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The Emerging Need for a Corporate Entrepreneurship Strategy

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The Emerging Need for a Corporate Entrepreneurship Strategy

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ABSTRACT:

In many industries like postal services, power supply, health insurances, and telecommunications real competition had been absent for decades. The liberalization in these industries is challenging for established firms that in part had never had the need for entrepreneurial activity and the development of competitive strategies. In this paper, we design a system of measures for evaluating corporate entrepreneurship on the employee level which serves as a tool for the analysis and the development of its personnel, systems, and strategy to better meet the future needs in liberated markets. We analyze two established Swiss companies in the power supply and health insurance industry via structured and focused interviews. We point out strategic challenges coming from the liberalization and upcoming competition in these industries and deduct the requirements for adequate reactions to these challenges. In a next step, we use different indicators relevant for entrepreneurial activity within a firm, a) The Corporate Entrepreneurship Assessment Instrument CEAI (Kuratko et al. 1990, Hornsby et al. 2002), b) further structural variables relating to the organisational, the learning, the feedback culture and shared values of the employees and their employer and c) variables related to market-driven capabilities or market orientation. We match these selected items with these industry-specific requirements. As a result, we present a new corporate entrepreneurship index representing topics that are important for companies facing market liberalization and the need for market and customer orientation. The questionnaire can be embedded in regular employee opinion surveys and be the starting point of a long-term HR strategy development process helping established firms in regulated markets to meet the requirements of liberalization and upcoming competition.

Keywords: Corporate entrepreneurship, entrepreneurial behaviour, competition.

1. Introduction

In today's rapidly changing global business environment, companies are faced with shrinking market shares, increasing cost pressure and rising competition (McGrath & MacMillan 2000). Corporate Entrepreneurship is one of the ways to enhance innovative and entrepreneurial activity of employees and to increase firm performance through the creation of new products, services, strategy and organisational conditions. Next to an entrepreneurial orientation, CE supports a firm's capabilities to discover market changes as well as competitor and consumer behaviour to create new products and services. This market orientation is defined as a firm's ability to respond to a changing marketplace (Zahra 2005). But in many industries like postal services, power supply, health insurances, and telecommunications real competition had been absent for decades. With the liberalization of markets in the U.S. and in Europe, especially in the U.K. and in Germany, also in Switzerland the government officially opened controlled markets. The liberalization in these industries is challenging for established firms that in part had never had the need for entrepreneurial activity and the development of competitive strategies.

Proactive, entrepreneurial behaviour on the firm level, corporate entrepreneurship, is the process by which employees discover, foster, launch and manage new business ideas inside the firm that leverages a firm's assets, market knowledge and position, capabilities and expertise. Effective corporate entrepreneurship facilitates the corporate efforts to exploit opportunities for value-creating innovation, while improving competitive positioning and transforming corporations, their markets and industries (Covin & Miles 1999; Kuratko et al. 2005).

In this paper, we design a system of measures for evaluating corporate entrepreneurship on the employee level. It serves as a tool for the analysis and the development of its personnel, systems, and strategy to better meet the future needs in liberated markets. Our model is an initial step to increase the understanding of what drives established and newly market oriented firms to engage in entrepreneurial behaviour and the way they integrate it as a strategy in their organizational settings. Mechanisms, structures, organizational culture as well as leadership do play an important role to enable a firm to create new value.

We analyze two established Swiss companies in the power supply and health insurance industry that are currently facing the challenges of market liberalization via structured and focused interviews. We point out strategic challenges coming from the liberalization and upcoming competition in these industries and deduct the requirements for adequate reactions to these challenges. In a next step, we use, select and compose different dimensions relevant for entrepreneurial orientation within a firm, such as key internal organizational factors, measured on the middle management level with the Corporate Entrepreneurship Assessment Instrument CEAI (Hornsby et al. 2002; Kuratko et al. 1990), further structural variables relating to the organisational, the learning, the feedback culture and shared values of the employees and their employer and variables related to market-driven capabilities or market orientation. We match these selected items with these industry-specific requirements.

As a result, we present a model that includes a set of items building a new corporate entrepreneurship index adaptive on the employee level and representing topics that are important for companies facing market liberalization and the need for market and customer orientation. The questionnaire can be embedded in regular employee opinion surveys and be the starting point of a long-term HR strategy development process helping established firms in regulated markets to meet the requirements of liberalization and upcoming competition.

The remainder of this article is organized as follows. In the next section, we discuss the literature on determinants which influence entrepreneurial activities within a firm and measurement challenges. The third section describes the selected cases and methodology applied. The fourth section discusses the results and the developed model. A final section summarizes the findings and discusses selected recommendations for long-term HR strategies.

2. Relevant Factors for Entrepreneurial Activity within a Firm

Theoretical and empirical literature suggests that there are numerous relevant indicators and concepts of Corporate entrepreneurship (CE) that have impact on the organizational outcomes of a firm. CE, also referred to as corporate venturing or intrapreneurship, is initiatives in established organizations for different purposes. They aim is to foster profitability, firm performance, innovativeness, strategic and organizational flexibility, and new product-market arenas (Covin & Miles 1999; Kuratko et al. 2005).

There are different aspects of the firm's internal organization as a means of promoting or facilitating corporate entrepreneurship. In particular, these are 1) key internal organizational factors, measured on the middle management level with the Corporate Entrepreneurship Assessment Instrument CEAI (Hornsby et al. 2002; Kuratko et al. 1990), 2) structural variables relating to the organisational, the learning, the feedback culture and shared values of the employees and their employer and 3) variables related to market-driven capabilities or market orientation.

Internal organizational factors and the CEAI on the management level

There are different internal conditions that influence managers and employees to initiate and foster corporate entrepreneurship activities. When it comes to measuring CE activities in a firm, empirical research mainly focuses on different management levels (Hornsby et al. 2009, Bhardwaj et al. 2007). There is evidence that managers at all hierarchical levels have critical strategic roles for the success of their organization and certain responsibilities on each level (Hornsby et al. 2002). Senior-level managers have direct roles in their managerial actions on a strategic level. They act in concert with others throughout the firm to identify effective means through which new businesses can be created or existing ones reconfigured. But they are often isolated from day-to-day activities and do only rarely interact with diverse employees (Quinn 1985). First level manager have their managerial roles in defining and deploying sub-processes. Their main jurisdiction is often over routine matters (deciding work priorities, work methods, and resolving problems) and their core areas of accountability is quality, efficiency, output, discipline, and paperwork (Hales 2005). Kuratko et al. (2005) conclude that middle-level managers take a critical role to support and foster entrepreneurial opportunities and identify and deploy resources needed to pursue those opportunities. They make opportunities accessible to senior executives, they synthesize and integrate information. They emphasize that middle managers play a key role in shaping their companies' strategic agenda by influencing the types and intensity of corporate entrepreneurial activities. But the literature also shows limits of middle managers' willingness or ability to facilitate corporate entrepreneurship. These are demanding time schedules, no available resources for innovative activities, and no attention from senior executives' attention to support promising ideas (Pinchott, 1985; Hornsby et al. 2002). One important question, however, is how to measure and adequately map the opportunities and antecedents for entrepreneurial behaviour of each individual employee.

Burgelman (1983) shows that internal organizational factors influence the types of CE activities a company pursues. The impact of these factors that can promote or impede entrepreneurial performance of a firm has initiated several conceptual and empirical research and identified factors such as a firm's incentive and control system, organizational culture and structure, and management support (Hisrich & Peters 1986; Covin & Slevin 1991; Kuratko et al. 1993). These selected antecedents were believed to have impact on corporate entrepreneurship efforts because they affect the internal environment, which determines the support of entrepreneurial activities within companies.

Further studies identified more distinct relevant internal organizational factors that foster or impede entrepreneurial initiatives: The first dimension is the appropriate use of rewards (Scanlan 1981; Barringer & Milkovich 1998). Second, management support shows the willingness to foster and promote entrepreneurial initiatives in the firm (Kuratko et al. 1993, Stevenson & Jarillo 1990, Hisrich & Peters, 1986). It includes the provision of necessary resources in order to support product champions as well as the institutionalization in a firm's processes and structures. Third, resource and time availability have to be perceived by the employees to press ahead with their innovative ideas (Katz & Gartner 1988, Stopford & Baden-Fuller, 1994). Fourth, a supportive organizational structure provides processes and systems mechanisms by which ideas are evaluated, selected, and implemented (Burgelman 1983). Fifth, risk taking indicates that managers are willing to take risks and show a tolerance for project failure (Bird 1988).

An exploratory study conducted by Kuratko et al. (1990) used these key internal factors that support corporate entrepreneurship such as *i)* reward and resource availability *ii)* management support, *iii)* organizational structure and boundaries, *iv)* risk taking, and *v)* time availability. However, the empirical results reduced these factors down to three: management support, organizational structure, and reward and resource availability. That's why the authors established the need for further research on the internal organizational factors that foster entrepreneurship.

Based on these five critical conceptual organizational dimensions, the Corporate Entrepreneurship Assessment Instrument (CEAI) was developed (Hornsby et al. 2002). The CEAI includes 84 generated items as Likert-style questions with 1 representing strongly disagree to 5 representing strongly agree. The results confirm that the reliability of each of these factors meet acceptable

measurement standards. The CEAI is an instrument that could be very useful for firms that wish to change their strategy towards corporate entrepreneurship. It can be used as a diagnose tool for a firm's corporate entrepreneurship, identifying areas where middle-level managers can make a significant difference and develop strategies that can positively influence corporate entrepreneurship efforts.

Structural variables and variables related to market-driven capabilities or market orientation

Next to the variables out of the CEAI, other studies use different variables to measure CE activities in the firm. First, the structure of an organization does play a crucial role for CE activities (Covin & Slevin 1988; Barrett & Weinstein 1998). It is an organization's arrangement of authority, communication, and workflow relationship. Many structural attributes are linked to organizational innovation activities (Mintzberg 1979). An organization that has a proclivity towards entrepreneurial activities will also stand for decentralized decision making, low formality, wide spans of control, expertise- (vs. position)-based power, process flexibility, free-flowing information networks, and loose adherence to rules and policies (Ireland et al. 2009).

Second, it is the organizational culture that supports entrepreneurial initiatives in a firm. Research shows that emotional commitment, rigid attention to details and high standards, a desire by each employee to earn the respect of her/his colleagues as well as the commitment to work and the willingness to accept responsibility for outcomes resulting from it are associated with an entrepreneurial culture (Cornwall & Perlman 1990; Timmons 1999). Also, managerial behaviour towards CE will likely affect the organization's cultural attributes, encouraging the formation of cultural norms fostering entrepreneurial initiatives. These norms may, in turn, reinforce employee's commitment to the entrepreneurial strategic vision (Kilmann, Saxton, & Serpa 1985).

Third, CE seen as a competitive and market oriented process also includes the discovery and recognition of opportunities, information search and the acquisition and accumulation of resources. This view emphasizes the dimensions intelligence generation and dissemination. Intelligence generation includes routines to search and disseminate information within the firm. The dimensions includes different items, e.g. spending time discussing customer needs, cross functional meetings, spending time sharing information about technology, and information spreading at all levels (Bhardwaj et al. 2007). Intelligence generation and information dissemination within the firm and as well

as responsiveness to the market are strong indicators for effective market orientation. Empirical studies show that market orientation is a crucial factor of organizational outcomes of innovative capacities, new product development and performance (Lukas & Ferrell 2000).

It is expressing that a firms subsequently understands their customers' needs, both expressed and latent, and address those needs with the intention of creating superior customer value. Firms with a market orientation recognize not only customers' unsatisfied needs but also industry trends and competitors' activities.

Based on this literature review, the results from case study research are discussed and will involve new strategies of firms aiming to establish entrepreneurial activities.

3. Method

To analyze the specific needs of companies in regulated industries and form an index measuring corporate entrepreneurship on the employee level, we conducted two single case studies in two different regulated industries, the health insurance industry and the power supply industry. We analysed archival data and firm publications and conducted several interviews with executives and HR representatives of the two companies. The selected companies are realizing the need for change not only of structures and processes but also of attitudes and behaviour of employees and executives. The representatives of the two firms asked for confidentiality, so we will not refer to their company names and titles. We will then use archival records and results from a consulting process implementing an employee opinion survey to identify the areas represented in the new built index.

4. Industry context in the power supply industry and the health insurance industry in Switzerland

In 2010, still in many industries companies and customers are facing partly regulated markets. Market regulation often seems to be an obstacle for entrepreneurial behaviour in companies. Mo-

nopolistic structures and market shares guaranteed by law are typical associations when talking about regulated market. But in many regulated industries times are changing and firms in these industries are facing new market challenges. These new challenges are caused by reinforced competition and the existence of real customers who specifically decide where to buy their product while in the past they had been supplying the customers with products and services in monopolistic structures or any form of official legitimization.

For the development of our model we selected one Swiss company in the health care market and one in the power supply industry, precisely, a public health insurance company and a fully integrated power supplier. We analyzed companies from those two industries because they had been regulated for decades and regulation will also continue in the future. But still, they are in a process of deregulation concerning different levels in the value chain and several products and services while others remain strictly regulated. The regulatory and competitive environment of both companies will be analyzed in the following section. The description of both industry contexts will focus on the most critical developments and changes without going too deep into the legal details of the regulatory framework. This simplification is necessary to keep the focus of this paper on the development of a new measurement tool for corporate entrepreneurship rather than describing and discussing the deregulation process.

The power supply industry in Switzerland

While larger power supply markets such as Germany and the U.K. are already deregulated for a couple of years, the partial market opening in Switzerland started in January 2009. The regulator scheduled a complete market opening in 2014, subject to a positive referendum that has not yet been taken. The independent regulatory authority in the Swiss electricity sector is the Swiss Federal Electricity Commission (ElCom). The ElCom is responsible for the compliance with the Swiss Federal Electricity Act and the Swiss Federal Energy Act. It also monitors security issues, national and international transmission and trading and is monitoring the energy prices in the Swiss market. One first step of the deregulation the ElCom is attempting to implement is the free access to electricity grids as a precondition for market conditions allowing corporate and private customers to freely choose their energy supplier. In 2010, this step of the market opening has been confirmed

for corporate customers with a demand of 100,000 kilowatt hour (kWh). In 2013, private customers will also have free choice of their energy supplier.

The next steps in the deregulation process will be rather the same as we had seen in Germany and the U.K. Thus, the grid will remain in the regulation to guarantee discrimination-free access to the grid for any legitimated energy trader. Production and trading, in contrast, will be in a non-regulated market segment. Like in most grid-bound infrastructure service industries there will remain some market segments strictly regulated and monitored by the regulator, such as the ElCom in Switzerland.

This implicates great challenges for the companies in this industry because in some market segments they will have to change from a regulated supplier with monopolistic market behavior to a market driven customer oriented organization. In other segments they will still act as an administrative authority. Finally, there will be segments that haven't been there for Swiss companies before the deregulation like cross-border electricity transmission and energy trading. In consequence, the deregulation creates various business opportunities that are not always easy to identify and to implement. New product development for private customers based on smart metering technology, resulting for instance in flat rate electricity products, will be technically possible and demanded by the customers. Burkhalter, Känzig and Wüstenhagen (2007), for instance, found out that the energy mix, prices, and location of power production will be relevant criteria for the choice of the power supplier and its electricity products. A study conducted by PWC (2009) confirmed the assumption that marketing in general will become more important in the future. Innovations in metering technology and new product and price models were among the most important strategic movements mentioned by the 101 executives from Swiss energy supply companies asked in the context of this study. Additionally, the most important entrepreneurial behavior to survive the upcoming competition will be the precise analysis of the customer needs and reasons for customer's dissatisfaction (PWC 2009).

Some facts and figures on the electricity sector in Switzerland will help to position the company analyzed in this study. Concerning the deregulation process one open question remaining for Swiss grid operating companies is which model will be implemented. The choice of the model of regulation for the electricity grid determines the investment strategy and revenue management of the grid

operating companies. However, the regulation process in Switzerland has just been started in 2009. Thus, it is obvious that many questions remain unanswered yet. The electricity consumption in Switzerland in 2008 had been 2.3% above the previous year with 58.7 billion kWh representing a new record level. The Swiss domestic power plants reached an overall production of 67 billion kWh. The energy mix in Switzerland shows, on the one hand, a high 39% share of nuclear power. On the other hand, only 4.9% of the overall production comes from conventional thermal power plants while a strong 56.1% share remains for hydropower (FSOE 2009a). In comparison, in 2007 the OECDs' average figure for nuclear power had been 15.5% and hydropower had been 2.8% (IEA 2009). In Switzerland, 32.8% of the total energy consumption falls to industry production, 30.5% to private households, and 26.8% to transport. Thus, here are three major market segments in this industry that may be in the focus of future competition.

Conducting the case study, we analyzed a fully integrated power supply company with revenues of 1.9 billion CHF and more than 600 employees in 2009, making it one of the middle-sized energy suppliers in Switzerland. The group had sales in electricity of 12,582 gigawatt hours (GWh), including international trading which is representing one of the fastest growing fields of business activities of the company. Since the market deregulation in Switzerland does not fully come into operation yet, the CEO of the company is not expecting the domestic energy market to have a significant growth potential. With a good share of renewable energies in the energy mix they are convinced that it will not be attractive to customers to change the energy supplier. Whenever the competition in Switzerland will really commence, the company will be in a strong market position with good results and experiences in international energy trading and an ecologically well balanced energy mix in its own domestic production.

The health insurance industry in Switzerland

There are two main institutions regulating the health insurance system and, thus, the market behaviour of health insurances. It is the Federal Office of Public Health (FOPH) and the Federal Office of Private Insurance (FOPI), both implementing the regulations of the national insurance law "*Bundesgesetz über die Krankenversicherung (KVG), 832.10, vom 18. März 1994, Stand am 1. Januar 2010*". In this national law it is explicitly stated that the FOPH has the obligation to supervise all health insurances concerning the three main subjects (1) budgeting, operating control & account-

ing, (2) auditing & compliance, (3) approval and permission of insurance rates and scope of services. The main subject of the supervision by the FOPH is the basic insurance all competitors have to offer by law. To fulfil the three main subjects, the FOPH has the same rights as any federal institution supervising any other decentrally operating social insurance system. The federal health insurance law also states the objective of supporting the development of stronger competition among the insurance companies.

Before analyzing the specific market situation of our case study company, it is worth looking at some figures about the Swiss health insurance market to understand the development status of this market and the challenges insurance companies are facing today. In 2007, according to OECD data, the overall costs of Switzerland's health system had been 10.8% of the GDP making the Swiss system the world's third most expansive system (1. USA 16%, 2. France 11.0%, and 4. Germany 10.4%). Focussing on the health insurance market, the following figures will give an idea of the competitive environment in this market. From 220 insurance companies offering basic insurances in 1990, only 85 so still exist in 2005. In 2006 and 2007, the level seems to remain at a constant level of 87 companies. The market trend clearly shows a concentration process with smaller insurances dropping off the market compared to the 1990s. In 2008, the five largest insurance groups integrate 31 different companies providing services for 4.1 Mio insurants. In other words, 36% of the companies reach 53% of the Swiss population today. Another trend in this industry is that larger insurance companies start spinning off direct insurance companies competing with low-cost strategies without local offices and representatives. These spinoff strategies of the larger companies are definitely meeting the insurants' needs and price sensitivity. In 2009, 15% of the Swiss insurants changed their insurance company depending on the amount of the cost-sharing model chosen by the client with change rates of up to 25%.

The company analyzed in this case study is ranked 14th in Switzerland with 155,000 insurants and 12,000 corporate clients. The company is operating in 9 of the 26 Swiss counties covering significant parts of the German and Italian language areas. The company has 350 employees with more than one third in the headquarter office. In the company's vision they aim to be among the most successful and independent Swiss insurances. The mission statement commits to easy and fair treatment and interaction with all stakeholders creating high customer satisfaction. The company has already launched programs to lower costs and increase productivity and has identified and dif-

ferentiated external and internal cost drivers. On the product and marketing level, the company is also modernizing and starting to innovate. Still, the company is struggling with elements of its corporate culture being too administrative. Historically, this might be the result of the ownership of the firm which is based on a foundation established in 1994. That foundation bundles a couple of independent insurances. Based on interviews with experts from industry organizations and leading scientists and survey data from health insurance companies, Hefti and Frey (2008) found out that the legal form of insurances does not have a significant influence on the operating and competitive behaviour of the companies. One third of the Swiss health insurances is in the ownership of foundations (Hefti & Frey, 2008).

The health insurances have to accomplish a complex balancing act. On the one hand, they have to keep the costs and rates of the basic insurance as low as possible and guarantee a fair insurance system for the country. On the other hand, they have to reach their cost objectives and contract cooperation activities with professional associations of medical practitioners, pharmaceutical companies, and generic producers as well as to eliminate bad risks by selecting customers. The last one, in turn, is inconsistent with the regulatory objective of offering fairly priced services in the basic insurance to everybody and prohibited by law. In times of increasing average age of the Swiss population it has become very hard for the insurance companies to meet the objectives set by the FOPH. In addition, the insurances must not make any profit in the sector of the basic insurance.

One common way to meet this challenge and to find instruments to select risks and differentiate prices is the creation of new products and services, such as complementary insurances, designed for company needs. Obviously, this requires market orientation and knowledge about the feelings and needs of private and company clients. It is representing a less strictly regulated market situation besides the regulated market for the basic insurances as this market segment, however, is supervised by the FOPI. But still, the basic insurance is the key to clients that may contract additional services.

Summarizing, we can state that the market situation requires a precise compliance with the health insurance law. This requires rather an administrative approach to meet the objectives of the FOPH officials. On the other hand, competition is getting harder and the market has clear concentration tendencies, further sharpening the competition. These trends described are expected to continue,

particularly in the field of complementary insurances (Hefti & Frey, 2008). In 2004, 21% of all insurance costs had been caused by complementary insurances (santesuisse, 2006). This upcoming competition on the price-level as well as on the product-level requires new capabilities and attitudes among the leaders and employees of the insurance companies. The concentration of the whole industry and the twofold business model of the insurances (basic and complementary insurance) require that employees think in two patterns. One is providing fair and affordable service to any client's need, including patients with chronic diseases. But these people are not in the focus of the business model for market driven economically optimized client selection (Beck, 2006). Thus, a health insurance company needs a very ambivalent culture to meet both challenges they are currently facing. Being one of the smaller insurances among the top 20 in Switzerland, the analyzed company is facing a huge challenge to position itself in the market as an attractive alternative to the larger conglomerates of the top 4 insurances that offer bundles of discount direct insurances, high priced complementary private service companies and basic insurance any possible service in the industry. The key to success for this medium sized insurance could be to have a corporate entrepreneurship culture that fits to these twofold requirements the regulation created.

5. Implications of the industry context

In both industries our companies are facing two major challenges. First, they have to develop operational effectiveness. Following Porter (1996), operational effectiveness is not a strategy. It is necessary, but not sufficient. In our case of the Swiss health insurance market and the Swiss electricity sector operational effectiveness is also necessary but not sufficient. In those market segments that will remain strictly regulated there will be no room for a strategy based on differentiation. The regulator will set the rules and the competition will concentrate on costs and processes, i.e. operational effectiveness. What makes these segments of the two analyzed industries even more complicated and, somehow absurd, is the fact that market orientation might be the wrong way to gain competitive advantages. It will rather be important to see the regulator as the most important key account and try to anticipate future political and regulatory moves. The market segments that already are or rather will be fully deregulated will be exposed to open competition on whatever level. Any generic strategy might deliver competitive advantages and those companies will succeed that have the best people to identify new business opportunities, reach operational effectiveness, find

the strategic fit (Porter, 1996), develop new products, and implement their most promising strategies.

Obviously, companies in partly regulated markets will need a complex and ambivalent set of people to succeed. There will still be a need for people that simply understand their business as they know it from decades of fully regulated monopoly a-like market conditions. But there will also be a strong need for marketers that can anticipate future customer needs and that are sensitive for early signals of new market trends. This is a competence that in most companies in those two industries has not been the most crucial within the last three decades.

6. The Framework for a specific Corporate Entrepreneurship Index

We develop a framework that takes the different relevant factors for entrepreneurial behaviour in an organization into account. The framework therefore includes 1) relevant key internal organizational factors, partly based on the Corporate Entrepreneurship Assessment Instrument CEAI, which are also measurable on the employee level, 2) structural variables relating to the organisational, the learning, the feedback culture as well as shared values of the employees and their employer and 3) variables related to market-driven capabilities or market orientation. Due to the fact of partly deregulated markets and stronger customer orientation, it will take the customer perspective into account. The index should be applicable and used as a part of the employee survey which is regularly conducted every two to three years. To keep it open and keep it easy to integrate into existing collections of items and specific corporate wording, we did not formulate specific items. Rather did we name the categories and topics of the relevant issues and dimensions.

When applying the framework in employee opinion surveys, it will be important to consider the level of the survey. The innovativeness of the framework is based on contents and does not focus on any specific level in the hierarchy. That implies that items such as "Money is often available to get new project ideas off the ground" taken from the Corporate Entrepreneurship Assessment Instrument (CEAI) (Hornsby et al., 2002) do not fit to the context of the proposed Corporate Entrepreneurship Index (CESI). It is not applicable to ask all employees in a company about their degrees of freedom concerning budgeting of new ideas. In this example the item would be appropriately formulated as "My supervisor is in a position to acquire financial resources to implement innovative ideas from our work group."

A. Organizational Structure

Physical work environment - Decision making and competency rules -
Hierarchical organization structure – Organization form

B. Leadership and Management Support:

Mission statement and vision – Leadership behaviour -Motivation and acknowledge-
ment – Support – Control - Time availability - Financial resources – Criticism - Deci-
sion making autonomy

C. Customer and Market Orientation

Customer oriented thinking - Knowledge of products and customer needs - Industry
trends and competitors' activities - Competition strategy and competitive advantages

D. Organizational Culture

Feedback culture - Innovation champions - Corporate strategy - Risk and change
management -Learning culture - Communication style - Shared values

E. Human Resource Management

Recruiting - Assessment- Development - Loyalty – Work Satisfaction - Motivation -
Reward system and incentives

F. Information and Communication

Knowledge transfer - Communication forms - Internal and external communication -
Intelligence generation - Information search and dissemination

G. Team and Work Style

Cross-departmental and cross-functional meetings and cooperation - Exchange of
ideas and projects – Work synergies

Fig. 1 The Framework for a Corporate Entrepreneurship Index (CESI)

These seven dimensions incorporate all relevant factors which play a vital role for the individual of a firm to develop, foster, launch and manage new business ideas inside the firm. It is the entrepreneurial behaviour of all employees to leverage the company's assets, profitability and performance, innovativeness, strategic and organizational flexibility as well as capabilities and expertise. It also improves a firm's competitive market position and transforms the corporation, their markets and industries.

In contrast to many instruments seen in the literature, factor A. Organizational Structure is added to the CESI to address the structures and systems implemented in a company. In regulated industries firms need to demonstrate operational effectiveness by law. In the health insurance market as well as in the electricity sector the regulators apply variations of incentive-based regulation. Thus, companies on the one hand need to reach cost objectives and on the other hand must not reach them to progressive or even use those operational optimizations as competitive advantage in order to avoid a rapid rise in the incentive base set by the regulator.

Factor B. Leadership and Management Support is probably the most critical category in any index. The CEAI (Hornsby et al. 2002) and other measurement systems such as the INNO measuring innovation climate (Kauffeld et al. 2004), stress this category as effective and relevant for fostering innovative and entrepreneurial behaviour. The CESI follows Kauffeld et al. (2004) and emphasizes the supervisor's behaviour from the employee's point of view. Compared to the CEAI (Hornsby et al., 2002) the CESI allows to evaluate the general perception of leadership as a factor relevant for the development of an entrepreneurial corporate culture and to evaluate the leader herself from the employee's point of view.

Integrating the results from the two case studies conducted in the empirical section of this study, we emphasize factor C. Customer and market orientation. In regulated markets, companies do not naturally have customer orientation in their set of corporate values. Rather had employees in the electricity sector been used to see the customer as one of thousands of households to be supplied by law and not by market transactions. A similar picture is drawn by the obligation to contract in the segment of the basic insurance in the health insurance industry. Thus, market orientation is one of the critical factors in the CESI, as it was also stated by Zahra (2005).

Factor D. Organizational Culture is evaluating corporate entrepreneurship directly on a meta-level regardless of divisional structures and any other organizational boundary. Factor E. Human Resource Management plays a similar role as factor A., representing different systems and structures supporting or hindering the development of entrepreneurial behaviour. It is also including the reward and incentive systems representing commonly used instruments for supporting, incentivizing and rewarding any desired behaviour by the leaders and the company.

Integrating factor F. Information and Communication into the index is clearly supported by Bhardwaj et al. (2007) who emphasize intelligence generation and dissemination as dimensions relevant for the corporate entrepreneurship outcome. Intelligence dissemination also integrates factor E. Team and Work Style including cross-departmental and cross-functional meetings and cooperations, exchange of ideas and projects, and work synergies.

Based on the framework, their underlying dimensions and items, the CESI is developed for an employee survey to measure the organizational antecedents for entrepreneurial behaviour within a firm. We employ a holistic framework that includes these seven dimensions. The index based on the dimensions and their underlying items will be applied in a questionnaire using Likert-type scales with 1 representing strongly disagree to 7. Several items will be positioned reverse-scored in order to avoid response tendencies by the subjects.

7. Discussion and Outlook

From a theoretical perspective, the study contributes to the literature by presenting a new framework of corporate entrepreneurship on the employee level, integrating different internal firm dimensions such as organisational structure and organisational culture. It particularly regards firms in deregulated markets allowing measuring a newly developed or developing a stronger market and customer orientation. The framework is holistic in nature and, thus, flexible enough to combine existing employee opinion surveys with this framework.

From a practical perspective, the index provides firm an instrument that can be integrated in the employee survey. It can be used as a diagnostic tool for determining areas where training may be needed if a company is considering initiating entrepreneurial behaviour. Next to the evaluation and analysis of the CE index, one can combine the empirical results of the CE index with the results of

other conventional dimensions of an employee survey such as job satisfaction, conditions of work, job functions, development potentialities, salary and social benefits, processes and leadership behaviour. By using the method of multidimensional scaling, it is possible to explore similarities or distances with other dimensions from the conventional survey and to provide a visual representation of the pattern of proximities among the selected set of objects. These results have practical implications for the management board, the HR department and the innovation managers of a firm. They can continuously implement measures and rules which effectively change the organizational factors, design and implement training programs for entrepreneurial leadership enhancing the sensitivity and skills of managers and many more similar activities.

Further research is needed to confirm the validity of the CESI which can be done best in early applications of the instrument to collect data for the statistical validation of the index. Multidimensional scaling (MDS) can be used to identify further factors influencing entrepreneurial behaviour and culture as well as other single factors. Thus, the MDS can contribute in a theory building way by confirming existing assumptions and identifying new research questions. For the entrepreneurial practice, the results from a MDS offer empirically based starting points for following processes translating the results of employee opinion surveys into action plans. In a last step, the relevant dimensions can be linked to the entrepreneurial output of a firm which will continue the stream of research started – among others - by Hornsby et al. (2002), Bhardwaj et al. (2007), and Zahra (2005).

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