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**Initiating new business development in
established technology oriented companies:
Trade-off between intrapreneurship and entrepreneurship**

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Men do not stumble over mountains, but over molehills.

– Confucius

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Change

People who changed my life

Events that changed my life

It doesn't stop here

Thanks!

For everyone who made a difference

– Marianne

ABSTRACT

Though researchers view corporate entrepreneurship as a process, descriptions of the process itself are less easy to find. There is more to find on what has to be brought into the process and what will have to come out, than actually explaining what characterizes the process. This paper presents and tests a model that examines both the choice for corporate entrepreneurship and the process of generating and collecting ideas in established technology oriented organizations. The findings clearly state that in companies that are perceived as supportive, employees know about support structures for new business development and are able to use them, which makes them feel responsible for generating ideas.

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INTRODUCTION

A fundamental challenge for established firms is how they can engage in enough exploitation to ensure current viability but also enough exploration to ensure future viability (Levinthal and March, 1993). It is the responsibility of top management translating their vision into a corporate strategy that is supported by all employees in the company.

A company doesn't operate in a static environment though. The emergence of new concepts, such as open innovation, impact the organization and its processes. Environmental and organizational changes trigger opportunity seeking behavior. Assessing opportunities means reassessing strategy and reexamining the way the organization structures itself, its partnerships, and its employee roles and responsibilities (Wolcott and Lippitz, 2010) to ensure possibilities for future growth are not discarded. In order to maximize the amount of promising new business ideas presented to the company, it is valuable to establish what influences employees' decisions to pursue new business development opportunities through entering in corporate entrepreneurship or by external venturing.

Approaching corporate entrepreneurship on employee level makes it clear that there are quite some unexplored areas of research to be found. A lot has been written about corporate entrepreneurship, but studies tend to focus on different aspects of corporate entrepreneurship without delivering a comprehensive picture. A second remark is that the focus is often concentrated on the outskirts of the process. The interaction of corporate entrepreneurship and organizational strategy are outlined or entrepreneurial traits are addressed as input in the corporate entrepreneurship process. Though researchers view corporate entrepreneurship as a process, descriptions of the process itself are harder to find. There is more to find on what has to be brought into the process and what will have to come out, than actually explaining what characterizes the process.

Looking at the point of entry of a corporate entrepreneurship process immediately instigates an interesting observation. Though the decision to leave current employment and transition into entrepreneurship has been a subject of study, corporate entrepreneurship is rarely taken into account as a factor. This study contributes to the efforts of bringing entrepreneurial exit as a factor into corporate entrepreneurship research, thus delivering a broader perspective on the choice employees make whether to engage in corporate entrepreneurship or not. It will answer to the question what organizational factors determine whether ideas for new business development are being pursued in intrapreneurship or in entrepreneurship, on employee level?

Corporate entrepreneurship can become a less attractive option for pursuing new business ideas when there are attractive external alternatives to be taken into consideration. Open innovation for example contributes to higher labor mobility and more active venture capital (Chesbrough, 2006). This can make it more worthwhile to become an entrepreneur or change employer at the cost of corporate entrepreneurship. Open innovation is a relatively new concept. It influences the corporate entrepreneurship process, but as to how and to what extent the two affect each other, there are still a lot of open spaces in research. Within that scope this study will address the relationship between perceived mobility of an employee and the decision to act intrapreneurially.

This study addresses the following question: What organizational factors determine whether ideas for new business development are being pursued in intrapreneurship or in entrepreneurship, on employee level?

To answer this question, this study presents a literature review and empirically tests a model that (a) probes existing organizational structures and mechanisms that either facilitate or hinder the process of generating and collecting ideas for new businesses within an organization; and (b) probes factors that determine the choice employees in technology oriented companies make whether to pursue their ideas for new business

development in intrapreneurship or entrepreneurship. In other words the trade-off between entrepreneurship and intrapreneurship on employee level.

This paper is outlined as follows. In section 2 literature on corporate entrepreneurship is reviewed, thus building a comprehensive framework forming the basis for the hypotheses that are formulated in the last part of this section. Section 3 describes the data collection method, data set and the data analyses techniques used in the empirical part of the study. In section 4 descriptive statistics are presented and the results of the analyses will be assessed. The findings will state, whether the hypotheses formulated in section 2 are supported. Section 5 summarizes the findings of the study, will provide an interpretation of the results and topics for further research. The paper will be concluded with a reference list and relevant appendices.

LITERATURE REVIEW

A review of literature learns that views on corporate entrepreneurship differ greatly. As views on corporate entrepreneurship differ, so do the definitions and the terms used to indicate corporate entrepreneurship. Corporate entrepreneurship is used interchangeably with intrapreneurship (Pinchot, 1985). Other terms used in literature are internal corporate venturing (Burgelman, 1984) and internal corporate entrepreneurship (Schollhammer, 1982).

According to Pinchot (1985) intrapreneurship is the practice of developing a new venture within an existing organization to exploit a new opportunity and create economic value. Compared to Pinchot's (1985) definition Zahra's (1991) definition is extended with both the notion of improvement of existing business and linking strategy to corporate entrepreneurship. Furthermore, a comprehensive definition of entrepreneurship refers to both formal and informal aspects of corporate entrepreneurship and organizational level.

Schollhammer (1982) on the other hand defines corporate entrepreneurship specifically as a set of formalized activities: "Internal (intra-corporate) entrepreneurship refers to all formalized entrepreneurial activities within existing business organizations. Formalized internal entrepreneurial activities are those, which receive explicit organizational sanction and resource commitment for the purpose of innovative corporate endeavor – new product development, product improvements, new methods or procedures." Wolcott and Lippitz (2012) agree with Scholhammer by calling corporate entrepreneurship a process that can be managed and repeated. And like Burgelman and Sayles (1986) Wolcott and Lippitz give specific attention to the strategic alignment.

There may not be an agreement on organizational level, level of formality, degree of newness or internal focus, corporate entrepreneurship is however considered to refer to creating something new within existing organizations to improve profitability and enhance a company's competitive position. In this study corporate entrepreneurship will be defined as *the process by which individuals or teams within an established*

company conceive, foster, launch, and manage new businesses that are distinct from but leverage the company's current assets, markets, and capabilities, in order to improve a company's performance and competitive position. Newness of a business is a matter of degree, defined by the level of differentiation from the company's core business.

The different views on corporate entrepreneurship are also reflected in the models describing corporate entrepreneurship. In this literature review seven corporate entrepreneurship models have been depicted and they all differ from each other quite substantially, each presenting its own view on corporate entrepreneurship.

Three models (Covin and Slevin, 1991; Zahra, 1991; McFadzean et al., 2005) are rather similarly outlined, with the focus on company level and the corporate entrepreneurship process as a whole, but with a different configurations of variables. No specifications about the corporate entrepreneurship process are outlined.

The corporate entrepreneurship process in the model of Hornsby et al. (1993) differs from the three models just mentioned, by taking into account individual characteristics instead of strategic ones and only discussing a part of the corporate entrepreneurship process and in more detail. The Two-Phase model of Ren and Guo (2011) is even more specific and depicts just two phases of middle management's involvement in the corporate entrepreneurship process.

Burgelman and Sayles (1986) also focus on management involvement, but in combination with strategy and operational relatedness. This results in nine organization designs for corporate entrepreneurship and an overview in which (key) activities in strategic and structural context are linked to certain managerial levels.

Finally Wolcott and Lippitz present four models of corporate entrepreneurship, based on organizational ownership and resource authority and with their Innovation Radar, they present a clear picture of all directions in which a firm can seek innovative opportunities.

In some models corporate entrepreneurship is largely treated as a black box with something going in and something coming out without entering in too much detail. Two

models (Hornsby et al., 1993; McFadzean et al., 2005) have explicitly formulated “the decision to act intrapreneurially (Hornsby et al.) or entrepreneurially (McFadzean et al., 2005)”. However, none of the models considers entrepreneurial exit from the company as a possible outcome or a decision to make.

This study will address that gap and examine the organizational factors that may influence the choice an employee makes whether to pursue an idea for new business development in intrapreneurship or in entrepreneurship.

Although reviewing the models by common denominators seemed not very interesting, lining up the objectives of the various models gave quite an interesting picture. When putting them all together they provide quite a broad overview of the corporate entrepreneurship process.

The objective of the model of Zahra (1991) was determining the association between corporate entrepreneurship and company performance. In other words Zahra looked at corporate entrepreneurship as a means to improve the competitive position. This results in a broad view on corporate entrepreneurship. When the model of Burgelman and Sayles (1986) is placed next to the model of Zahra (1991) this provides a more in depth view of the relationship between corporate entrepreneurship and strategy. Burgelman and Sayles (1986) provide an analytical framework for improving corporate management’s capacity to deal effectively with entrepreneurial initiatives. For every initiative challenges strategy and a degree of fit must be established. This is done by assessing both strategic importance and operational relatedness. Burgelman and Sayles (1986) outline that autonomous strategic behavior is a very important challenger of existing corporate strategy. Autonomous strategic behavior is entrepreneurial behavior and this is what Covin and Slevin (1991) are focusing on. Their model is intended to depict the causes and consequences of organizational level entrepreneurial behavior among larger, established firms. Hornsby et al. (1993) subsequently research that behavior more in depth by introducing an interactive model of the decision to act intrapreneurially, which is focused on individual and organizational variables. The

model suggests that assessment of employees may be worth investing in, because individual differences influence innovative behavior.

The model of Ren and Guo (2011) examines the strategic role of middle managers in the corporate entrepreneurial process. Their model concentrates on the impetus process by which middle managers evaluate and champion entrepreneurial initiatives.

By placing the 5 models in this particular structure a picture has been drawn going from the highest level in the organization all the way down.

Wolcott and Lippitz (2010) and McFadzean et al. (2005) were not placed in this structure. The structure presented is fairly- top down. The contribution of McFadzean et al. (2005) is delivering a more detailed horizontal view. Their study outlines the corporate entrepreneurship process in more detail, and interwoven with the innovation process.

The contribution of Wolcott and Lippitz (2010) has not been mentioned yet. They propose that radical innovation or new business creation be approached as a new business design challenge. They present a tool for designing new businesses which gives a very good overview of directions in which to seek new business opportunities. The strategical consequences of new business opportunities are reviewed on top of the structure which completes the picture. The structure that has been outlined here will be used to define a model for corporate entrepreneurship that will present a broader view of the corporate entrepreneurship process.

The focus however has only been on organizational, strategical and individual factors. First the influence of the external environment on these factors will be discussed, followed by the presentation of a different model for corporate entrepreneurship.

The external environment is commonly considered to influence corporate entrepreneurship. Factors like competition (McFadzean et al., 2005), technological sophistication (Covin and Slevin, 1991; McFadzean et al., 2005) and industry life cycle (Covin and Slevin, 1991; McFadzean et al., 2005) show that the influence of the external environment is regarded in the perspective of the company's activities. When

the individual's perspective is brought into the model, external factors that might influence individual decision making should be taken in consideration.

An important determinant of entrepreneurial transition is the opportunity cost of leaving current employment (Kacperczyk, 2012). The trade-off between risks and rewards should be considered as well as the effect of corporate entrepreneurship on internal career advancement. However, established firms make internal venturing attractive in two more ways: by enabling and leveraging. As the definition of corporate entrepreneurship of Wolcott and Lippitz (2010) states, does corporate entrepreneurship leverage the company's current assets, markets, and capabilities. It indicates that leveraging is a core element of corporate entrepreneurship.

The enabling effect lies in exposure to new opportunities and access to ample resources. Exposure to new opportunities creates a learning advantage (Galbraith, 1973; Tushman and Anderson, 1986; Cohen and Levinthal, 1990), thus enhancing abilities to recognize opportunities. Access to resources enhances an employee's ability to pursue autonomous strategic initiatives (Burgelman, 1991), thus stimulating opportunity-seeking behaviour in favour of new business development.

Corporate entrepreneurship can become a less attractive option for pursuing new business ideas when it is hard to get the company's support and when there are attractive external alternatives to be taken into consideration. Lack of support is often related to strategic fit. The need for strategic alignment is well documented in literature (e.g. Wolcott and Lippitz, 2010; Burgelman and Sayles, 1986). The company has 4 basic options for opportunities that are not in line with the company's strategy: rejecting, putting the idea on the shelf, redefining strategy, and supporting external venturing. Open innovation has changed the dynamics between these four options.

"Open innovation means that valuable ideas can come from inside or outside the company and can go to market from inside or outside the company as well. This approach places external ideas and external paths to market on the same level of importance as that reserved for internal ideas and paths to market" (Chesbrough, 2006). Closed innovation means that ideas flow into each firm, on one side, and flow out to the

market on the other side, without a path for ideas to come into the firm, nor the presence of any other path for products and services to leave the firm. By acknowledging the merits of using other paths and openness towards interaction with any party from outside the organization, open innovation stimulates looking outside the boundaries of the existing organization. This challenges companies to reexamine their strategy and promotes that supporting external venturing should be seen in a broader perspective. Leaving more options for support and more options for getting ideas off the shelf. From an individual employee's perspective this might mean an increased chance of getting the company to support an opportunity. However, this might also mean that external possibilities for development of rejected ideas or ideas put on the shelf have increased.

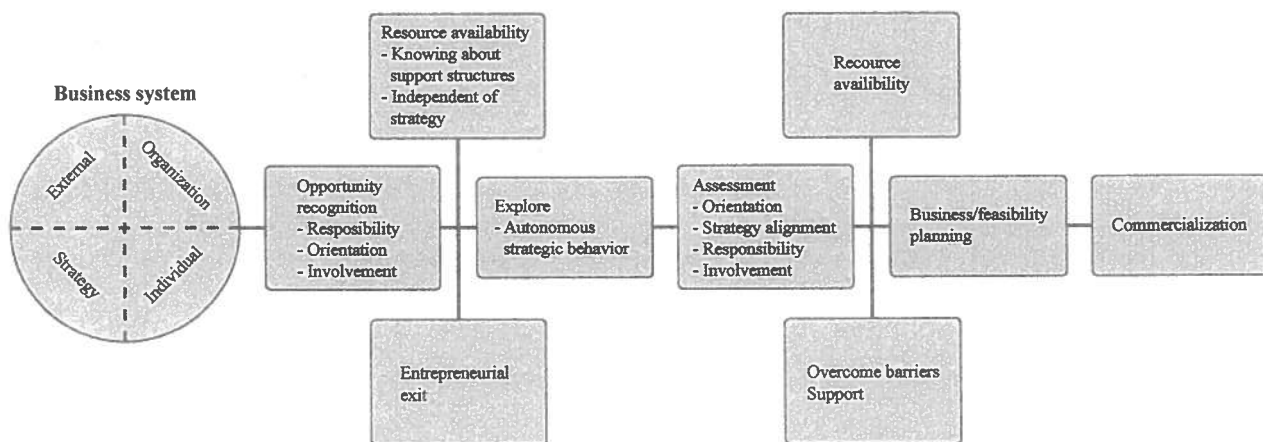
Proposed Corporate Entrepreneurship Model

So far it has become clear that the corporate entrepreneurship models have elements in common, but that also a lot of differences can be found, depending on the view on corporate entrepreneurship and the focus of the model. For the purpose of this study a different model will be presented to reflect the author's view and focus on corporate entrepreneurship. In order to decide what elements the proposed model should consist of, the first step is to outline what the model intends to reflect. In chapter 1 the objectives were formulated stating that the model should present: (a) organizational structures and mechanism that either facilitate or hinder the process of generating and collecting ideas for new business within an organization and (b) factors influencing the choice employees make to pursue intrapreneurship or entrepreneurship. As decision making of an employee relates to individual level, that is what the focus will be on. The model examines the impetus factors that influence an employee's decision making regarding idea sharing and engaging in corporate entrepreneurship.

Factors. There are four categories of factors that are commonly nominated to influence corporate entrepreneurship: strategic variables (Covin and Slevin, 1991; Burgelman,

1985; Zahra, 1991; Ren and Guo 2012); organizational or internal variables (Covin and Slevin, 1991; Hornsby et al.,1993; Zahra, 1991; Ren and Guo,2012); external variables (Covin and Slevin, 1991; Zahra,1991; McFadzean et al., 2005), and individual characteristics (Hornsby et al.,1993; McFadzean et al., 2005). However, these factors are usually presented as separate blocks, that might or might not be linked together. Earlier in this section the influence of open innovation was outlined, making it clear that not only the borders between the company and the external environment had begun to fade, but that there is also a considerable impact on strategy and individual employees. For that reason the four factors will be put together in a constellation where they are all in contact with each others with borders being more permeable. The model will be presented here first and then it will be further outlined.

Figure 1



Corporate strategy influences corporate entrepreneurship, but corporate entrepreneurship also influences strategy (Burgelman and Sayles, 1986; Zahra, 1991). As *autonomous strategic behaviour* introduces new categories for the definition of opportunities, such autonomous strategic initiatives make the current concept of corporate strategy problematical, which leads to redefining corporate strategy (Burgelman and Sayles, 1986). A *fit* between corporate entrepreneurship activities and corporate strategy is a prerequisite for their success and improved company performance (Wolcott and Lippitz, 2006). Burgelman and Sayles (1986) present nine design alternatives for new businesses based on the level of strategic importance and the level of operational relatedness. As strategy dictates the level of support for new businesses, open innovation challenges companies to reexamine their corporate strategy as partnering and new paths to market ask for certain types of business designs.

But not just strategy needs to be reexamined as a result of open innovation. Zahra (1991): “an environment poses challenges and offers new opportunities to which firms must respond creatively through corporate entrepreneurship. An environment also serves as a rich source of ideas for new product developments. Suppliers, buyers, and competitors provide incentives for companies’ innovation and venturing.” Lumpkin and Dess (2001) refer to two commonly used approaches to conceptualizing environments: being a source of information, and a stock of resources (Aldrich and Mindlin, 1978). On the corporate level the environmental factors commonly used are *dynamism*, *hostility*, *industry life cycle*. (Covin and Slevin, 1991; Lumpkin and Dess, 2001; Zahra, 1991). It is however far more interesting how these factors surface like in open innovation.

Chesbrough (2006) lists four factors leading to the movement from closed innovation to open innovation. The first one is the increasing availability and mobility of skilled workers and the second one is increased availability of venture capital. The combination of these factors provides a second outside path to market ideas sitting on the shelf, so more external options for venturing are available and finally the increasing capability of external suppliers. According to Bingham and Spradlin (2011) open innovation has lead to a decreased use of internal resources in favor of the use of external resources.

However, this does not only have effects on the corporate level, but it also has an effect on the individual level, as an increase in external possibilities for new business development influences individual decision making regarding corporate entrepreneurship in other words *external support and leveraging*.

Proposition 1: an increase in external possibilities for new business development influences individual decision making regarding corporate entrepreneurship.

Hypothesis 1: An increase in external contact makes an employee more perceptive of alternatives for employment or new business opportunities.

External support and leveraging suggests the existence of internal support and leveraging. An organization is a whole constellation of structures and mechanisms influencing corporate entrepreneurship. Precisely what factors relate to corporate entrepreneurship, how and to what extent is largely unexplored. Hornsby et al. (1993) identify organizational factors that are supported by empirical studies. *Management support*: the extent to which employees are encouraged to believe that innovation is part of everyone's job. "E.g. quick adoption of employee ideas, recognition of people who bring ideas forward, support for small experimental projects, and seed money to get projects off the ground." *Autonomy/work discretion*: tolerance for mistakes and autonomy to make decisions. *Rewards/reinforcement*: incentives stimulating innovative behavior, internal career advancement. *Time availability* for fostering new and innovative ideas and *organizational boundaries* that prevent people from looking outside their own jobs.

Additional organizational factors can be found in literature like *organizational culture /values* (Peters and Waterman 1982, Zahra, 1991; Covin and Slevin, 1991; Wolcott and Lippitz, 2010). *corporate entrepreneurship structures*, like *organizational Ownership*

(responsibility + accountability for new business creation), *resource Authority* (resources dedicated to CE) [Wolcott & Lippitz] and *resource availability*, which can be divided in access to resources and dedication of resources. Access to resources enhances an employee's ability to pursue autonomous strategic initiatives (Burgelman and Sayles, 1986) and fosters intrapreneurial opportunity-seeking behavior (Kacperczyk, 2012). An important question is whether development and experimentation can be pursued economically throughout the organization and to what extent.

On employee level the companies' contribution to new business development can be summarized as *enabling and leveraging*. Enabling by exposure to new opportunities and access to ample resources and leveraging the company's current assets, markets, and capabilities.

Communication about innovation, new business and support structures, isn't always clear, however.

Hypothesis 2: Employees who know about supporting structures are more likely to perceive their company as being more supportive.

Hypothesis 3: Allowing employees to do exploratory work on their own innovative ideas increases the likelihood that employees feel responsible for generating ideas for new business.

Hypothesis 4: Employees that feel responsible for new business development are more likely to share their ideas with the company instead of leaving the company to engage in entrepreneurship.

The hypotheses state clearly that the outcomes do not depend solely on external, strategical or organizational factors. As decision making involves a person, personal

characteristics should also be taken into account. Personal characteristics are generally outlined in *entrepreneurial traits* and *skills and competencies*. More and more companies engage in talent management, as investment in assessment of characteristics has proven to be worthwhile. Individuals identified as having intrapreneurial potential could be targeted for training or other intrapreneurial opportunities (Hornsby et al. 1993).. Abilities and skills for recognizing opportunities and new business conceptualization can be enhanced by exposure (Kacperczyk, 2012) and training. In this study work related personal characteristics will also be taken into account. These relate to factors like the number of previous jobs or the number of years employed in the present company.

Within the business system, consisting of external environment, corporate strategy, organization and individuals, a *precipitating factor* causes *idea generation* e.g. dissatisfaction, opportunity, initial encouragement, reassessing need for change (McFadzean et al., 2005).

Ren and Guo (2011) distinguish two types of entrepreneurial opportunities: exploitative and explorative, according to their relatedness to core business and competences.

Proposition 2: Opportunity recognition is influenced by orientation, involvement and responsibility.

Types of *orientations* commonly used are based on distinction between: existing business and new business, internal focus and external focus, cost and innovation, and technical and market. Exploitative opportunities relate to existing business, internal focus and cost. Explorative opportunities relate to new business, external focus and innovation.

New technologies and market need are the first to be mentioned when it comes to distinguishing areas where opportunities can be found. However Wolcott and Lippitz (2010) present a tool called the Innovation Radar which shows business system innovation along twelve dimensions. This stands for a broader orientation on creating

value which will enhance opportunity recognizing ability. *Involvement* pertains to the degree and way of involvement in new business development and can be regarded in two ways: being involved in parts of - or new business development as a whole and feeling involved. *Responsibility* refers to the extent to which new business development is perceived as being part of the job and whether it is status quo to share ideas.

The *decision to act* is based on the interaction between strategy, external environment, organizational and individual factors, precipitating factors and idea generation/opportunity recognition. Kacperczyk (2012) describes a range of 4 career opportunities available to employees:

- No venturing activity: Kacperczyk (2012) refers to several studies which present bureaucratization in large firms being the cause of stultification of entrepreneurial will; hindering development of skills, motivations and aspirations. In her own empirical study she finds an increase in bureaucratization, represented by task discretion and task breadth, has a decreasing effect on intrapreneurship. The effect on the transition to entrepreneurship was inconclusive.
- Internal venturing within the current firm
- Departure from current employment to found a new firm
- Departure from current employment to launch a new venture in another firm.

The latter two will be referred to as entrepreneurial exit.

The decision in favor of intrapreneurship can be followed by *autonomous exploratory work*, on condition that the company provides in that possibility. Hypothesis 3 will test the relationship with feeling responsible for new business development.

Assessment encompasses: idea collection, channeling, evaluation and providing feedback.

It is influenced by *corporate strategy*. The presence of *strategic fit* has a positive influence on the assessment of opportunities (Wolcott and Lippitz, 2010). Burgelman and Sayles (1986) assess corporate entrepreneurial proposals based on operational relatedness and strategic importance. In order to assess an opportunity, being able to recognize opportunities is indispensable. As recognizing opportunities is influenced by

orientation, involvement and responsibility, so is assessment. Wolcott and Lippitz (2010) distinguish four types of entrepreneurship based on resource dedication and organizational ownership. Dedicated organizational ownership means responsibility for new business creation is focused in a designated group. Diffused organizational ownership means that there is no formal responsibility for new business development. As different corporate entrepreneurship models can be used on different organizational levels organizational ownership can differ on different levels in the organization. Assessment of the group(s) dedicated to corporate entrepreneurship might differ from assessment done elsewhere in the organization.

Proposition 3: Assessment of opportunities is influenced by orientation, involvement and responsibility.

As this study focuses primarily on the first part of the corporate entrepreneurship process the last elements of the model will be regarded only briefly.

It is recognized that the development of a *business plan* will enhance success, as causes of failure are more likely to emerge (Buno, Leidecker and Harder, 1987; Hornsby et al., 1993, Wolcott and Lippitz, 2010). A business plan will also address the gap between *resources available and resources needed*, which is important as the ability of an organization to fund and otherwise support new venture start-ups is crucial to the successful implementation of the business plan. That does also include *top management involvement and support* (Wolcott and Lippitz, 2010). As top management involvement does not guarantee the absence of opposition the last factor that is important in this phase is the *ability to overcome barriers*. Hornsby, Montagno and Kuratko (1990) and Kuratko, Montagno and Hornsby (1990) found that the ability to overcome barriers is a significant factor in the intrapreneurial process. E.g. long-term planning activities, enforcement procedures for making mistakes and functional management structures. Finally a start can be made with commercialization.

Summary

In this section an overview of definitions and corporate entrepreneurship models has been presented. Definitions and models of corporate entrepreneurship show quite some differences as a result of differences in perspectives. Corporate entrepreneurship is however considered to refer to creating something new within existing organizations to improve profitability and enhance a company's competitive position.

Putting the models together gave a good overview of corporate entrepreneurship which was used to make a new model depicting the corporate entrepreneurship process..

Finally 4 hypotheses were formulated which form the basis of the empirical part of the study.

METHODOLOGY AND DATA

In this section the data collection method and a description of the data sample will be outlined. This will be followed by a description of the variables and correlations for the main variables. The last part of this section is dedicated to the data analysis techniques and the way the data was analyzed. The results from the data analyses will be discussed in the next section.

Data were collected using a questionnaire (see Appendix I and II) returned by 256 employees working in at least 86 different companies. Exact participation could not be established, but is considered to be close to 170 companies. As approximately 600 companies were approached, the company response rate was between 14-28 percent. The sample was compiled of established technology oriented companies, independent of organizational size or specific trade. These companies were targeted, because their leveraging factor in terms of resources is high as opposed to e.g. companies that primarily depend on human capital. Secondly they represented a greater possibility of being active in research and development. The survey targeted employees working in R&D or design, manufacturing and other departments of the company. This division was made for the differences in main focus and orientation regarding new business and existing business. The response rate of people working in manufacturing however was only 6,6 percent. This may have been caused by the fact that the questionnaire was sent by e-mail, containing a weblink. As it cannot be established how many employees working in manufacturing were approached in, it is difficult to estimate a degree of possible bias.

Table 1 presents the dependent and independent variables and the way in which they are measured. The focus of the study is on organizational structures and methods supporting corporate entrepreneurship. Although the hypotheses focus on a particular independent variable, the results presented by the other variables will not be less useful, for together they provide a broader perspective on supportive structures. The independent variables

are divided in two sections. The first group of independent variables is company specific, the second group of variables is employee specific. In some cases control variables were specified. This was the case for age and experience as they are predictive of each other to a certain extent. This was also the case for company support and management support and feeling and being involved in new business development. Whether people had applied for a patent was approached in two ways. Having applied for a patent represents a certain degree of opportunity recognition or generation. Narrowing down the time frame can be used as an indicator of the increased likelihood of a person actually turning the patent into a business, which influences the decision making process regarding corporate entrepreneurship.

The hypotheses examine the relationship of various organizational practices and structures and employee characteristics as to how employees relate to employment and entrepreneurship. Binary logistic regression was carried out to test the relationship between the dependent and the independent variables and taking into account the interaction effects of the independent variables. For robustness two hypotheses were tested by using two different dependent variables, in order to examine whether the outcomes would line up with each other.

The set of independent variables used for testing the relationship with the dependent variable 'sharing of a brilliant idea' was also used to run a regression with the dependent variable that corresponds with the question whether employees have ideas they have not shared with the company. This same method was used to compare the outcomes of the regressions carried out with the dependent variables related to the questions about starting up a new business and seeing other options for employment.

Table 2 reports the correlations between the main variables related to organizational structure. There are quite some variables with correlations significant at the 0.01 level (2-tailed). For that reason, combined with the amount of answering categories, the two multivariate regressions with dependant variables regarding a supportive company and employment could not be executed. First dummy variables were used in order to merge

the amount of outcome categories. For the variables with 5 possible outcomes (being: 1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree), the outcomes were clustered, which resulted in three possible outcomes remaining (being: 1 = (strongly)agree, 2 = agree nor disagree, 3 = (strongly) disagree). When this proved not to be sufficient, the answering categories of the dependent variables were further decreased to two possible outcomes. This was done in two ways, to prevent misrepresentation caused by merging the neutral group with one of the two other groups (agree or not agree) as much as possible. The regressions for both 'employment' and 'supportive company' were executed twice with a different dependent variable. One dependent variable with the neutral group being paired with the answer 'agree' and the other dependent variable with the neutral group being paired with 'disagree'. The outcomes will be presented in the next section.

RESULTS

In this section the results from binary regressions, regarding the hypotheses stated earlier, will be presented. For every hypothesis the dependent and independent variables were chosen will be outlined, followed by a description of the results.

Hypothesis 1: An increase in external contact makes an employee more perceptive of alternatives for employment or new business opportunities.

In this analysis the perception of mobility is represented by an employees' perception of alternatives for working, other than employment in the company they work for. As mentioned earlier two dependent variables were used in combination with the same set of independent variables (see tables 3 and 4). The independent variables can be grouped in terms of exposure to job alternatives (pos. 1-4) , exposure to new business development (pos. 5-9) and personal characteristics (pos. 10-15). First the analysis with the independent variable regarding talking about opportunities for new business will be described, followed by the analysis about employment.

For talking about starting a new company positive significant relations were found for exposure to job alternatives and exposure to new business development. As external contact or involvement in new business development increases, so will the likelihood of talking about starting a new company. Negative relations were found for gender and age, which indicates that women are less likely to talk about starting a new company than men and an increase in age is less likely to result in starting a new company.

The second analysis is about the way a person perceives alternatives for employment. The outcomes of this analysis are quite different from the outcomes of the first analysis. Two regressions were carried out for better representation regarding the neutral group as explained in the previous section. For both regressions size is significant and negatively related to seeing alternatives for employment, meaning that employees in larger organizations are more likely not to see alternatives for employment. In the regression that does not pair the outcome 'agree' with the outcome 'neutral', both experience and education are positively related to alternatives for employment and in the group that does pair 'agree' with the outcome 'neutral' the number of years in current employment is positively related. All three outcomes should be considered, but with some reserve considering the way they were obtained (see table 5 for cross tabulations), meaning that an increase in experience, a higher degree of education or an increase of years in current employment will make it more likely that a person will see alternatives for employment. However the second analysis does not show a significant relationship with external contact, which means that hypothesis 1 is support regarding new business opportunities, but is not supported regarding employment alternatives.

Hypothesis 2: Employees who know about supporting structures are more likely to perceive their company as being more supportive.

This analysis focuses on the effect of knowing about support structures on perceived supportiveness of the company (see table 6). It tests support factors that relate to contact of the individual employee with the company and support factors that relate to the way the company structures support for ideas. The independent variables represent direct

support for an initiative (pos. 1, 2, 3), assessment and funding of ideas (pos. 4, 5, 6, 7, 8, 9) and distance to knowledge about structures in terms of being involved in new business development (pos. 10, 11, 12, 13). Again two regressions were carried out for better representation regarding the neutral group, which show that the hypothesis is supported.

The score on direct support is very high. This means that management support and the ability to do exploratory work on own initiatives can be regarded as important contributors to supportiveness. In addition, the regression that does not pair the outcome 'agree' with the outcome 'neutral' shows that employees who know where to apply for additional funding are more likely to validate the company as supportive (again outcomes should be considered with some reserve considering the way they were obtained, see table 7 for cross tabulations). Which is also the case for employees that know on what basis ideas are evaluated as the outcome of the alternative regression shows.

The last significant outcome can also be found in the alternative regression and shows a negative relationship between supportiveness and the number of years a person has been working for the company. It shows that when a person works longer for the same employer the likeliness of finding the company supportive will decrease. Although this does not support the hypothesis, the other findings are substantially supportive.

Hypothesis 3: Allowing employees to do exploratory work on their own innovative ideas increases the likelihood that employees feel responsible for generating ideas for new business.

About 10 percent of all respondents did not feel responsible for generating ideas for any kind of improvement or new business development. Which given the questionnaire architecture means that about 90% did. In total 42% of all the respondents felt responsible for new business development, from which 64% was formally responsible. The analysis (table 8) shows that an increased involvement in new business development will very likely result in feeling more responsible. The basis for this

hypothesis is what other structural factors are relevant for an employee to feel responsible besides being involved in new business development (pos. 1, 2).

The independent variables that can indicate top management's attention for new business development (pos. 2, 3, 4, 5, 6) are related to attention for ideas and availability of resources.

The availability of resources like budgets for innovation are likely to increase the feeling of responsibility. The possibility to do exploratory work, reflects the ability to take initiative, which is an active way of feeling responsible. The analysis shows that the possibility to do exploratory work is indeed positively related to feeling responsible, which supports the hypothesis.

Hypothesis 4: Employees that feel responsible for new business development are more likely to share their ideas with the company instead of leaving the company to engage in entrepreneurship.

This hypothesis will be investigated by using two dependent variables. They are not interchangeable but approach the proposition from different positions. A comparison can be made using the same set of independent variables for both positions. Table 9 presents the results of both regressions. The outcomes of one of the regression analyses are presented in full in combination with way they are build up. The outcomes of the second regression analysis are presented in one column alongside the overall results of the first one.

The outcomes of the regression analysis with the choice for sharing or external venturing will be discussed first. The independent variables are quite diverse, but can be clustered as to supportiveness by means of management support and organizational leveraging (pos. 1, 2, 3, 4), structural support that supports own initiatives (pos. 5, 6), structural factors that present alignment with organizational strategy (pos. 9, 10), responsibility (pos, 7, 8) and employee characteristics (pos. 11, 12, 13, 14, 15, 16). Regarding sharing a brilliant idea for new business development five factors were found

to be significant, ranging from significance levels 0,10 to 0,01. Least significant are the factors representing a supportive company and education, with a 0,10 significance level. They are both positively related meaning that an increase in educational level or an increase in perceived company support will more likely result in sharing ideas with the company instead of external venturing. Because of the high correlation between supportive company and supportive management only supportive company was admitted in the regression analyses. The cluster of management support and organizational leveraging is well presented in terms of significance as, besides management support, both the relationship with the manager and organizational size are found to be significant at the 0,01 respectively 0.05 level. The relationship between sharing and the relationship with the manager is a positive one, meaning that the sharing of ideas is likely to increase when the relationship with the manager improves. Size however is related negatively which indicates that an increase in organizational size will likely result in a decrease in the sharing of ideas. There is one more factor to discuss regarding the first regression analysis and that is involvement in new business development. Because of the high correlation with feeling responsible for new business development, the factor addressing the latter was dismissed. Involvement in new business development is found to be negatively related to sharing ideas.

The second regression, carried out with the same independent variables, gave surprisingly little significant relationships. The only relationship found was with organizational support at a 0,05 level. The likelihood of people having ideas that they have not shared with the company decreases when perceived company support increases.

As no significant relationship between feeling responsible for new business development and sharing ideas was found and being involved in new business development actually decreases idea sharing, no support for this hypothesis could be found.

CONCLUSION AND DISCUSSION

In this section the main findings of the study are summarized and interpreted. Subsequently, the limitations of this study and the contributions of this paper will be discussed and further research recommendations will be done.

Main Findings

This study depicts both the choice for corporate entrepreneurship and the process of generating and collecting ideas in established technology oriented organizations. In order to test the hypotheses stated in section 2 quite an amount of variables were reviewed. The variables can very broadly be divided in variables regarding personal characteristics and variables regarding organizational structures and mechanisms. Even though personal characteristics are not under the direct control of management, being aware of the influence on certain processes is important as variables are not stand-alone but interrelate with other variables.

Hypotheses 2, 3 and 4 can be summarized as follows. In companies that are perceived as supportive, employees know about support structures for new business development and are able to use them, which makes them feel responsible for generating ideas that they will share with the company they work for.

The first section of this summary is aimed at supportive structures and knowing about it. The results support the suggestion that initiative for new business development needs to be supported by communication, a clear understanding of assessment criteria and the promise of additional support. Subsequently that would make employees feel responsible for new business creation, which is also supported by the results. This clearly states that the ability to do exploratory work on own initiative can be an important contributor to corporate entrepreneurship. This is in line with findings of Burgelman and Sayles (1986) which state that the availability of resources can initiate opportunity seeking behavior.

Up to this point everything adds up very nicely. But now an additional result is found showing a significant relationship with finance dedication, which represents knowing

how funding of development is done. However, there was no significant relationship with knowledge about supporting structures. This suggests that knowledge about finance does not stimulate initiative, but the availability of budgets increases exposure and thus feeling responsible.

The last section of the summary suggests that feeling responsible will result in idea sharing and pursuing opportunities inside the company. The fact that having a good relationship with the manager and the company being supportive both increase sharing is not very surprising. Neither is the case for education as a higher education might give people more abilities, more confidence and more assessment capability for recognizing opportunities. Then Size and involvement in new business development remain to be explained, which are both negatively correlated to sharing ideas. Size can be negatively related due to greater distance to new business development in terms of bureaucratization and stultification (Kacperczyk, 2012). Involvement in new business development means exposure to opportunities. More exposure can make employees see more possibilities for pursuing opportunities on their own.

With the results of hypothesis 2, 3 and 4 analyzed there is one other set of results to look at stating that an increase in external contact makes an employee more perceptive of alternatives for employment. This set of results contains a lot more variables regarding employee characteristics, which is not surprising as decision making regarding new business possibilities is a more personal process.

As external contact or involvement and exposure to new business opportunities increases, so will the likelihood of talking about starting a new company especially when you are a male of a certain age. This is supported by the results of the data analyses, which is not really surprising. Furthermore the relationship between age, gender and entrepreneurship is well documented in literature. At first the results of the analyses on employment seem a bit surprising. However the question is not about seeing all the alternatives for employment in the external environment, but about seeing other ways in which the current employer could use the skills and abilities of the employee other than in employment. Open innovation stimulates parties to explore other ways of working together, so eventually a change of mind regarding employment

could be noticed. The findings are not surprising and consistent with the general outline that when experience and education increase employees perceive more options for employment and as size increases the leveraging effect of large companies plays a role.

Limitations and further research

A limitation of this study was the anonymity of the companies involved. Knowing what company is involved gives possibilities for checking employees perceptions with organizational reality and it also presents more possibilities for determining the grounds for certain outcomes. Furthermore the employee groups could not be influenced which could have made the group of respondents more balanced. In this case there was very little response from employees working in manufacturing. Regarding orientation and involvement in new business development this group could have made a valuable contribution. Further limitations were posed by the way the questionnaire was outlined. The answering categories proved not always practical for data analyses.

This study provided an outline of a specific piece of the corporate entrepreneurship process. Questions as to why certain answers were given were not answered. Furthermore this does not by far provide a comprehensive picture of the whole process. To accomplish that, more research is needed.

Conclusion and summary

Main goal of this study was to determine what organizational factors influence the choice an employee makes regarding sharing ideas and pursuing ideas for new business development in corporate entrepreneurship. The issue was approached from somewhat different angles to be able to determine whether outcomes would line up with each other. The findings clearly state that in companies that are perceived as supportive, employees know about support structures for new business development and are able to use them, which makes them feel responsible for generating ideas. That they will subsequently share the idea with the company they work for, proved somewhat dubious. The one factor really standing out in this was autonomous exploratory work on employees' own ideas. This was found to have a very significant relationship towards both perception of supportiveness and feeling responsible for generating ideas for new

business. In addition an increase in external contact proved to make an employee more perceptive of alternatives for employment.

Though only a very small portion of the corporate entrepreneurship process was researched, the outcomes show that it would be worthwhile getting a better understanding of mechanisms underlying the corporate entrepreneurship process.

Table 1 Description of Variables

Name variable	Description variable
<i>Dependent variables</i>	
Dummy2_Employment	Employment is not the only way a company can benefit from employee (agree = 1, (neutral + not agree) = 2)
Dummy2B_Employment	Employment is not the only way a company can benefit from employee (not agree = 2, (agree + neutral) = 1)
Dummy2Company_support	Your company is supportive of your ideas (agree = 1, (neutral + not agree) = 2)
Dummy2BCompany_support	Your company is supportive of your ideas ((agree + neutral) = 1, not agree = 2)
Dummy_Brilliant_Idea	You would share a brilliant idea with your company (1 = yes, 2 = no)
Dummy_EV	You have talked about starting a new company in the last 2 years (1 = yes, 2 = no)
Dummy_NB	Feel that generating ideas for new business is part of job (0 = no, 1 = yes)
Idea_Share	You have ideas you have not shared with the company (1 = yes, 2 = no)
<i>Independent variables</i>	
Dummy_Inv	Involvement in new business development (0 = 0 fases, 1 = 1 fase, 2 = 2 fases, 3 = 3 fases, 4 = 4 fases, 5 = 5 fases)
Ext_contact	Contact with external parties (0 = involved, 1 = not involved)
#Interactions_Ext_contact	Frequency interactions external contact (1 = weekly, 2 = monthly, 3 = quarterly, 4 = yearly)
Idea_Notcore	Company supports ideas that do not directly fit core business (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Dummy_Idea_Notcore	Company supports ideas that do not directly fit core business (1 = (strongly) agree, 2 = agree nor disagree, 3 = (strongly) disagree)
Outsourcing	External parties can use your skills and abilities (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Expl_Time	Time for exploratory work (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Finance_Where	Clear where to apply for funding (1 = Yes, appeal to manager/supervisor, 2 = Yes, appeal to business unit leadership, 3 = Yes, appeal to company headquarters, 4 = Yes, appeal to designated group for developing new business, 5 = I don't know)
Dummy_Finance_Where	Clear where to apply for funding (1 = yes, 2 = no)
Finance_Dedication	Know how funding ideas is done (1 = Money for developing new business is reserved up front (dedicated, budget), 2 = Money is not assigned until there is a project up for funding (ad hoc), 3 = I don't know)
Dummy_Finance_Dedication	Know how funding ideas is done (1 = yes, 2 = no)
Evaluation_Who	Ideas are always being evaluated by a person or a group responsible for i (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Evaluation_How	It is always clear on what grounds an idea is evaluated (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Company_Support	Your company is supportive (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Manag_Support	Your manager is supportive (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Manag_Rel	You have a good relationship with your manager (1 = strongly agree, 2 = agree, 3 = agree nor disagree, 4 = disagree, 5 = strongly disagree)
Size	Company size (1 = small, 2 = medium, 3 = large)
Patent_Ever	Ever applied for a patent (1 = yes, 2 = no)
Patent_3Y	Applied for a patent in the last three years (1 = yes, 2 = no)
Gender	Gender (1 = male, 2 = female)
Age	Age (1 = <25, 2 = 25-35, 3 = 36-45, 4 = 46 - 55, 5 = 56-65, 6 = >65)
Education	Education (1 = IVE, 2 = bachelor, 3 = master, 4 = PhD, 5 = other)
#YExperience	Number of years of work experience (1 = <6, 2 = 6-10, 3 = >10)
#YCurrent_Empl	Number of years of work at current company (1 = <3, 2 = 3-6, 3 = >6)
Department	Department (1 = R&D, 2 = design, 3 = manufacturing, 4 = other)
#Employers	Number of previous employers (1 = 0-2, 2 = 3-5, 3 = >5)

Table 2 Pearson Correlations for the Main Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Dummy_Inv	1											
2. Employment	-,129**	1										
3. Dummy_Ext_contact	,385***	-,089	1									
4. Ext_contact	-,250***	,136**	-,538***	1								
5. #Interactions_Ext_contact	-,011	-,021	,112*	-,485***	1							
6. Idea_Notcore	-,213***	,107*	-,180***	,119*	-,003	1						
7. Outsourcing	-,218***	,117*	-,140**	,097	-,056	,466***	1					
8. Dummy_NB	,505***	-,121*	,282***	-,185***	,004	-,163**	-,249***	1				
9. Dummy_NBImpr	-,292***	,119*	-,269***	,343***	-,104*	,138**	,216***	-,268***	1			
10. Expl_Time	-,246***	,114*	-,192***	,092	-,045	,328***	,288***	-,311***	,260***	1		
11. Finance_Where	-,160**	,027	-,040	,114*	,043	,003	,049	-,215***	,244**	,197***	1	
12. Finance_Dedication	-,245***	,053	-,316***	,232	-,107*	,141**	,115*	-,241**	,252***	,234**	,278***	1
13. Evaluation_Who	-,194***	,039	-,052	,046	-,065	,148**	,247**	-,160**	,175***	,289***	,032	,240***
14. Evaluation_How	-,196***	,038	-,152**	,102	-,077	,206***	,206***	-,122*	,209***	,390***	-,053	,182***
15. Idea_Share	-,058	-,108*	,004	,097	-,217***	,041	0,022	-,049	,033	,069	,034	,068
16. Company_Support	-,320***	,068	-,193***	,206***	-,136**	,217***	,316***	-,358***	,389***	,563***	,252***	,254***
17. Manag_Support	-,251***	,028	-,149**	,116*	-,102	,185***	,308***	-,332***	,328***	,489***	,158**	,214***
18. Manag_Rel	-,186***	,041	-,135**	,032	,066	,164***	,264**	-,219**	,226***	,358***	,156**	,234***
19. Dummy_Brilliant_Idea	-,151**	-,099	-,114*	,058	-,073	,081	,067	-,217**	,248***	,275***	,113*	,157**
20. Dummy_EV	,249***	-,200***	,144**	-,174***	-,100	-,141**	-,104**	,117*	-,121*	-,150**	-,089	-,178***
13. Evaluation_Who	1											
14. Evaluation_How	,442***	1										
15. Idea_Share	,091	,116*	1									
16. Company_Support	,427***	,403***	,201***	1								
17. Manag_Support	,343***	,342***	,159**	,743***	1							
18. Manag_Rel	,236***	,315***	,144**	,448***	,691***	1						
19. Dummy_Brilliant_Idea	,213***	,216***	,459***	,340***	,333***	,349***	1					
20. Dummy_EV	,035	-,007	,289***	-,007	,051	,026	,167***	1				

* Correlation is significant at the 0.10 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

*** Correlation is significant at the 0.01 level (2-tailed).

Table 3 Binary logistic regression results with Starting a New Company as dependent variable

Dependent variable:	Dummy_EV	You have talked about starting a new company in the last 2 years													
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1. Ext_contact		-1,472*** (,571)	-2,375*** (,633)	-2,267*** (,637)	-2,261*** (,637)	-1,888*** (,654)	-1,851*** (,657)	-1,851*** (,657)	-2,059*** (,669)	-1,866*** (,658)	-2,011*** (,676)	-2,128*** (,696)	-2,009*** (,677)	-2,045*** (,699)	-2,047*** (,699)
2. #Interactions_Ext_contact			-618*** (,190)	-605*** (,191)	-613*** (,192)	-559*** (,197)	-524*** (,199)	-523*** (,199)	-642*** (,213)	-541*** (,203)	-650*** (,214)	-658*** (,216)	-650*** (,214)	-653*** (,216)	-654*** (,216)
3. Idea_Notcore			-222* (,125)	-222* (,125)	-173 (,142)	-138 (,145)	-156 (,147)	-157 (,147)	-133 (,150)	-149 (,148)	-105 (,152)	-115 (,154)	-105 (,152)	-123 (,156)	-123 (,156)
4. Outsourcing				-099 (,135)	-053 (,138)	-044 (,140)	-042 (,141)	-042 (,141)	-052 (,143)	-043 (,141)	-069 (,145)	-069 (,148)	-070 (,146)	-050 (,149)	-048 (,150)
5. Dummy_Inv					,231*** (,088)	,240*** (,089)	,237*** (,091)	,237*** (,091)	,163* (,096)	,225*** (,094)	,136 (,098)	,126 (,099)	,136 (,098)	,093 (,102)	,093 (,102)
6. Department					,191* (,103)	,189* (,104)	,189* (,104)	,189* (,104)	,262** (,110)	,196* (,105)	,276** (,111)	,268** (,113)	,275** (,113)	,280** (,114)	,286** (,117)
7. Size					-023 (,162)	-023 (,162)	-023 (,162)	-023 (,162)	-035 (,164)	-023 (,162)	-047 (,165)	,003 (,168)	-047 (,165)	-068 (,177)	-074 (,179)
8. Patent_Ever									-943*** (,363)	-872** (,366)	-872** (,366)	-1,026*** (,376)	-870** (,371)	-980*** (,378)	-987*** (,380)
9. Patent_3Y															
10. Gender															
11. Age															
12. #YExperience															
13. Education															
14. #Employers															
Constant		,026 (,130)	,928*** (,302)	1,571*** (,478)	1,683*** (,504)	,838 (,597)	,216 (,687)	,270 (,792)	2,034 (1,053)	,673 (1,116)	2,816** (1,121)	4,559*** (1,359)	2,791** (1,377)	4,123*** (1,398)	4,174*** (1,423)
S.E.		,125	,125	,125	,125	,125	,125	,125	,125	,125	,125	,125	,125	,125	,125
Cox & Snell R-square		,032	,075	,087	,089	,114	,126	,126	,149	,127	,165	,185	,165	,191	,191
n		256	256	256	256	256	256	256	256	256	256	256	256	256	256

* Correlation is significant at the 0.10 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

*** Correlation is significant at the 0.01 level (2-tailed).

Table 4 Binary logistic regression results with Employment as dependent variable

Dependent variable:	Dummy2B_Employment Alternative: Not agree - (Neutral + Agree)																
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		
1. Ext_contact	,776 (,458)	,984* (,530)	,910* (,535)	,903* (,536)	,707 (,557)	,692 (,558)	,689 (,562)	,771 (,568)	,684 (,563)	,743 (,570)	,733 (,571)	,706 (,574)	,597 (,581)	,617 (,583)	,598 (,584)	,531 (,725)	
2. #Interactions_Ext_contact		,140 (,178)	,129 (,178)	,136 (,179)	,100 (,181)	,089 (,182)	,077 (,184)	,117 (,187)	,071 (,186)	,117 (,187)	,115 (,188)	,110 (,190)	,109 (,192)	,115 (,192)	,122 (,193)	,342 (,307)	
3. Idea_Notcore			,133 (,127)	,075 (,143)	,057 (,144)	,061 (,145)	,069 (,146)	,055 (,147)	,073 (,147)	,045 (,147)	,048 (,148)	,046 (,149)	,055 (,151)	,056 (,151)	,057 (,151)	,058 (,201)	
4. Outsourcing				,120 (,133)	,097 (,135)	,095 (,135)	,063 (,137)	,068 (,137)	,063 (,137)	,071 (,137)	,071 (,138)	,110 (,140)	,101 (,141)	,091 (,142)	,101 (,142)	,001 (,189)	
5. Dummy_Inv					,113 (,091)	,115 (,091)	,083 (,094)	,038 (,099)	,089 (,097)	,027 (,100)	,034 (,101)	,038 (,101)	,001 (,104)	,003 (,104)	,007 (,104)	,134 (,145)	
6. Department						,046 (,101)	,023 (,102)	,060 (,105)	,020 (,103)	,065 (,106)	,078 (,106)	,029 (,108)	,043 (,109)	,063 (,111)	,080 (,113)	,127 (,151)	
7. Size							,265 (,166)	,270 (,167)	,265 (,166)	,275 (,167)	,312* (,170)	,290* (,169)	,370** (,177)	,395** (,180)	,415** (,181)	,585** (,254)	
8. Patent_Ever							,531 (,362)	,531 (,362)	,531 (,362)	,494 (,364)	,416 (,369)	,359 (,371)	,295 (,376)	,327 (,378)	,320 (,379)	,291 (,554)	
9. Patent_3Y									,098 (,413)								
10. Gender										,271 (,311)	,163 (,318)	,138 (,321)	,192 (,325)	,190 (,326)	,193 (,326)	,440 (,442)	
11. Age											,223 (,140)						
12. #YExperience												,533** (,241)	,595** (,247)	,650** (,256)	,557** (,270)	,261 (,326)	
13. Education													,264* (,158)	,273* (,158)	,301* (,161)	,343 (,228)	
14. #Employers													,179 (,200)	,126 (,206)	,125 (,206)	,295 (,295)	
15. #YCurrent_Empl																,599** (,243)	
Constant																	,874 (2,004)
S.E.																	,176
Cox & Snell R-square																	,086
n																	,256

* Correlation is significant at the 0.10 level (2-tailed).
 ** Correlation is significant at the 0.05 level (2-tailed).
 *** Correlation is significant at the 0.01 level (2-tailed).

Table 5 Cross tabulation with dependent variable Employment

#Experience * Dummy_Emplthree Crosstabulation

Count

		Dummy_Emplthree			Total
		Agree	Agree nor disagree	Disagree	
#Experience	<6	6	6	6	18
	6-10	19	5	5	29
	>10	141	41	27	209
Total		166	52	38	256

Education * Dummy_Emplthree Crosstabulation

Count

		Dummy_Emplthree			Total
		Agree	Agree nor disagree	Disagree	
Education	MBO	19	13	7	39
	HBO	63	18	15	96
	WO	64	13	12	89
	PhD	16	5	3	24
	Other	4	3	1	8
Total		166	52	38	256

#YCurrent_Empl * Dummy_Emplthree Crosstabulation

Count

		Dummy_Emplthree			Total
		Agree	Agree nor disagree	Disagree	
#YCurrent_Empl	0	1	0	0	1
	<3	37	10	15	62
	3-6	27	12	8	47
	>6	101	30	15	146
Total		166	52	38	256

Table 6 Binary logistic regression results with Company Support as dependent variable

Dependent variable:	Your company is supportive of your ideas : Agree - (Neutral + not Agree)													Dummy28Company_Support Alternative: Not agree - (Neutral + Agree)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	ALTERNATIVE
1. Expl_Time	1,128*** (,157)	,870*** (,183)	1,020*** (,164)	,797*** (,186)	,776*** (,187)	,755*** (,188)	,701*** (,193)	,692*** (,204)	,694*** (,206)	,693*** (,208)	,710*** (,215)	,709*** (,214)	,702*** (,215)	,810* (,441)
2. Manag_Support		1,941*** (,307)		1,888*** (,307)	1,867*** (,308)	1,821*** (,312)	1,816*** (,315)	1,819*** (,317)	1,775*** (,317)	1,786*** (,322)	1,874*** (,336)	1,871*** (,338)	1,893*** (,342)	2,227*** (,543)
3. Manag_Rel			,738*** (,192)											
4. Finance_Where				,257*** (,113)	,234** (,117)	,247** (,119)	,285** (,124)	,288** (,125)	,285** (,125)	,285** (,126)	,307** (,129)	,296** (,131)	,298** (,131)	,374 (,236)
5. Finance_Dedication					,199 (,258)	,109 (,247)	,066 (,271)	,062 (,272)	,106 (,272)	,168 (,281)	,073 (,287)	,057 (,288)	,067 (,289)	,454 (,705)
6. Evaluation_Who						,412* (,217)	,313 (,228)	,312 (,228)	,301 (,230)	,293 (,230)	,289 (,232)	,281 (,233)	,283 (,233)	,292 (,476)
7. Evaluation_How							,335 (,253)	,336 (,253)	,305 (,255)	,283 (,258)	,252 (,258)	,247 (,258)	,211 (,259)	1,409** (,567)
8. Idea_Notcore								,026 (,205)	,100 (,225)	-,099 (,228)	-,158 (,238)	-,156 (,237)	-,155 (,238)	,272 (,391)
9. Outsourcing									,302 (,207)	,250 (,210)	,263 (,214)	,254 (,215)	,256 (,215)	,481 (,384)
10. Size										,346 (,237)	,405* (,242)	,374 (,253)	,389 (,256)	-,081 (,473)
11. Department										,265 (,164)	,265 (,164)	,261 (,164)	,258 (,164)	,008 (,331)
12. Dummy_Inv											-,061 (,145)	-,061 (,145)	-,057 (,147)	,159 (,278)
13. #YCurrent_Empl													-,114 (,248)	-,162** (,557)
Constant	-3,618*** (,452)	-7,357*** (,908)	-4,799*** (,597)	-7,961*** (,935)	-7,955*** (1,008)	-8,702*** (1,137)	-9,246*** (1,241)	-9,309*** (1,337)	-9,607*** (1,382)	-10,339*** (1,512)	-11,159*** (1,639)	-10,826*** (1,807)	-10,560*** (1,888)	-19,102*** (4,904)
S.E.	,132	,132	,132	,132	,132	,132	,132	,132	,132	,132	,132	,132	,132	,223
Cox & Snell R-square	,132	,418	,289	,430	,431	,439	,443	,443	,447	,452	,458	,458	,459	,313
n	256	256	256	256	256	256	256	256	256	256	256	256	256	256

* Correlation is significant at the 0.10 level (2-tailed).
 ** Correlation is significant at the 0.05 level (2-tailed).
 *** Correlation is significant at the 0.01 level (2-tailed).

Table 7 Cross tabulation with dependent variable Company Support

#YCurrent_Empl * 25Company_Support Crosstabulation

Count

	25Company_Support					Total
	Strongly agree	Agree	Agree nor disagree	Disagree	Strongly disagree	
#YCurrent_0 Empl	1	0	0	0	0	1
<3	13	30	12	6	1	62
3-6	11	18	13	4	1	47
>6	30	66	40	8	2	146
Total	55	114	65	18	4	256

21Evaluation_How * 25Company_Support Crosstabulation

Count

	25Company_Support					Total
	Strongly agree	Agree	Agree nor disagree	Disagree	Strongly disagree	
21Evaluation_How Strongly agree	15	3	2	0	0	20
Agree	17	57	13	0	0	87
Agree nor disagree	18	34	37	8	1	98
Disagree	3	18	13	8	2	44
Strongly disagree	2	2	0	2	1	7
Total	55	114	65	18	4	256

18Finance_Where * 25Company_Support Crosstabulation

Count

	25Company_Support					Total
	Strongly agree	Agree	Agree nor disagree	Disagree	Strongly disagree	
18Finance_Where Appeal to manager/supervisor	33	63	25	8	0	129
Appeal to BU leadership	8	17	8	1	2	36
Appeal to company headquarters	6	13	5	2	0	26
Appeal to designated group for developing new business	3	9	2	1	0	15
I don't know	5	12	25	6	2	50
Total	55	114	65	18	4	256

Table 8 Binary logistic regression results with Feeling Responsible for generating Ideas as dependent variable

Dependent variable:	Dummy_NB	Feel that generating ideas for new business is part of job						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Dummy_Inv	,649*** (,100)	,650*** (,100)	,594*** (,104)	,592*** (,105)	,570*** (,105)	,531*** (,106)	,532*** (,107)	,526*** (,108)
2. Department	,062 (,119)	,062 (,119)	,052 (,122)	,049 (,122)	,081 (,123)	,120 (,125)	,120 (,125)	,117 (,125)
3. Expl_Time			-,612*** (,166)	-,599*** (,167)	-,544*** (,167)	-,527*** (,166)	-,532*** (,171)	-,496*** (,178)
4. Finance_Where				-,113 (,117)	-,070 (,122)			
5. Finance_Dedication					-,447* (,244)			
6. Dummy_Finance_Where						-,083 (,590)	-,085 (,591)	-,114 (,594)
7. Dummy_Finance_Dedication						-,1,188** (,0531)	-,1,189** (,531)	-,1,183** (,532)
8. Evaluation_Who						,021 (,181)	,021 (,181)	,068 (,194)
9. Evaluation_How							-,144 (,209)	
Constant	-2,677*** (,326)	-2,866*** (,492)	-1,302** (,622)	-1,081 (,659)	-,479 (,727)	-,009 (,904)	-,048 (,966)	0,186 (1,026)
S.E.	,141	,141	,141	,141	,141	,141	,141	,141
Cox & Snell R-square	,178	,179	,227	,230	,240	,248	,248	,249
n	256	256	256	256	256	256	256	256

* Correlation is significant at the 0.10 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

*** Correlation is significant at the 0.01 level (2-tailed).

Table 9 Binary logistic regression results with Brilliant Idea as dependent variable

Dependent variable:	You would share a brilliant idea with your company																IDEAS NOT SHARED ALTERNATIVE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
1. Company_Support	,885*** (.243)	,566** (.243)	,690*** (.251)	,686*** (.193)	,550*** (.214)	,545** (.218)	,489** (.195)	,516** (.220)	,448** (.225)	,450** (.226)	,443** (.227)	,416** (.227)	,420* (.228)	,426* (.228)	,415* (.229)	,392* (.232)	,480** (.202)
2. Manag_Support		,419* (.225)	-086 (.285)														
3. Manag_Rel		,683*** (.233)	,696*** (.193)	,673*** (.194)	,674*** (.194)	,673*** (.194)	,665*** (.193)	,673*** (.193)	,642*** (.196)	,644*** (.195)	,651*** (.197)	,694*** (.202)	,736*** (.205)	,732*** (.206)	,734*** (.205)	,706*** (.210)	,212 (.170)
4. Size			-334* (.189)	-346* (.191)	-347* (.191)	-381** (.167)	-391** (.195)	-381** (.194)	-386** (.194)	-381** (.194)	-381** (.194)	-396** (.195)	-399** (.196)	-411** (.198)	-401** (.196)	-527** (.208)	-167 (.166)
5. Expl_Time					,226 (.165)	,195 (.165)	,215 (.167)	,165 (.171)	,184 (.171)	,184 (.176)	,175 (.178)	,154 (.177)	,177 (.179)	,173 (.179)	,175 (.179)	,197 (.181)	-141 (.156)
6. Finance_Where					,013 (.099)	-014 (.101)	-004 (.100)	-004 (.100)	,003 (.171)	-001 (.103)	,000 (.103)	,006 (.104)	-005 (.105)	-006 (.105)	-005 (.105)	,000 (.106)	-016 (.090)
7. Dummy_NB						-549 (.355)											
8. Dummy_Inv							-130 (.111)		-556 (.355)	-579 (.359)	-571 (.359)	-552 (.361)	-570 (.363)	-564 (.363)	-571 (.363)	-814** (.387)	,020 (.313)
9. Evaluation_How									,179 (.202)	,187 (.202)	,184 (.202)	,154 (.203)	,163 (.205)	,175 (.207)	,168 (.207)	,177 (.209)	,109 (.169)
10. Idea_Notcore									-087 (.166)	-087 (.166)	-091 (.167)	-110 (.166)	-096 (.168)	-098 (.168)	-099 (.168)	-0100 (.169)	,024 (.136)
11. Patent_Ever											,127 (.0431)						
12. Patent_3Y												,808 (.610)	,841 (.609)	,872 (.613)	,854 (.612)	,944 (.615)	,033 (.414)
13. Gender													-549 (.388)	-523 (.394)	-540 (.391)	-530 (.399)	-416 (.330)
14. Age														,080 (.170)		,096 (.172)	,053 (.139)
15. #YExperience															,063 (.296)		
16. Education																,371* (.190)	,014 (.152)
Constant	-3,210*** (.466)	-3,412*** (.486)	-3,937*** (.544)	-3,426*** (.602)	-3,619*** (.627)	-3,635*** (.637)	-3,026*** (.740)	-3,138*** (.756)	-3,338*** (.828)	-3,144*** (.900)	-3,332*** (1,107)	-4,444*** (1,364)	-3,995*** (1,396)	-4,354*** (1,596)	-4,190*** (1,672)	-5,039*** (1,745)	-1,068 (1,226)
SER	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,144	,130
Adjusted R-square	,109	,121	,151	,161	,167	,167	,175	,172	,178	,178	,179	,185	,191	,192	,203	,204	,059
n	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256

* Correlation is significant at the 0.10 level (2-tailed).
 ** Correlation is significant at the 0.05 level (2-tailed).
 *** Correlation is significant at the 0.01 level (2-tailed).

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