanding of the intrinsic firm heterogeneity (and hence durable intra-industry profit differences), to examination of the dynamic routines that produce heterogeneous firms (Collis, 1994). Broadly speaking, three theoretical frameworks that address firm heterogeneity have emerged in the last twenty years: *resource-based view* of the firm (RBV), *(core) competence* approach and *dynamic capabilities* approach. In the following paragraphs, we briefly review these streams of research and then focus on the last one as the framework of reference for our study. After presenting review of empirical studies of dynamic capabilities, we propose a novel way to approach conceptualization of integration of competencies, external to focal firms. We outline framework for analysis of managerial practices and processes employed to integrate external competencies, embedded in platforms, in organizational processes of small and medium-sized enterprises (SMEs). In the final paragraphs, we discuss potential contribution of such framework to research on dynamic capabilities and to practice of management of SMEs.

2. LITERTURE REVIEW

Resource-based view of the firm (RBV) focuses on the internal organization of firms and factor market imperfections. It highlights the heterogeneity of firms, varying degrees of their specialization, and the limited transferability of corporate resources. The strategy process revolves around identification and exploitation of idiosyncratic resources and distinctive competencies (Clark, 2000). Probably the first self-conscious application of a resource perspective to the field of strategy was made by Rumelt (1984), who noted (p. 561) that the strategic firm "is characterized by a bundle of linked and idiosyncratic resources and resource conversion activities". Also Wernerfelt (1984) was early to recognize the differences between the resource perspective and product market approach. Other notable early contributors include Barney (1986, 1991), Dierickx and Cool (1989), and Conner (1991). The resource-based logic has been taken further in the (core) competence approach to strategy formulation. This view, developed by Prahalad and Hamel (1990), argues that it is the core competencies of a firm, not discrete, individual assets, which are the source of sustainable competitive advantage. These core (organizational) competencies in turn lie behind firm's ability to bundle together generic resources (skills and technologies) enabling it to provide unique value for the customers.

More recently, scholars have extended RBV to dynamic markets. The rationale is that RBV does not adequately explain how and why certain firms sustain their competitive advantage in changing business environments. Teece et al. (1997) expand on the resource-based view of the firm to explore the possibility of a theory of dynamic capabilities, which they define as "the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments". Zollo and Winter (1999, 2002), on the other hand, have suggested that dynamic capability should be defined more specifically in terms of the generation and modification of firm's operational routines. There thus seems to be a lack of consensus on the nature and scope of dynamic capabilities. Nevertheless, the role of learning in building new competencies is central to different analyses. Moreover, while dynamic capabilities are idiosyncratic in their details and path dependent in their emergence (which complicates definitions), they still seem to have significant commonalities across firms. Extensive empirical research streams support the view that there are 'best practices' in specific strategic and organizational processes like product development, alliancing, and strategic decision making (Eisenhardt and Martin, 2000).

Teece et al. (1997) argue that dynamic capabilities are in fact organizational and strategic routines by which managers alter firm's resource base and renew competencies in order to generate new sources of competitive advantage. In addition, these managerial and organizational processes are also shaped by the firm's (specific) asset positions (such as the firm's portfolio of difficult-to-trade knowledge assets and complementary assets), and the evolution path(s) it has adopted or inherited.

According to Teece et al. (1997), organizational processes have three roles: coordination/integration (a static concept), learning (a dynamic concept), and reconfiguration (a transformational concept). First, effective coordination and integration of activities is important both inside the firm and with external parties. Second, learning is conceived as an individual and organizational process by which repetition and experimentation enable tasks to be performed better and quicker and new production opportunities can be identified. In this way improvements in organizational processes also lead to the creation of new strategic capabilities (Argote, 1999). Third, the ability to sense the need to reconfigure firm's asset structure is particularly valuable in rapidly changing environments. In order for an organization to exhibit dynamic capabilities, however, it must properly calibrate responsive actions and investments, and move to implement a new regime with skill and efficiency. During this process the organization receives and interprets messages about new markets, new technologies, and competitive threats (Teece, 1998).

2.1 Empirical Studies of Dynamic Capabilities

In spite of substantial body of theoretical and conceptual contributions, empirical evidence of nature of dynamic capabilities and their influence on firm performance is still relatively scarce. Scholars have suggested the following problems: lack of consensus on their definition

(Henderson and Cockburn, 1994), potential tautology (Priem and Butler, 2001), measurement difficulties (Wernerfelt, 1984) and operational limitations (Williamson, 1999). Eisenhardt and Martin (2000), on the other hand, state that dynamic capabilities consist of many well-known processes that create, integrate, reconfigure and release resources and competencies. In the following paragraphs we present brief review of empirical studies that addressed these aspects of dynamic capabilities.

Dynamic capabilities related to the creation of new resources include knowledge creation routines as well as alliance and acquisition routines that bring new resources into the firm from external sources (e.g., Powell et al., 1996). McGrath et al. (1996) developed a framework that explains creation and evolution of competences that are necessary antecedents for innovation. They point out that process counts, stressing that team processes of learning and of developing proficiency shape the economic outcomes of an innovation attempt. Pisano (1994) analyzed how organizations in chemical-based pharmaceuticals and biotechnology-based pharmaceuticals industries create, implement and replicate new routines. He observed significant differences in environments of firms in these two industries, concluding that different approaches to learning are required in different environments. In their study of entrepreneurial venturing in Siemens Switzerland, Katzy et al. (2001) identified creation of two dynamic capabilities, incubating and grafting, instituted to coordinate processes of creation of internal ventures and their integration in existing productive base of focal division.

Another type of dynamic capabilities is integrating dynamic capabilities such as product development routines and strategic decision making. Product development routines are considered dynamic capabilities as managers combine their varied skills and functional backgrounds to create new products and services (Helfat and Raubitschek, 2000). Brown and Eisenhardt (1997) examined continuous change in organizations in the context of multiple product innovation. They found that firms successful in multiple product innovation: first, blend limited structure around responsibilities and priorities with extensive communication and design freedom to create improvisation; second, rely on wide variety of low cost probes into the future; third, link the present and the future together through rhythmic, time paced transition processes. All these activities constitute dynamic capabilities associated with successful multiple product innovation. Strategic decision making is an integrating dynamic capability since it involves pooling of business, functional, and personal expertise (e.g. Eisenhardt 1989a). Studies by Brusoni et al. (2001) and Henderson and Cockburn (1994) suggest that integrative knowledge underlying dynamic capabilities can be a source of strategic advantage.

Resource allocation routines (Burgelman 1994) and transfer processes including routines for replication and brokering (Hansen 1999; Hargadon and Sutton 1997) are examples of dynamic capabilities that focus on reconfiguration. In multi-business firms, corporate divisions might be envisaged as combinations of capabilities and product-market areas of responsibility that may be recombined in various ways. Galunic and Eisenhardt (2001) suggest organizing recombinative processes in multi-business firms in dynamic communities, organizational forms consisting of diverse and quasi independent divisions, sharing identity and values and guided by social as well as economic rules. Finally, there are dynamic capabilities that release resources: giving up resource combinations that no longer provide competitive advantage is a crucial ability for a firm (Sull, 1999).

Recently, researchers have made efforts to tackle problem of measurement difficulties by constructing measures of dynamic capabilities. Zott (2003) explored how the dynamic capabilities of firms may be linked to the differential firm performance within an industry. Author proposes three performance-relevant attributes of dynamic capabilities (timing, cost and learning of resource deployment) and develops appropriate measures. Conclusion of the study, based on a computer simulation, is that effects of timing, cost and learning significantly contribute to intra-industry differences in performance. Macher and Mowery (2001) examined the role of the R&D organization and information technology practices for problem solving and learning-based improvement in innovation in semiconductor manufacturing. They derived models of the rate of

improvement in manufacturing yield and cycle time, as measures of the quality and the speed of production, respectively. Results obtained indicate that allocation of human resources to problem-solving activities and the use of information technology in the manufacturing facility determine semiconductor manufacturers' problem-solving abilities and subsequent manufacturing performance.

2.2 Integration of External Competencies – Dynamic Capabilities Approach

Reflecting on definition of dynamic capabilities by Teece et al. (1997), we observed that empirical research has put most emphasis on firms' ability to integrate, build and reconfigure *internal* competencies. Literature has been rather silent on dynamic capabilities employed to integrate, build and reconfigure *external* competencies. It is generally observed in strategic management literature, that firms use alliances as a vehicle for acquisition of external competencies. However, so far little analysis of practices and processes firms employ to codify and disseminate knowledge of managing alliances has been conducted. One notable piece of research is contribution by Kale et al. (2002), who discussed concept of 'alliance capability' that would rest upon "how effectively the firm is able to capture, share and disseminate the alliance management know-how associated with prior experience" (Kale et al., 2002: 750). They reported that firms that create a dedicated alliance function that embodies practices constituting alliance capability realize greater success with alliances. Their research highlights two issues. First, it explicitly addresses managerial practices strategically employed to build capability of a firm to enter and manage alliances. Second, it suggests that deploying dynamic capabilities to manage strategic alliances is beneficial for firm performance.

Given our academic interest in management of entrepreneurial ventures, we set out to study acquisition and integration of external competencies in small and medium-sized enterprises (SMEs) that compete in international markets. We set out to explore whether SMEs can overcome their relatively limited competence base by entering alliances with partners that have already developed relevant competencies. Our starting point was consideration whether we might approach that problem by studying alliances SMEs enter. Review of literature on alliances and networks revealed that there is a large body of literature reporting failures of alliances (see e.g. Kogut, 1989) and a growing body of literature on networks that builds on the concept of social networks and considers embeddedness an important factor in defining opportunity set of alliances and other interfirm linkages a firm might enter (Gulati, 1998). Embeddedness view emphasizes, that "...actors do not respond solely to the individualistically determined interests...a structure of relations affects the actions taken by the individual actors composing it. It does so by constraining the set of actions available to the individual actors and by changing the dispositions of those actors toward the actions they may take" (Marsden, 1981: 1210). SMEs typically lack relevant embeddedness in international social networks of firms, and rely on social contacts of its key people, which may not be sufficient for establishment of linkages with other firms, that would exert major influence on SMEs performance. SMEs also lack status (Boeker, 1989) in the international arena, which is an important signaling element, especially in uncertain environments (Podolny, 1994). These factors may further affect scope of potential linkages with more established firms.

These findings led us to look for alternative ways for SMEs to get access to external competencies. One of potentially many of them is presented in recent work by Iansiti and Levien (2004a, 2004b). In their innovative treatment of business networks as ecosystems, they draw on analogies from biology and suggest that there are three types of firms in a business ecosystem: keystones, dominators and niche players. According to Iansiti and Levien (2004a, 2004b), bulk of an ecosystem is composed of niche players, and we believe this is an apt analogy for SMEs, focal firm population for our study. On the other hand, keystone is a metaphor for a firm that occupies the center of asset-sharing relationships and employs keystone strategy. By doing that keystone player improves performance of an ecosystem, which is assessed by measuring ecosystem's health on three dimensions: productivity, robustness and niche creation. Keystone strategy is aimed at enabling other firms in the ecosystem to create value, and at sharing that value with the ecosystem.

The most important contribution of a keystone firm is to provide stable and predictable set of common assets that other firms use to develop their own offerings. This set of common assets constitutes *a platform*, which embodies "set of solutions to common problems that is made available to the members of the ecosystem through a set of access points or interfaces" (Iansiti and Levien, 2004: 148). Examples of platforms are Wal-Mart's procurement system and Microsoft's operating system and tools. By integrating such set of solutions in their own organizational processes, SMEs can get access to external competencies that would otherwise be hard to attain. Leveraging of external competencies allows SMEs to focus their activities on development of special capabilities that allow them to differentiate themselves from other firms in business ecosystem.

In this paper we examine managerial practices and processes employed to integrate competencies external to the firm. Drawing on analogy with notion of alliance capability (Kale et al., 2002) and informed by the relational view (Dyer and Singh, 1998), which suggests that a firm's critical resources may be embedded in interfirm resources and routines, we propose concept of 'relationship capability'.

2.3   Relationship Capability
Figure 1 presents the concept of relationship capability. The figure consists of three parts: the firm (SME), its environment (consisting of keystone players and niche players) and its customers. The firm is presented as an integrator, performing three interrelated groups of processes: sensing and interpreting the environment, integration of external competencies and development of specialized offerings. Activities firm performs to improve these three groups of processes are denoted as competence building. Following studies of Helfat and Raubitschek (2000), Brown and Eisenhardt (1997) and Eisenhardt (1989a), we term the firm integrator since the activities mentioned above could be considered to constitute integrating dynamic capability. Since integrating knowledge underlying dynamic capabilities can be a source of competitive advantage (Henderson and Cockburn, 1994), we aim to examine what integrating practices focal firms perform and whether these practices might confer competitive advantage on these firms.

Processes employed to sense and interpret the environment are aimed at identification of keystone players and niche players in the firm's environment and identification of relevant strategic elements associated with these two groups of players. Such strategic elements include: types of products and services offered by keystone players and niche players, markets these types of players are in and will be in in the near future and characteristics of the strategic behavior of both type of players (e.g. technology leader/ technology follower, speed of reaction to changes in environment etc.). Integration of external competencies is a process aimed at enhancement of competence base of a firm without unnecessary duplication of efforts to develop competencies already accessible in the firm's environment. Integration capability is often critical in technology intensive industries, as keystone players' core competencies include setting standards of the industry. In that kind of situations, niche players need to develop capability to efficiently and timely integrate core competencies of keystone players, embedded in platforms or core products. Third group of processes that an integrator performs constitutes development of specialized offerings. Generally development of offerings follows integration of new generations of platforms or core products, as niche players build their offerings on top of keystone players' outputs. Typical example is Microsoft's .NET platform, which numerous niche players around the world use as a basis for their offerings. Another example is customer demand information Dell and Wal-Mart provide its supply chain partners. Such information is actually a platform, basic building block of business strategy of niche players that supply Dell and Wal-Mart. Niche players have to develop specialized offerings, as they lack economies of scale or scope that large players are able to generate. Consequently niche players can not compete on costs. Capability to develop distinctive offerings therefore has to be at the center of product/service development activities to enable niche players to stay in the market and generate positive business results.

Relationship with a keystone player can have varying impact on market position and business results of niche players. In Figure 1 we distinguish between niche players that are suppliers to a

keystone player (and potentially other customers) and niche players that sell their offerings only to customers other than keystone player. Based on this distinction, we distinguish between direct and indirect impact of keystone player on business results of niche players. Those niche players that supply a keystone player and other customers experience direct impact of keystone player, as they depend on both strategic and revenue side on the keystone player (the former due to the reliance on competencies of keystone player). Those niche players that supply only customers other than keystone player experience indirect impact, as their revenues are not generated from business with the keystone player, while competencies of the keystone player remain strategically important for such niche players.
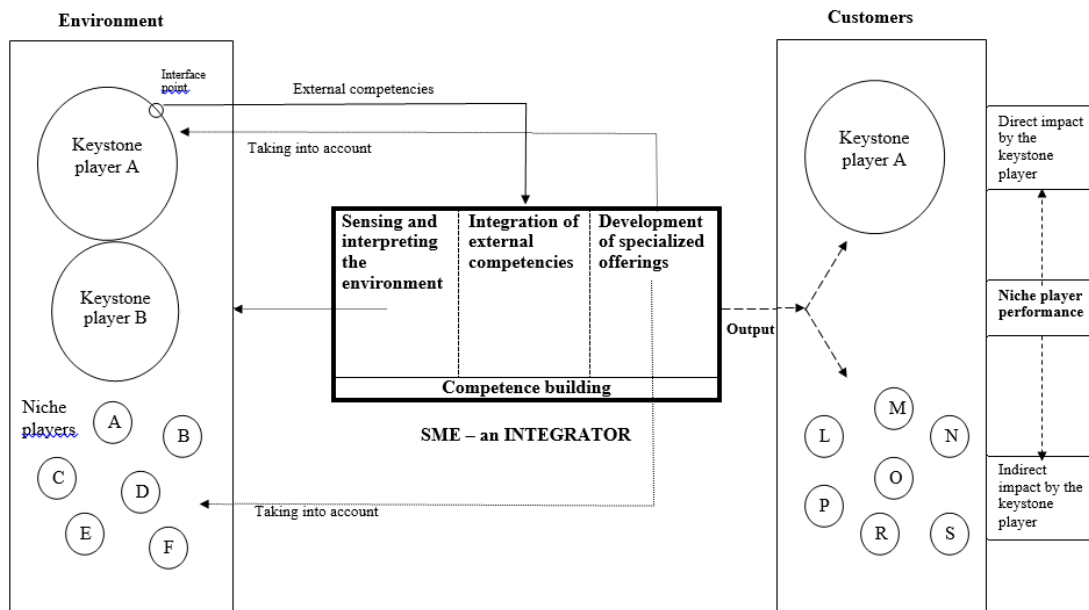

FIGURE 1: Relationship Capability.

3. RESEARCH QUESTIONS

Research questions arise directly from dimensions of relationship capability presented in Figure 1. Iansiti and Levien (2004a) state that niche players can benefit from relationships with keystone firms, and to do so, they need to develop ability to understand their environment in terms of presence of keystone firms and platforms. Our first research question is: Which managerial practices and processes SMEs employ to sense and interpret the firm's environment with respect to presence of keystone players and platforms?

Second research question concerns acquisition routines (Powell et al., 1996) firms employ to gain access to the platform. When relevant platforms in the firm's environment are identified, managers need to employ practices that enable firm to access interface points. Therefore, our second research question is: What managerial practices are employed to gain access to the relevant platforms?

Third research question concerns integrative process by which external competencies, embedded in platforms, are integrated in the firm's internal processes. Integration of platform solutions in internal organizational processes necessitates the reconfiguration of the latter, since the structure of the organizational competencies changes as a result of the integration. Our third research question is: How are internal organizational processes adjusted to integrate external competencies in the firm?

Fourth and final research question relates to the development of specialized offerings that differentiate particular niche player from the others in the business ecosystem (Iansiti, Levien, 2004a). The purpose of the integration of external competencies is two-fold: avoidance of efforts aimed at development of particular competencies, already readily available in the firm's environment, and acquisition of standardized, technologically sophisticated base upon which highly specialized, yet in essential features standardized, offerings can be developed. Our final research question is: How are specialized offerings, based on platform solutions, developed?

4. METHODS

Aim of our research is to further understanding of dynamic capabilities by developing theoretical framework of integration of external competencies in the context of SMEs. Literature suggests that when dealing with relatively under explored phenomena, inductive theory building research approach is appropriate. Glaser and Strauss (1967) suggested grounded theory building using comparative method. This method relies on continuous comparison of collected data and theory, and results in theoretical categories based solely on evidence. Eisenhardt (1989b) suggested more systematic approach and developed roadmap for building theories from case study research. We combined these two approaches in the course of our study.

Case study is a research strategy which focuses on understanding the dynamics present within single settings (Eisenhardt, 1989b). It is appropriate for our purposes since we are trying to understand dynamics of managerial practices in setting of particular type of organizations, SMEs operating in international markets. Case studies can involve either single or multiple cases, and several levels of analysis (Yin, 2003).

We used theoretical sampling (cases are chosen for theoretical, not statistical, reasons, Glaser and Strauss, 1967) as it allows choice of cases in which the processes of interest are observable. We studied seven small and medium-sized software services companies operating in Central and Eastern Europe. Unifying characteristics of these companies are that they are all partners of Microsoft, and that they focus on particular type of software services. Based on the latter fact and for the purpose of adherence to Iansiti and Levien's framework, we will from this point on refer to those companies as niche players. Choice to study Microsoft partner companies was based on presumption that phenomena of interest might be readily observable, as the business model of Microsoft is built on partnership with niche players that develop their offerings on the basis of Microsoft's platforms. In effect, in our view, Microsoft acts as a keystone player that explicitly enables niche players to leverage competencies embedded in its platforms.

In their study, Bourgeois and Eisenhardt (1988) identified potentially important constructs from literature on decision making, and then measured these constructs in the interviews and questionnaires. We followed their approach by a priori specifying construct of relationship capability and defining research questions to shape initial design of research and focus our study. We carried out field work in two iterative phases. In the first phase, we conducted in-depth interviews with twelve executive managers from seven niche players. In five companies, we conducted separate interviews with two individuals and in two companies we conducted interview with one person per company. Information we obtained from two managers from one company wasn't comparable to information we obtained with other respondents. Consequentially, we present findings for six niche players. In the second phase, we asked respondents to validate and complement summarized and interpreted findings based on the interviews. That kind of research approach ensured robustness of our findings, as well as enhanced practical implications that we elaborate on in the end of this paper. We gained additional feedback by organizing a joint meeting with the representatives of Microsoft in the region and interviewees.

For the analysis of the information obtained with interviews, we relied on approach suggested by Miles and Huberman (1994). We transcribed the interviews and coded them using list of codes that were based on the research questions. After coding the transcripts, we used software ATLAS/TI 5.0 to create matrices and that are presented in the findings part of this paper.

5. FINDINGS AND DISCUSSION
5.1 Sensing and Interpreting the Environment
Relationship capability is a three dimensional construct, constituted of managerial practices and processes that are employed in SMEs, first, to sense and interpret firm's environment, second, to reconfigure internal organizational processes to integrate external competencies embodied in platforms in the firm and third, to develop specialized offerings based on platform solutions. We hypothesized that firms might differ in processes and practices they apply with respect to the nature of their relationships with the keystone players. We constructed concept of level of attachment to the keystone player, and observed whether we could identify any patterns in processes and practices in niche players relative to their different levels of attachment to Microsoft.

We assessed level of attachment for a particular niche player according to responses of interviewees to the following interview questions:

- Which platforms of which keystone players do you use as the basis of your offerings?
- Why did you decide to use particular platform? Why did you decide to cooperate with particular keystone player?
- What do you get out of the collaboration with particular keystone player and the use of its technologies?

Throughout the findings, niche players in our sample are ranked according to their level of attachment to Microsoft (see Figure 2). We reasoned that visualization will enable us to identify potential patterns in processes that may arise from different levels of attachment to a particular keystone player. Six niche players in the sample are labeled as Alpha, Beta, Gamma, Delta, Pi and Omega. We made an agreement with all interviewees that we will cover the identity of their firms in exchange for detailed information on processes and practices they employ.
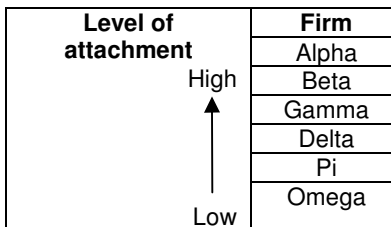
Level of attachment	Firm
High	Alpha
	Beta
	Gamma
	Delta
	Pi
Low	Omega

FIGURE 2: Level of Attachment to Microsoft.

The managerial processes that niche players employ to sense and interpret their environment are presented in Table 1.

Element of sensing and interpreting the environment	Findings
Assessment of the quality and suitability of the platform	• Companies that are more attached to Microsoft put less emphasis on employing processes for assessment • The largest companies in the sample employ systematic approach to assessment
Foreseeing the development of the platform	• Niche players predict development of platforms on the basis of keystone players' roadmaps • Niche players invest in platforms that have gained appropriate market acceptance
Worries with respect to potential adverse effects of some keystones' actions	• Niche players are worried that some actions of keystone players might adversely affect their market position • Such concern is overwhelming in the area of system integration services and less present in the area of solutions development
Taking into account keystone players when developing offerings	• Niche players take into account activities of keystone players
Taking into account other niche players when developing offerings	• Niche players take into account activities of other niche players

TABLE 1: Practices and Processes Employed to Sense and Interpret the Environment.

On the first element, assessment of the quality and suitability of the platform, we can see that companies that are more attached to Microsoft put less emphasis on employing processes for assessment. Most apparent reason for that is their belief that Microsoft's platforms are very good and no other keystone player will endanger that situation in the near future. As we move down the level of attachment spectrum, we see that two companies that are least attached to Microsoft employ systematic approach to assessment. One company established formal body that assesses platforms up-front and by doing that reduces risk that some platform may prove inappropriate in the latter phases of projects. Another company goes one step further and in some cases develops platform-related knowledge that keystone players don't have yet. Potential explanation for such situation might lie in the fact that these two niche players are the largest companies in the sample, therefore in contrast with smaller counterparts have resources and capabilities for systematic approach.

Niche players predict development of platforms on the basis of keystone players' roadmaps. Access to roadmaps is conditional on partner status, and niche players see them as a tool in developing their own roadmaps. However, when deciding on investments in knowledge on new platforms, niche players tend to be conservative and invest in platforms that have gained appropriate market acceptance. Up-front investments are rather rare, and occur in niche players

that position themselves as companies who are on the cutting edge of technology (two niche players in the sample).

Generally, niche players are worried that some actions of the keystone players might adversely affect their market position and consequentially performance. There is an overwhelming concern for the area of system integration services, as this is an area traditionally left to partners on the side of Microsoft. There is less concern in the area of solutions development, as niche players see their advantage in ability to provide customized solutions. Niche players do not have explicit strategies to address this trend, apart from one niche player, who is trying to strengthen its position in the region by offering higher value for money by offering customized solutions and accompanying consulting services.

Understanding of actions of keystone players and other niche players and considering those actions when making decisions are important elements of environment-sensing and interpreting capability (Iansiti, Levien, 2004a). Niche players in our sample unequivocally take into the account activities of keystone players and niche players. This takes place, with respect to keystone players, in the form of mimicking development processes of keystone players, assessment of markets and technologies keystone players are in, as well as assessment of importance of particular features to keystone players and their potential inclusion in future versions of the platform. Other niche players are seen as both potential competitors and partners, and their activities and presence in certain markets is considered by respondents an important factor when deciding on whether to enter new markets.

5.2   Access to the Platforms and Competencies Obtained
Second and third dimension of relationship capability are practices and processes that niche players employ to integrate platforms in their processes and to develop specialized offerings on the basis of these platforms. Precondition for integration and development processes is gaining access to the platform. Keystone players build their business model on relatively straight-forward, standardized access to the platform. However, niche players, who use platforms as basis of their offerings, do not by definition become de facto strategic partners of keystone players. Level of partnership is different, and since all companies in our sample have status of Microsoft Certified Partner, with majority being Microsoft Gold Certified partners, they can be considered Microsoft's strategic partners in the region. This means that their initial access to the platform also meant start of a strategic partnership. In two cases, Hewlett-Packard (HP) appears as the keystone player, along with Microsoft, and therefore information refers to HP and points to certain differences in interfaces and partner models of the two keystone players. Discussion of these differences would be beyond the scope of this paper, and information we collected indicates that there are differences among business models of keystone players with respect to access to platforms.

It is evident that the usual way to gain access to the platform was to exhibit ability to sell large number of licenses for Microsoft products. Most of niche players in the sample started collaborating with Microsoft in mid-90s, when selling of licenses was the most important activity for Microsoft. With its model, Microsoft enabled niche players to be commercially successful, which in turn enabled them to grow. In contrast with Microsoft's commercially oriented model, HP granted access to its platforms to companies that were able to participate in its development process. In terms of the accessibility of platforms, Microsoft's model was characterized by proactive commercial and technical support of partners, whereas HP was more reactive to initiatives by niche players.

Following from access to the platform is access to competences embedded in platforms. Table 2 presents motivation to adopt platforms and competencies actually obtained. Number in parentheses indicates interview question the finding refers to.

Motivation to adopt platform	Competencies obtained
• Prevailing motivation was to obtain development tools at low-cost	• Marketing and technological competencies

TABLE 2: Motivation to Adopt Platform and Competences Obtained.

Prevailing motivation to adopt Microsoft's platforms and become its partner was to obtain development tools at low-cost. This indicates that before joining the Microsoft's business ecosystem, niche players saw it as primarily technological company. However, competencies actually obtained have turned out to be marketing as well as technological. Market impact of Microsoft's brand lends credibility to partners, which in turn widens scope of their potential customers. This is especially important when niche players enter international markets (in some cases, international leads are supplied to partners by Microsoft, which is again consequence of its competence of market intelligence). By positioning themselves as Microsoft's partners, niche players effectively integrated end product of Microsoft's marketing competences, namely its recognition in the market. Microsoft's marketing activities (events, conferences etc.) also raise market awareness of niche players.

5.3 Integration of the Platforms

In previous paragraphs we discussed motivation of niche players to adopt platforms. We now turn to actual practices and processes that niche players employ to integrate those platforms in their processes. These processes result in integration of keystone players' competencies, embedded in the platforms. Figure 3 presents platform integration processes in niche players.
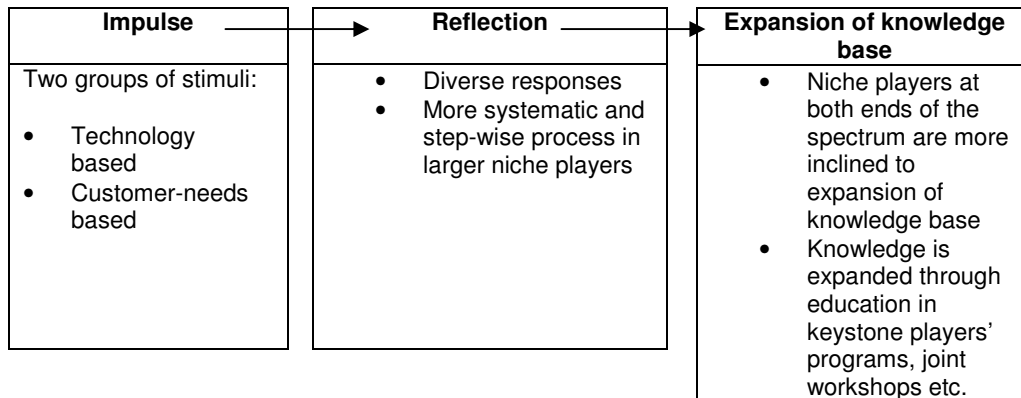
Impulse	Reflection	Expansion of knowledge base
Two groups of stimuli: • Technology based • Customer-needs based	• Diverse responses • More systematic and step-wise process in larger niche players	• Niche players at both ends of the spectrum are more inclined to expansion of knowledge base • Knowledge is expanded through education in keystone players' programs, joint workshops etc.

FIGURE 3: Platform Integration Processes.

We identified three phases in platform integration processes: impulse, reflection and expansion of knowledge base. Impulse phase includes stimuli that entice niche players to start deliberating on potential integration of new platforms in their processes. We observed two groups of stimuli: technology-based stimuli and customer needs-based stimuli. With technology-based stimuli we refer to new platforms or new version of the platforms developed by Microsoft, global trends in certain technological areas etc. With customer needs-based stimuli we refer to perceived or explicitly expressed customer needs, with potential or actual customer demand following. Niche players that have higher level of attachment to Microsoft are more inclined to react to technology-based stimuli, whereas with lowering level of attachment niche players tend to become relatively more responsive to customer needs-based stimuli.

In reflection phase, responses of niche players are rather diverse. We observe more systematic and step-wise process in two larger niche players, who also tend to be more receptive to the new platform integration than niche players in the middle of the level of attachment to Microsoft

spectrum. Niche player at the top of this spectrum is again much inclined to unconditionally integrate new Microsoft's platforms. We might explain that kind of pattern with the fact, that the latter player is closely following Microsoft on its technological development activities, whereas the former two players are engaging in wider area of markets and technologies than companies in the middle of the spectrum, and take on relatively lower additional risks than those companies.

In the third phase of platform integration processes, niche players perform activities to expand their knowledge base. Precondition for those activities is that in previous phase they have assessed that potential benefits of new platform integration will exceed costs associated with it. Again, niche players at both ends of the spectrum are more inclined to come to such conclusion than niche players in the middle of the spectrum. Generally, knowledge base is expanded through education in keystone players' programs, joint workshops etc. The smallest niche players in the sample exhibit different pattern, namely self-directed education and internal training in one case and training through projects for customers in the other. Joint programs with keystone players are relatively more important in larger niche players at the lower end of the spectrum.

5.4 Development of Offerings

By definition, niche players focus on single or at most couple of products or services that they offer to the market. Keystone players generate economies of scale and scope that arise from supplying platforms that embody solutions to problems common to the majority of firms in a particular industry or sector. Consequentially, niche players can achieve viability only if their offerings are clearly differentiated from offerings by keystone players.

One of potentially many ways of differentiation is through development of specialized offerings that are outside the domain of solutions platforms already embody (see Figure 4). Specialized offerings enable niche players to differentiate themselves relative to the keystone players. Differentiation relative to niche players that offer similarly specialized offerings is a harder task. In our study we observed that niche players have clear strategy of differentiation relative to the keystone players. Niche players' offerings are customized to such extent that functionalities of these offerings are outside the domain of generic functionalities of platforms. On the other hand, niche players stated very similar factors when asked about ways of differentiation relative to other niche players. Factors stated in all but two niche players out of six were list of reference projects, experience and speed of execution. We were unable to observe nature of linkage between factors of differentiation and development of offerings processes though.
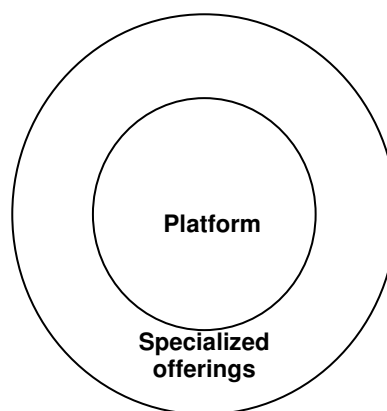
FIGURE 4: Domain of Platforms and Specialized Offerings.

Table 3 presents patterns we observed in development of offerings processes

Development of offerings processes – findings
• Level of standardization and formalization of development of offerings processes increases with the size of the firm and level of responsiveness to technology based stimuli • Relative to platform integration processes, development of offerings processes tend to be more autonomous

TABLE 3: Development of Offerings Processes.

We observed pattern in correlation between development of offerings processes and size and responsiveness to technology-based stimuli. Level of standardization and formalization of development of offerings processes increases with the size of the firm and level of responsiveness to technology-based stimuli. The latter is according to our interviewees necessary due to the complexity of niche players' technological environment. Another pattern we observed was that relative to platform integration processes, development of offerings processes tend to be more autonomous, meaning that niche players tend to conduct development activities in relatively less collaborative manner than integration of platforms. We feel that such situation might result from niche player's belief that joint development with keystone players might result in knowledge and competencies transfer and consequentially in the erosion of the competitive advantage of niche players. We believe, on the other hand, that there is potential in joint development based on principles of open innovation model (Chesbrough, 2003).

Figure 5 presents findings in the context of relationship capability framework introduced in Figure 1. Note that all companies in the sample are selling their offerings to customers other than Microsoft therefore they experience indirect impact of collaboration.
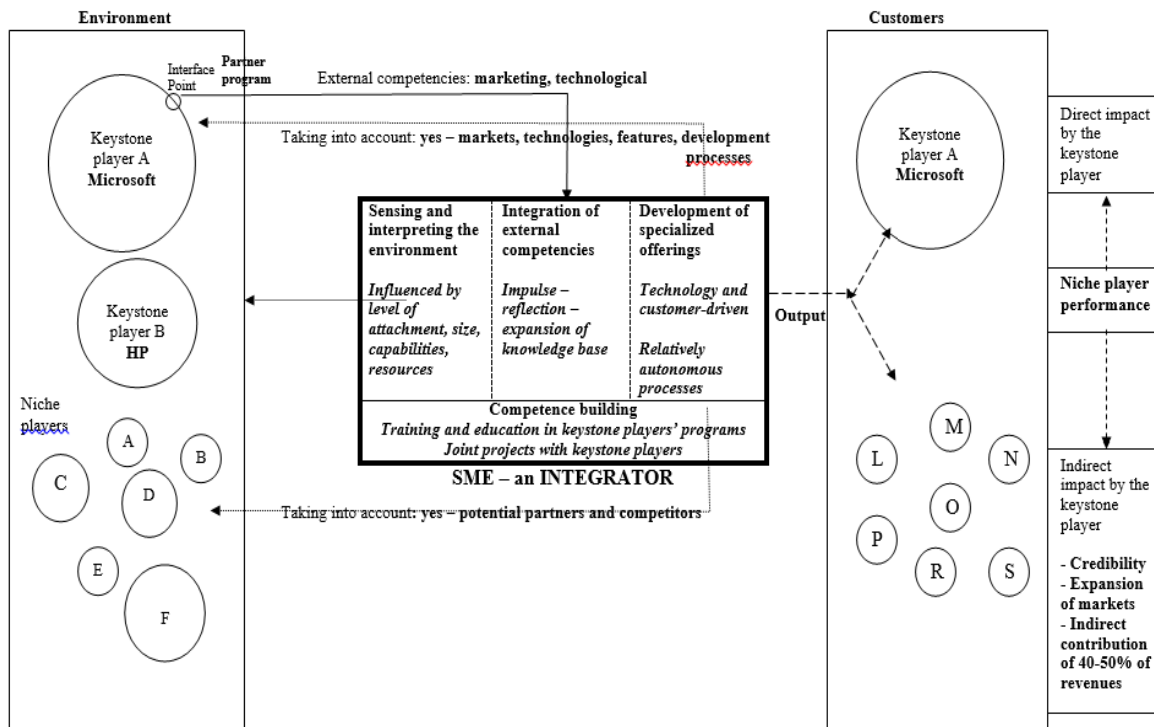

FIGURE 5: Relationship Capability- Case of Microsoft Partner Companies.

6. CONCLUSION

In our study of dynamic capabilities in niche players in the software services industry we observed processes constituting integrative dynamic capability, that we term relationship capability. We developed framework of three interconnected sets of processes constituting relationship capability: processes to sense and interpret the environment, processes to integrate platforms and processes to develop offerings. With respect to the first set of processes, we observed that the level of systematical approach to sensing and interpreting the environment varies with level of attachment to the keystone player. Further, we observed that integration processes consist of three phases: impulse phase, reflection phase and expansion of knowledge base phase. Niche players develop their offerings on the basis of the platforms and conduct those activities relatively autonomously, with relatively less input from keystone players or other niche players.

Given that the aim of our study was to create starting point for more in-depth research of the nature of dynamic capabilities in SMEs, our study suffers from several limitations and shortcomings. First one is that we gathered solely qualitative data and are therefore unable to present quantitative aspects of dynamic capabilities in SMEs. Furthermore, we would like to point out that our findings are context-specific and should be interpreted as such. Due to the small size of the sample scientific validity of our findings suffers to some extent. We tried to compensate for that shortcoming by presenting very detailed data that might be of interest for practicing managers. Lastly, since our study is in its initial phase, we are currently not yet able to present linkage between different levels of relationship capability and performance. We plan to address this last deficiency in the forthcoming study by developing measurable construct of relationship capability.

The concept of relationship capability contributes to several streams of research. It contributes to dynamic capabilities literature as it explicitly deals with ability to integrate external competencies. It furthers understanding of niche player strategies in business ecosystems literature. It also contributes to growing body of literature on strategic entrepreneurship, as it addresses development of capabilities in the setting of entrepreneurial ventures. Lastly, it contributes to organizational learning and managerial cognition literature, as we address the phenomena embedded in managerial processes in the firm.

Our research has implications for practicing managers as well. We tried to contribute to understanding of what may constitute successful practices in detecting keystone firms, and, perhaps even more importantly, what may constitute successful participation of SMEs in business ecosystems characterized by the presence of keystone players.

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