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Intrapreneurship - An international study

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Abstract
This paper presents the first results of a novel international comparative study of intrapreneurship, i.e., employees developing new business activities for their employer. This study is based on an exploratory investigation in the framework of the Global Entrepreneurship Monitor 2008, in which eleven countries participated. First, it was found that, on average, less than 5 percent of employees are intrapreneurs, and that in most countries its incidence in the adult population is significantly lower than that of early-stage entrepreneurial activity. In addition, the prevalence of intrapreneurship is about twice as high in high income countries as in low income countries, which is probably caused by a combination of a relatively high share of adults employed in multiperson organizations in high income countries and higher levels of autonomy of employees in these countries. Second, the relationship between intrapreneurship and independent entrepreneurship is analysed at the micro (individual) level as well as at the national level. We find that at the individual level, intrapreneurs are much more likely to have intentions to start a new independent business than other employees. However, there is a negative correlation between intrapreneurship and early-stage entrepreneurial activity at the macro level. One explanation for these contrasting outcomes is the diverging effect of per capita income on intrapreneurship (positive effect) and early-stage entrepreneurial activity (negative effect).

Keywords: intrapreneurship, entrepreneurial employee behavior, entrepreneurship, economic development

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Summary

In the past decades both the entrepreneurship and the management literature have paid increasing attention to entrepreneurship within existing organizations (Kao, 1991; Lumpkin and Dess, 1996; Shane, 2003). This phenomenon is usually called 'corporate entrepreneurship', 'corporate venturing' or 'intrapreneurship'. Entrepreneurship in existing organizations can be studied at the individual, the organizational and the macro level. So far most attempts to study entrepreneurial efforts within organizations have ignored the potentially important effects of the broader macro context on intrapreneurship. Consequently research into the relationship between intrapreneurship and independent entrepreneurship at the macro level is also lacking.

This paper presents the first results of a novel international comparative study of intrapreneurship at the individual level across eleven countries. The paper makes two contributions to the literature. First, it provides international comparative research on intrapreneurship in low and high income countries. This makes it possible to trace the effect of the macro context (i.e. levels of economic development) on the *prevalence* and *nature* of intrapreneurship. Second, the paper delivers insight into the relationship between independent entrepreneurship and intrapreneurship at the national level (i.e., are they substitutes or complements?) as well as the individual level (i.e., are intrapreneurs more likely to have intentions to start a new independent business than other employees?).

Method

We operationalize intrapreneurship as employees developing new business activities for their employer, including establishing a new outlet or subsidiary and launching new products or product-market combinations (based on e.g., Pinchot, 1987; Lumpkin and Dess, 1996). By combining insights from two sources of literature on employee behavior inside existing organizations, i.e. proactiveness (Crant, 2000; Parker, Williams and Turner, 2006) and innovative work behavior (West and Farr, 1990; De Jong, 2007), with insights from the literature on early-stage entrepreneurial activity (Gartner and Carter, 2003; Shane, 2003), a detailed list of relevant activities and behavioral aspects of intrapreneurship was derived. This list provided a basis for a questionnaire, which was included in the Adult Population Survey (APS) of the Global Entrepreneurship Monitor 2008. Eleven countries participated in this exploratory special theme study. The levels of GDP per capita of these countries range from $7,500 to $55,200. Across these countries, we dispose of a unique sample of about 15,000 employees who have answered our questions about their intrapreneurial behavior.

First, the dataset enables us to estimate the prevalence of intrapreneurship in each of these countries. We also trace the distribution of intrapreneurship across three firm size classes, five age categories and gender. Next, the micro dataset includes several qualitative aspects indicating the nature of intrapreneurship, such as degree of personal risk taking and innovativeness of the new activities. The dataset also enables us to compare entrepreneurial attitudes, perceptions and intentions of both intrapreneurs and other employees. Additionally, data at the

country level are used for an exploratory analysis of the relationship between the incidence of intrapreneurship and the level of economic development. Finally, the relationship between independent entrepreneurship and intrapreneurship is analysed at the individual as well as at the national level.

Results

At the individual level we find that intrapreneurs are much more likely to have intentions to start a new independent business than other employees. They also more often have entrepreneurial perceptions and attitudes. Intrapreneurs more often than other employees personally know an entrepreneur who recently started a business, feel they have the required skills to start a business, see good entrepreneurial opportunities in their environment and believe that fear of failure would not prevent them from starting a business

However, intrapreneurship is not a very wide-spread phenomenon. On average, less than 5 percent of employees are found to be intrapreneurs, and in most countries its incidence in the adult population is significantly lower than that of early-stage entrepreneurial activity. The prevalence of intrapreneurship is about twice as high in high income countries as in low income countries. A related outcome is that intrapreneurship and independent entrepreneurship seem to be substitutes at the macro level. A possible explanation is a diverging effect of per capita income on these two different modes of entrepreneurial behavior. First, the level of economic development has a positive effect on the presence of larger firms (Ghoshal et al., 1999), which negatively influences the prevalence of independent entrepreneurship in an economy (Choi and Phan, 2006; Parker, 2009). At the same time the related incidence of multiperson firms as well as higher levels of autonomy of employees in higher income countries lead to higher rates of intrapreneurship. In other words: large organizations in high income countries may be more open to entrepreneurial behaviour than large firms in low income countries. A second mechanism underlying substitution between intrapreneurship and independent entrepreneurship at the macro level is the positive effect of economic development on the opportunity cost of independent entrepreneurship (Lucas, 1978). Due to rising real wages 'marginal' entrepreneurs will increasingly opt for a wage job. It seems likely that this mechanism will also have a positive effect on intrapreneurship.

Contents

1. Introduction

In the past decades both the entrepreneurship and the management literature have paid increasing attention to entrepreneurship within existing organizations. This phenomenon is usually called 'corporate entrepreneurship', 'corporate venturing' or 'intrapreneurship'. Entrepreneurship in existing organizations can be studied at the individual, the organizational and the macro level. At the organizational level, research has investigated the formation of new corporate ventures (emphasizing the differentiation of types of new ventures and their fit with the corporation; see Kuratko, 2007) and the entrepreneurial organization (mainly emphasizing the characteristics of such organizations; see Kao, 1991; Lumpkin and Dess, 1996). At the individual level, the focus has been on the individual characteristics of the entrepreneurial employee or intrapreneur (Pinchot, 1985) and the organizational conditions for intrapreneurship (Kanter, 1988). So far most attempts to study entrepreneurial efforts within organizations have focused on the antecedents at the organizational level, ignoring the effects of the broader macro context on intrapreneurship.

This entrepreneurial behaviour within existing firms has remained outside the lens of empirical research on national variations in entrepreneurship, because comparable data on intrapreneurship has not been available until now. This lack of insight into intrapreneurship at the national level is an unwanted state of affairs, because this ignores a potentially large part of society that is actively involved in entrepreneurial behaviour. By omitting this entrepreneurial behaviour in society we run the danger of reaching conclusions on the prevalence and causes of entrepreneurship that are only based on a limited part of this phenomenon. This is not only a dangerous academic exercise; it might also lead to false policy recommendations regarding entrepreneurship.

This paper makes two distinct contributions to the literature. First, it provides international comparative research on intrapreneurship in low and high income countries. This makes it possible to trace the effect of the macro context (i.e. levels of economic development) on the prevalence and nature of intrapreneurship. We expect that due to the relatively high share of adults formally employed in multiperson organizations in high income countries (OECD, 2009), that intrapreneurship is more prevalent in high income countries than in low income countries. In addition we expect that employees in high income countries will have more autonomy (potentially related to a relatively high education level) than employees in low income countries, as is also supported by a very high and positive correlation between per capita income and Hofstede's index of individualism (Hofstede, 2001: 250-253). Again, this leads to a higher rate of intrapreneurship in higher income countries, even after controlling for national firm size distributions. Second, this paper delivers insight into the relationship between (independent) entrepreneurship and intrapreneurship at the national level. This makes it possible to discover whether these two types of entrepreneurial behavior are positively or negatively related. If it is true that entrepreneurship is an omnipresent aspect of human action, but that its manifestation depends upon the institutional context[1], we would expect independent entrepreneurship and intrapreneurship to be substitutes. In addition, as we also have

[1] This institutional context is said to provide an incentive structure that drives individual choices towards one type of entrepreneurial behaviour in favour of another (cf. Baumol, 1990; Boettke and Coyne, 2003).

individual level data, we are able to trace the relationship between these two types of entrepreneurial behavior at the individual level as well (i.e. are intrapreneurs more likely to have intentions to start a new independent business than other employees?).

In the present paper, we first discuss the nature, process and scope of intrapreneurship. By combining insights from two sources of literature on employee behavior inside existing organizations, i.e. proactiveness and innovative work behavior, with insights from the literature on early-stage entrepreneurial activity we derive a detailed list of relevant activities and behavioral aspects of intrapreneurship. This list provides a basis for designing the questionnaire for the first international comparative study of intrapreneurship, in which eleven countries across a wide range of economic development levels participated. After discussing the questionnaire and the sample, we will present the empirical results of this first study into intrapreneurship across eleven countries.

2. Defining intrapreneurship[2]

A special type of entrepreneurship

Intrapreneurship refers to initiatives by employees in organizations to undertake new business activities. Although intrapreneurship is related to corporate entrepreneurship, these concepts differ in the following sense. Corporate entrepreneurship is usually defined at the level of organizations and refers to a top-down process, i.e. a strategy that management can utilize to foster more initiatives and/or efforts to achieve improvement from their workforce and organization. Intrapreneurship relates to the individual level and is about bottom-up, proactive work-related initiatives of individual employees.

Intrapreneurship is a special type of entrepreneurship and thus shares many key behavioral characteristics with this comprehensive concept, such as taking initiative, pursuit of opportunity, and some element of 'newness'. At the same time, intrapreneurship also belongs to the domain of employee behavior and thus faces specific limitations that a corporate hierarchy and an intra-organizational context may impose on individual initiative, as well as specific possibilities for support that an existing business may offer to a nascent intrapreneur.

Major activities related to intrapreneurship include opportunity perception, idea generation, designing a new product or another recombination of resources, internal coalition building, persuading management, resource acquisition, planning and organizing. Key behavioral aspects of intrapreneurship are personal initiative, active information search, out of the box thinking, voicing, championing, taking charge, finding a way, and some degree of risk taking (Kanter, 1988, Lumpkin, 2007).

Two phases of intrapreneurship

Pinchot (1987) refers to intrapreneurs as 'dreamers that do'. Accordingly, it is possible to distinguish between two phases of intrapreneurship, that may be called 'Vision and imagination' and 'Preparation and emerging exploitation'. Analytically, this distinction formalizes the sequential nature of the various

[2] This section is largely based on De Jong and Wennekers (2008).

intrapreneurial activities.[3] Empirically, it helps in assembling relevant items for measuring intrapreneurship. In practice, these stages may overlap and occur in cycles, as the perception of an opportunity sometimes follows various preparatory activities such as product design or networking (see Gartner and Carter, 2003). The two core elements of intrapreneurship are also strongly linked as imagination includes exploring possible barriers and problems facing the project and figuring out various solutions.

The scope of intrapreneurship

As there is a large conceptual diversity in the literature with respect to the relevant scope of entrepreneurial behavior, this also reflects on any intrapreneurship concept. There are at least three alternative conceptual approaches. The first is 'pursuit of entrepreneurial opportunity' (Shane, 2003). This includes developing a new product or service, a new geographical market or a new production process in the widest sense. This view probably represents the most encompassing view of entrepreneurship, as it acknowledges both the Kirznerian and the Schumpeterian perspective of entrepreneurial opportunities (Shane, 2003: 35). The second view may be labeled 'new entry' (Lumpkin and Dess, 1996). New entry includes entering new markets with new products, entering established markets with new products, or entering new markets with established goods or services. In the latter case, the venture may be characterized as replicative rather than innovative. This concept is particularly relevant for intrapreneurship. Finally, 'new organization creation' (Gartner, 1989) offers a behavioral view of entrepreneurship as the process by which new organizations are created. Following this specific view, intrapreneurship could be either innovative or replicative but should always be concerned with some sort of 'internal start-up' (such as establishing a joint venture, a new subsidiary, a new outlet or a new business unit).

This conceptual elaboration on the nature, process, and scope of intrapreneurship provides us with the building blocks for a theory-driven research design of the international comparative study of intrapreneurship.

3. Research design

The questionnaire

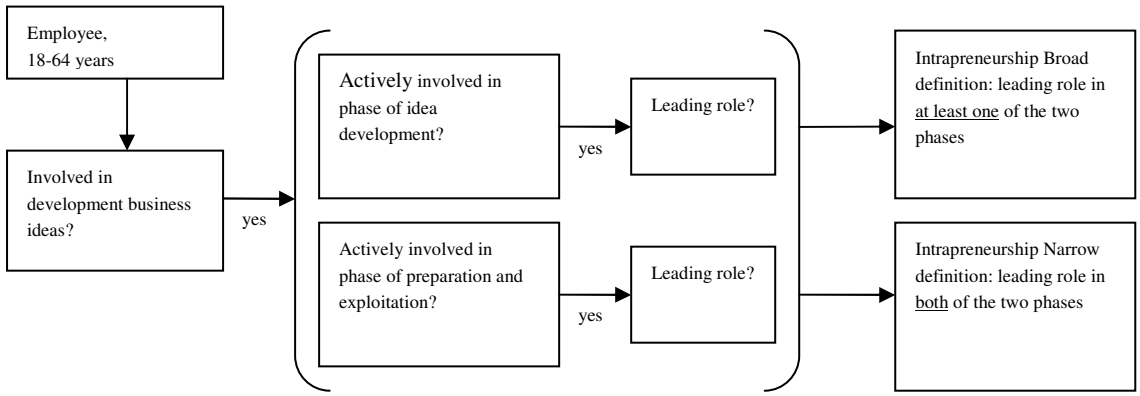
The major goal of this first international comparative study of intrapreneurship is to obtain more empirical information about entrepreneurial employee activities across a number of countries. This investigation was carried out as a special theme study in the framework of the Global Entrepreneurship Monitor 2008. In total eleven countries participated in this exploratory study of intrapreneurship.
Based on the literature as discussed in the previous section, three elements were important for designing the questionnaire for our empirical investigation. These are the scope of intrapreneurship, the phases of the intrapreneurial process, and the role of intrapreneurial employees in each of these phases. As for the scope, we have chosen to operationalize intrapreneurship as employees developing new

[3] This resembles the sequence of the three entrepreneurial processes opportunity recognition, evaluation, and exploitation that are seen as the key characteristics of the domain of entrepreneurship studies by Shane and Venkatamaran (2000).

business activities for their employer, including establishing a new outlet or subsidiary and launching new products or product-market combinations. This approach is probably closest to the 'new entry view' discussed previously. It is definitely wider than new organization creation. On the other hand, it excludes employee initiatives that aim mainly at optimizing internal work processes. These latter activities belong to the domain of 'innovative work behavior' (De Jong, 2007)[4]. Next, we distinguish between two phases in the intrapreneurial process, i.e., idea development for new business activities, and preparation and (emerging) exploitation of these new activities. As for the role of intrapreneurs in each of these phases we distinguish between leading and supporting roles.

Based on these elements we conceive a broad and a narrow definition of intrapreneurship. According to our broad definition intrapreneurs are employees who, in the past two years, have been actively involved in and have had a leading role in at least one of these phases. According to our narrow definition intrapreneurs have a leading role in both phases of the intrapreneurial process. See the scheme in Figure 1 for a clarification.

Figure 1 Broad and narrow definitions of intrapreneurship used in this study



Subsequently, all intrapreneurs that fitted our *narrow definition* were asked some further questions about their 'most significant new business activity' in the past two years. Firstly, some questions were asked concerning various aspects of the intrapreneurial process, including whether the new business activity was the intrapreneur's own initiative, whether he/she had to overcome internal resistance and whether he/she personally had to take risks to become involved in the new activity. Secondly, it was also asked whether the new business activity involves a new product or service. Finally, as the intrapreneurship questionnaire was part of GEM's Adult Population Survey (APS) as a whole (see Reynolds et al. 2005), all these results could be linked to other relevant characteristics of the intrapreneurs, including their perceptions and attitudes as well as their intentions to start a business of their own within the next three years.

[4] Intrapreneurship and innovative work behavior overlap, but they are not identical.

The sample

Table 1 presents some characteristics of the eleven countries that participated in the GEM survey on intrapreneurship. These include GDP per capita and population size. The levels of GDP per capita range from $7,500 (Ecuador) to $55,200 (Norway). We used the GDP per capita levels to distinguish four high and seven low income countries. As might be expected, the low income countries have relatively low (formal) employment rates in comparison with the high income countries. This is probably due to the large informal economies in low income countries. The two outliers in these groups are Latvia with a relatively high employment rate in the sample (73%), and the Republic of Korea with a relatively low employment rate (55%).

Table 1 Characteristics of GEM countries participating in intrapreneurship investigation

Countries	*GDP per capita ($)*	*Population size (X 1,000)*	*Sample size adult population 18-64 years*	*Number of employees in sample*	*Employees as % of adult population*
Low income countries					
Brazil	10,300	191,900	2,000	1,162	58
Chile	14,700	16,400	1,828	1,124	61
Ecuador	7,500	13,900	2,142	557	26
Iran	12,400	65,900	3,119	1,146	37
Latvia	17,800	2,400	2,011	1,477	73
Peru	8,600	29,000	1,990	1,189	60
Uruguay	12,700	3,500	1,645	1,104	67
High income countries					
Korea Republic	26,300	48,400	2,000	1,102	55
Netherlands	40,400	16,600	2,534	2,024	80
Norway	55,200	4,600	1,614	1,241	77
Spain*	30,800	40,500	2,597*	2,000	77*

** Spain selected a random sample of employees within a much larger sample of adults. The corresponding number of the adult population 18-64 years is an estimate based on an employment rate of 77% (obtained from IMD (2008) The World Competitiveness Yearbook and US Bureau of the Census, International Database (IDB)).*

Source: Global Entrepreneurship Monitor 2008

In these eleven countries the survey on intrapreneurship involved all respondents to the Adult Population Survey who had indicated that they were currently employed but did not work as the owner-manager of a business. As can be seen in Table 1, it will thus be possible to express the prevalence of intrapreneurship as either a percentage of the number of employees or, alternatively, as a percentage of the adult population between 18 and 64 years of age.

4. The prevalence of intrapreneurship

Table 2 presents the main results regarding the prevalence of intrapreneurship according to our narrow and broad definition, both as percentage of the number of employees and as percentage of the adult population between 18 and 64 years of age. A first observation is that intrapreneurship, as defined in this report, is not a very wide-spread phenomenon. On average, fewer than 5% of employees are intrapreneurs, even according to our broad definition. In addition, its incidence in the adult population is, on average, significantly lower than that of early-stage entrepreneurial activity. This suggests that - if we assume that early-stage entrepreneurial activity and intrapreneurship are both part of a larger category of entrepreneurial behavior - early-stage entrepreneurial activity is a more frequent expression of entrepreneurial behavior than intrapreneurship is (see also section 7).

A second observation is that intrapreneurs seem to be roughly twice as prevalent in high income countries as in low income countries. This pattern is the reverse of that for early-stage entrepreneurial activity, which is more abundant in low income countries. One important explanation of these findings may be the relatively high share of adults employed in multiperson organizations in high income countries. Another explanation has to do with rising opportunity cost of entrepreneurship with rising per capita income (see also section 7).

Table 2 Prevalence of intrapreneurship in ten countries, 2008

	Intrapreneurship narrow definition in		*Intrapreneurship broad definition in*	
	% employees	*% adult population*	*% employees*	*% adult population*
Low income countries				
Brazil	1.1	0.7	1.5	0.9
Chile	3.4	2.2	5.2	3.5
Ecuador	1.0	0.3	2.1	0.6
Iran	0.6	0.1	1.2	1.4
Latvia	1.1	0.8	1.8	1.3
Peru	1.6	1.0	3.2	1.9
Uruguay	1.9	1.3	4.5	3.0
unweighted average	1.5	0.9	2.8	1.8
High income countries				
Korea Republic	1.2	0.7	2.0	1.1
Netherlands	3.5	2.7	7.2	5.5
Norway	4.2	3.2	7.4	5.7
Spain	2.0	1.5	3.4	2.6
unweighted average	2.7	2.0	5.0	3.7
Total unweighted average	1.9	1.3	3.5	2.4

Source: Global Entrepreneurship Monitor 2008

Respondents were also asked whether the organization[5] they were working for employed fewer than 10, between 10 and 250, or more than 250 employees. In this way we can trace whether in addition to the relatively high share of adults employed in multiperson organizations in high income countries, the nature of the employment within the medium- and large organization size segments is also different between high and low income countries. Table 3 presents the intrapreneurship prevalence rates according to our narrow definition. Apparently intrapreneurs are present in organizations within all size classes. For high income countries it appears that the size class of the firm does not differentiate the intrapreneurship rates: the rate equals about 3% for all three size

[5] These organizations include private businesses as well as organizations in the (semi-)public sector. Self-employed have not been asked this question. We made the assumption that these persons are active in the small business sector.

classes.[6] Only in the Netherlands we found a significant deviation: intrapreneurs in the Netherlands are more often found in small firms (7.2% versus 3.5% and 3.3% in respectively medium- and large-sized firms). In low income countries intrapreneurship seems to be underrepresented in medium-sized businesses and relatively prominent in (the very small number of) large organizations.

Table 3 Prevalence of intrapreneurship (narrow definition) across firm size classes

	< 10 employees	*10 - 249 employees*	*> 250 employees*	*Total*
Low income countries	1.1	2.1	3.4	1.8
High income countries	2.2	2.7	3.0	2.6
All countries	1.4	2.5	3.2	2.2

Source: Global Entrepreneurship Monitor 2008

Figure 2 Intrapreneurship rates (narrow definition, percentage of employed) by country group, age and gender

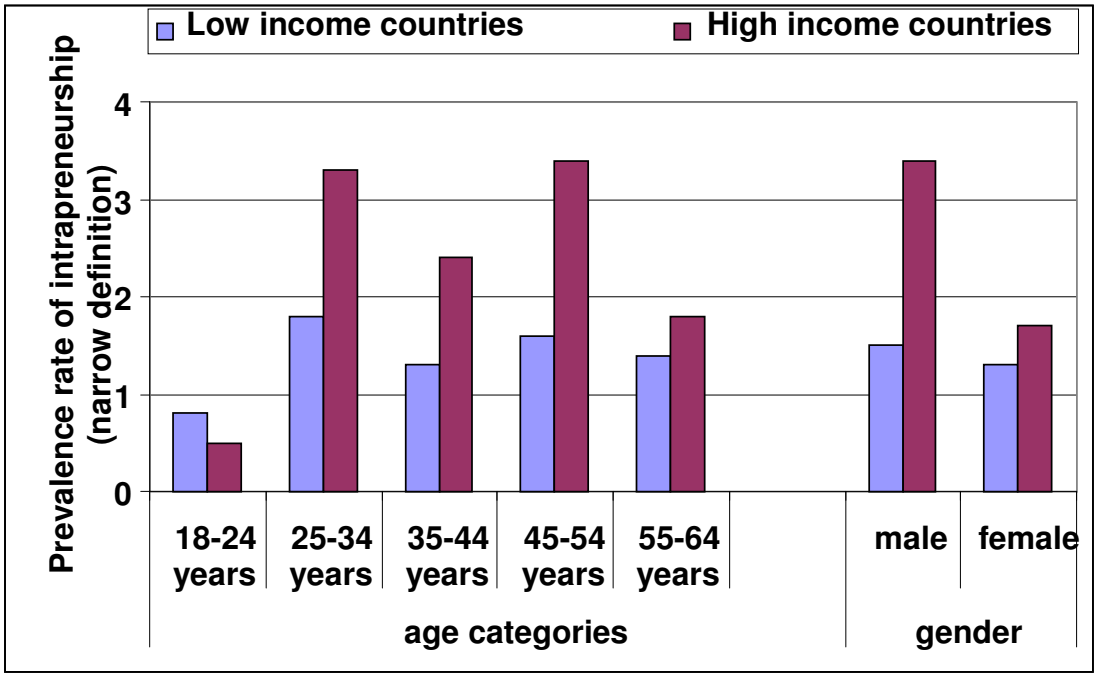


Figure 2 presents the prevalence of intrapreneurship by age category and gender, for low and high income countries. The relatively low number of intrapreneurs in the 18-24 years group in high income countries may be related to longer education careers in high income countries causing a differential effect on the composition of the

[6] Organizations (private and public) with more than 250 employees are more prevalent in high income countries than in low income countries. The relatively low percentage of intrapreneurship in large organizations in high income countries might be explained by the dominance of public sector organizations in this size segment.

employed in this age group. There seems to be less of a gender bias in intrapreneurship in low income countries than in high income countries.

5. The nature of intrapreneurship

5.1 Intrapreneurship in practice

In this section we explore some key characteristics of intrapreneurship. Table 4 presents the results with respect to the most significant new business activity in which intrapreneurs, as defined according to our narrow definition, have been involved during the past two years. In the first column it is shown that more often than not, these intrapreneurs became involved in developing the new business idea, acting on their own initiative rather than because they were asked to do so by their manager or another colleague. The incidence of own initiative seems to be somewhat higher in high income countries than in low income countries. This suggests that the relatively low levels of autonomy in low income countries affect both the prevalence and nature of intrapreneurship in these countries.

The second column shows that, on average, about 50% of all intrapreneurs have had to overcome some kind of internal resistance in developing the new business activity. This element deserves further scrutiny in a future study.

In addition, risk taking is a well-known core characteristic of entrepreneurship. From the third column it appears that, on average across the eleven participating countries, about one-third of intrapreneurs report having taken personal risks in becoming involved in the new business activity. However, the incidence of personal risk taking appears to be much lower in high income countries than in low income countries. This suggests that intrapreneurship is a much more daunting activity in low income countries than in high income countries. To examine this in somewhat more detail, four types of risk were identified: loss of status, damage to career, loss of job and loss of own money invested in new activity. It appears that personal risk most often relates to the possible loss of own money that is invested in the new activity, for both country groups. Loss of status was mentioned more often in high income countries, whereas loss of job was mentioned more often in low income countries.

Finally, it was found that about half of the intrapreneurs developed new business activities involving a product or service that was new to the intrapreneur's organization. The innovativeness of these activities does not clearly differ between high and low income countries. Both categories include countries with relatively many innovative intrapreneurs: Chile and Latvia in the low income group (both 71%), and Norway (65%) and the Netherlands (58%) in the high income group. Information about newness to customers and newness for the industry is available for both intrapreneurs and early-stage entrepreneurs. In high income countries, 13% of the early-stage entrepreneurs believe that their product is new to all customers, while this holds for 26% of the intrapreneurs. Both figures are somewhat higher in low income countries. However, the intrapreneurs and early-stage entrepreneurs in high income countries perceive *similar* degrees of newness for the industry: 7% of the intrapreneurs, against

10% for the early-stage entrepreneurs, see no existing competitors for their product. These figures are not very different in low income countries.

Table 4 Some characteristics of intrapreneurship (narrow definition) in eleven countries, 2008, as percentage of the total number of intrapreneurs

	% own initiative	*% overcoming internal resistance*	*% taking any risks personally*	*% new product or service*
Low income countries				
Peru	71	71	71	50
Brazil	36	45	27	45
Chile	39	25	66	71
Iran	50	53	86	71
Latvia	57	57	43	71
Ecuador	25	75	67	33
Uruguay	40	50	40	40
unweighted average	45	53	53	52
High income countries				
Netherlands	60	56	30	58
Spain	73	40	18	28
Norway	48	48	28	65
Korea Republic	50	50	25	N/A
unweighted average	58	49	25	38
Total unweighted average	50	51	42	46

Source: Global Entrepreneurship Monitor 2008

Table 5 presents the job growth expectations for new business activities by intrapreneurs, nascent entrepreneurs and owner-managers of young firms, by country group. Intrapreneurs have clearly higher job growth expectations than independent entrepreneurs, suggesting higher aspiration levels of intrapreneurs and/or better access to resources for achieving growth. Both intrapreneurs and independent entrepreneurs have higher job growth expectations in low income countries than their counterparts in high income countries.

Table 5 Distribution of job growth expectation of intrapreneurs, nascent entrepreneurs and owner-managers of young firms, by country group, 2008

	up to 1 employee	2-5 employees	6-19 employees	>20 employees
Low income countries				
intrapreneurs	2	21	27	50
nascent entrepreneurs	13	49	26	12
baby business owners	30	38	20	12
High income countries				
intrapreneurs	12	24	33	31
nascent entrepreneurs	32	33	20	15
baby business owners	37	37	16	11

5.2 Some examples of 'new business activities'

To get an idea of the business activities the intrapreneurs are actually involved in, an open ended question was phrased. Here the intrapreneurs were asked to briefly describe the most significant new business activity in which they had been actively involved in the past two years. Table 6 displays the responses from the Dutch sample and has been categorised into activities involving (i) new products and services; (ii) new markets, outlets, or establishments; and (iii) new production processes.

The large majority of new business activities in this sample are oriented towards the market, by introducing new products and services, by entering new markets or by establishing new outlets or establishments. Most of these activities fit best under the heading of 'new entry', as discussed in a previous section, while a fair number belong to the domain of 'new organization creation'. Just below 25% of the new business activities in the Dutch sample have to do with developing and/or introducing new production processes. It would require a more in-depth investigation to find out to what extent these latter activities truly represent 'pursuit of entrepreneurial opportunity' or rather are examples of 'innovative work behaviour'[7]. A final observation is that a number of new business activities in the Dutch sample are in the area of education, health care or social services. In sofar as some of these activities may possibly be 'not-for-profit', these may also be viewed as examples of 'social intrapreneurship'.

[7] For a discussion of differences and similarities of intrapreneurship and innovative work behaviour, see De Jong and Wennekers (2008).

Table 6 Categorization of new business activities mentioned by Dutch intrapreneurs, 2008

New products and services	New markets, outlets, establishments	New production processes
Consultancy, business to business, business take-overs	To merge two independent institutions.	Digital printing
To set up training program, exercise program, for people with lung disorders.	Company for leasing and financing cars.	To be able to train students on the job.
Introduction of new products.	Making/producing and importing products. We are expanding to Asia.	Innovations in education.
Training and communication services.	To set up new offices abroad.	I am outsourcing activities.
Expanding services.	Started a cooperation with another firm	Starting a production line.
Started a new training.	Investment company	To get more money by creative thinking.
Starting a new department for assurance products/services.	Foundation of Good Ideas: to give a chance to ideas that are difficult to develop.	R&D
To develop and promote a new, state subsidized scheme.	We build satellites of our own company all over the country: a kind of "Shop in shop" concept.	To introduce a new and faster internet connection.
Manager in a dolphin house, thinking up and promoting new shows with animals, new animation programs for children.	Taken over companies	New automated ticket selling system.
Positioning business intelligence by means of the newest Microsoft technologies.	Starting a new company in Romania.	Importing more from China and Japan.
To introduce a new insurance product for private persons.	Telemarketing.	Development of maintenance plan.
Expand the present company with consultancy on privatization of public services.	Marketing, developing products, promotion and selling a sales channel for barbecues.	New stockroom/warehouse.
To launch a new product	Finding a new market for existing products, optical products.	
To start/introduce a new product in our branch, thermal printer heads.	Starting a new sports centre.	
Social and domestic services	To seek a market, to seek partners, to maintain/keep accounts.	
To give workshops.	Setting up an office abroad, part of a university.	
	Agency to support clients with physical defects	
	To start a clinic for people with mental defects and psychiatric problems.	
	To organize distribution in China	
	Starting a new company selling products on the internet.	
	Starting new sites and establishments.	
	Starting a new establishment.	
	To start new establishments.	
	Business for welfare/social work.	

Source: Global Entrepreneurship Monitor 2008

Note: out of 63 responses, six could not be coded into either of these categories, while five were unable or not willing to provide a description

6. Attributes of individual intrapreneurs

In Table 7 we have studied the attributes of individual intrapreneurs, across all countries, for low and high income countries separately. Intrapreneurship seems to be a suitable springboard to independent entrepreneurship, even more so in low income countries than in high income countries. The latter observation is especially reflected in the very high levels of perceived entrepreneurial skill (94%) and opportunity (50%) levels of intrapreneurs, even higher than the already high levels in the overall employed population in low income countries.

Table 7 Relationship between intrapreneurship and entrepreneurial perceptions at individual level, 2008

	Low income countries		*High income countries*	
	% of intrapreneurs	*% of other employees*	*% of intrapreneurs*	*% of other employees*
You personally know an entrepreneur who recently started a business	*59*	*46*	*54*	*33*
You have the required skills and knowledge to start a firm	*94*	*60*	*62*	*44*
There are good opportunities for starting a business in the area where you live	*50*	*35*	33	25
Fear of failure would not prevent you from starting a business	*76*	*65*	65	56

Source: Global Entrepreneurship Monitor 2008

Note: numbers in italics denote significant differences between intrapreneurs and other employed ($p<.05$)

As is shown in Table 8, intrapreneurship is much more a human capital intensive activity and is also more related to high income jobs in low income countries than in high income countries. In high income countries, educational levels seem to have no effect on the prevalence of intrapreneurship, and salary levels only have a weak positive relationship with intrapreneurship. Parker (2010) found that in the US, general human capital is more associated with entrepreneurship than with intrapreneurship. It might be that the returns on human capital can much better be captured through intrapreneurship in the low income countries (versus through entrepreneurship in the high income countries), perhaps due to malfunctioning markets in these countries that make the pursuit and exploitation of high-value opportunities less viable outside hierarchies.

Table 8 Relationship between intrapreneurship and demographic characteristics at individual level, 2008

	Low income countries		*High income countries*	
	% of intrapreneurs	*% of other employees*	*% of intrapreneurs*	*% of other employees*
Aged 18-30	41	45	34	36
Aged 31-44	26	27	26	29
Aged 45-64	34	29	40	35
Female	34	38	*32*	*51*
Some secondary	*10*	*22*	15	19
Secondary degree	*23*	*28*	34	33
Post secondary	*22*	*24*	17	15
Graduate and higher	*45*	*27*	33	32
Low income	*17*	*24*	*18*	*30*
Middle income	*23*	*37*	*31*	*38*
High income	*60*	*39*	*51*	*33*

Source: Global Entrepreneurship Monitor 2008

Note: numbers in italics denote significant differences in distributions between intrapreneurs and other employed ($p<.05$)

Subsequently, we have investigated how, across these eleven countries, intrapreneurship at the individual level may be a predictor of early-stage entrepreneurial activity. While some entrepreneurial employees deliberately opt for intrapreneurship instead of self-employment in order to limit their risks, it also seems likely that intrapreneurship can be a useful stepping stone towards founding one's own business. Indeed, as shown in Table 9, the incidence of nascent entrepreneurship as well as of intended entrepreneurship is higher for intrapreneurs than for other employees. This finding holds for low income countries as well as for high income countries. This suggests that at the micro-level, intrapreneurship is not a substitute of independent entrepreneurship, but might drive independent entrepreneurship, and/or is driven by the same underlying factors. This is however in contrast with the US findings by Parker (2010), which show that nascent entrepreneurs and nascent intrapreneurs are distinct groups.

Table 9 Relationship between intrapreneurship and (intended) start-up behavior at individual level, 2008

	Nascent entrepreneurship		*Intended entrepreneurship (excl. nascent entrepreneurs)*	
	% of intrapreneurs	*% of other employees*	*% of intrapreneurs*	*% of other employees*
Low income countries	12.4	7.4	36.6	24.6
High income countries	5.1	1.7	12.9	6.4
All countries	8.1	4.6	23.2	15.6

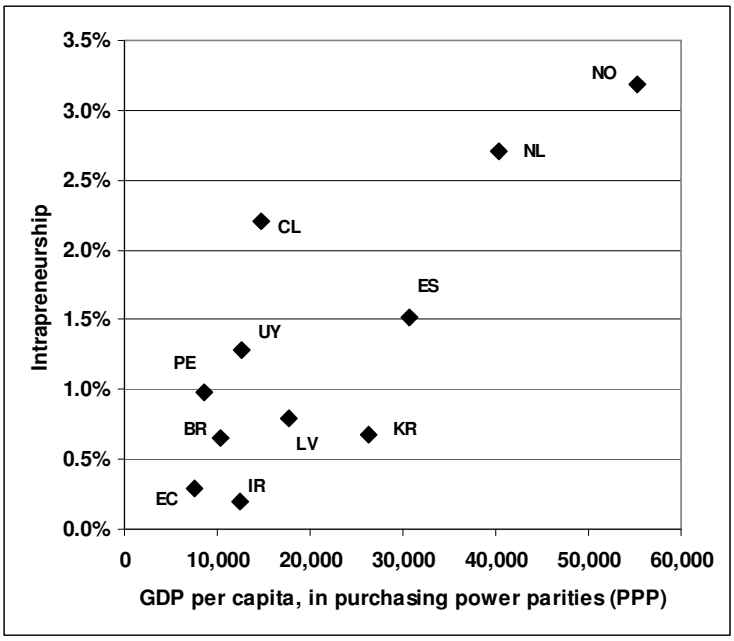
Source: Global Entrepreneurship Monitor 2008

7. National level relationships

Relationship with the level of economic development

Figure 3 explores the possible relationship between the incidence of intrapreneurship according to our narrow definition, and the level of economic development as measured by GDP per capita.

Figure 3 Intrapreneurship in eleven countries, 2008, percentage of the adult population (18-64 years of age), in relationship with GDP per capita



Source: GEM 2008 and IMF: World Economic Outlook Database (October 2008 edition)

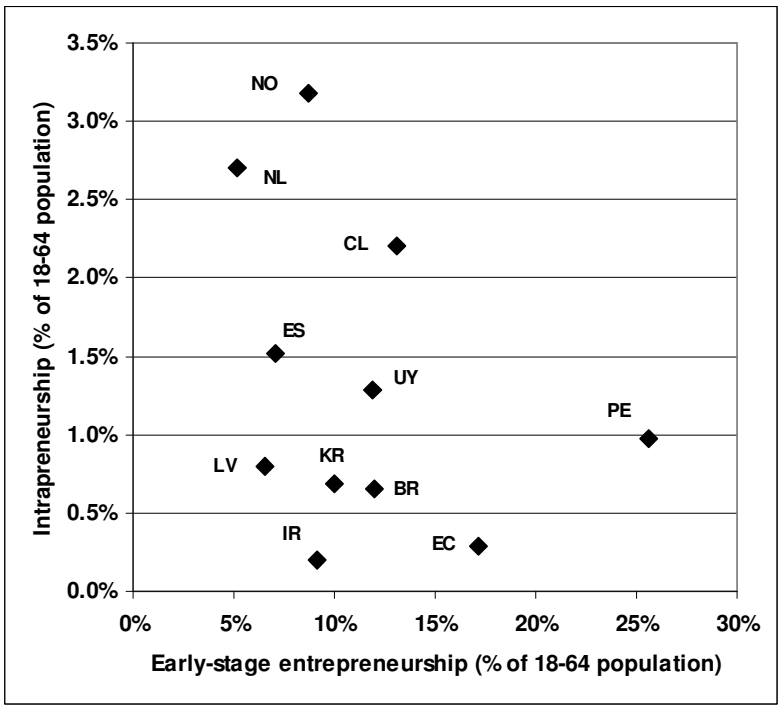
The scatter plot in Figure 3 suggests a strongly positive relationship. As we have suggested earlier in this paper, this may be caused by the relatively high share of adults employed in multiperson organizations in high income countries, as well as by relatively high levels of employee autonomy in these countries. In addition, higher educational levels in high income countries may also lead to a larger supply of intrapreneurs.

Obviously a far larger sample including higher income countries with varying institutional frameworks - i.e. varieties of capitalism (Hall and Soskice 2001; see also Bowen and De Clercq 2008; Stam et al. 2010) - will be needed for a more conclusive analysis.

Relationship with TEA

Figures 4 and 5 explore the possible relationship between the incidence of intrapreneurship according to our narrow definition, and the prevalence of independent early-stage entrepreneurship as measured by TEA (figure 4) and independent owner-managers in young businesses (figure 5).

Figure 4 Relationship between intrapreneurship and TEA in 11 countries, 2008, percentage of the adult population (18-64 years of age)



Source: Global Entrepreneurship Monitor 2008

Figures 4 and 5 both suggest a negative association, although at first face this relationship seems statistically less convincing than the one in Figure 3. Again, future analysis with more data is necessary to be able to draw more definite conclusions. Nevertheless, in particular Figure 5 suggests that intrapreneurship and independent entrepreneurship may be substitutes rather than positive

correlates at the macro-level. If this is indeed the case, the implications might be far-reaching. Given a 'supply of entrepreneurial talent', it might then depend on various contextual determinants, such as the level of economic development, the institutional framework (e.g. employment protection) and management styles within organizations (possibly related to national culture), whether entrepreneurial individuals exploit their entrepreneurial tendencies within a business or choose to start up for themselves. These findings also offer some support for the idea of an 'Entrepreneurial Constant' across societies, the compositon of which depends on the institutional context.[8]

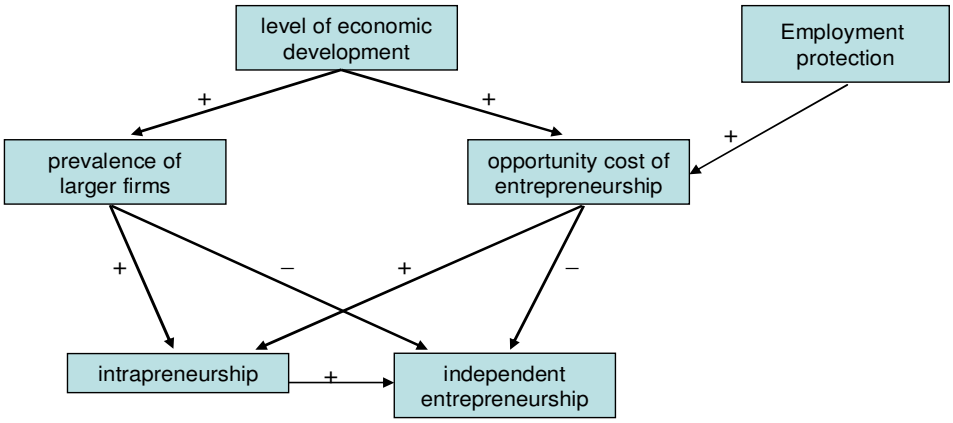
Figure 5 Relationship between intrapreneurship and the prevalence rates of owner-managers in independent young businesses in 11 countries, 2008, percentage of the adult population (18-64 years of age)

The relationship between intrapreneurship and independent entrepreneurship is different at the micro level than at the macro level. At the micro level intrapreneurship seems to induce (subsequent) independent entrepreneurship, while at the macro level intrapreneurship turns out to be a substitute of independent entrepreneurship. This paradox can be understood by looking at the underlying mechanisms, especially those related to the level of economic development. First, the level of economic development has a positive effect on the presence of larger firms (Ghoshal et al., 1999), which has a negative effect on the prevalence of independent entrepreneurship in an economy (Choi and Phan, 2006; Parker 2009). At the same time the related

[8] Even with the inclusion of intrapreneurship as a form of entrepreneurial behavior in the economy, our study is still not able to come to a complete measurement of such an 'Entrepreneurial Constant' due to its focus on early-stage entrepreneurship and because it still misses other relevant forms of entrepreneurial behavior outside the formal private sector, for example in politics or in crime (cf. Baumol 1990).

incidence of multiperson firms as well as higher levels of autonomy of employees in higher income countries lead to higher rates of intrapreneurship. A second mechanism underlying substitution between intrapreneurship and independent entrepreneurship at the macro level is the well-known positive effect of economic development (per capita income) on the opportunity cost of independent entrepreneurship (Lucas, 1978). Due to rising real wages, 'marginal' entrepreneurs will increasingly opt for a wage job. It seems likely that this mechanism will also have a positive effect on intrapreneurship (also see Bosma, 2009: 175). Both underlying mechanisms related to the level of economic development are illustrated in Figure 6. A possible positive effect of rising opportunity cost of entrepreneurship on the prevalence of larger firms has not been indicated in the figure.
Finally, apart from the level of economic development, the institutional context may also influence substitution between intrapreneurship and independent entrepreneurship. In particular, a high level of employment protection will add to the opportunity cost of independent entrepreneurship (and might also enhance the prevalence of larger firms). This is a subject for future research based on a larger sample of countries across diverging labour market institutions.

Figure 6 The causal relationships between level of economic development, intrapreneurship and independent entrepreneurship.



8. Conclusions

This paper presented the first results of a novel international study into entrepreneurial employee behavior, also known as intrapreneurship. Intrapreneurship was defined as employees developing new business activities for their employer, including establishing a new outlet or subsidiary and launching new products or product-market combinations.

This paper has made two distinct contributions to the literature. First, it provides international comparative research on intrapreneurship in low and high income countries, and secondly, it delivers insight into the relationship between

independent entrepreneurship and intrapreneurship at the individual level as well as the national level.

A first conclusion is that intrapreneurship, as defined in this report, is not a very widespread phenomenon. On average, fewer than 5% of employees are intrapreneurs. In addition, its incidence in the adult population is, on average, significantly lower than that of early-stage entrepreneurial activity. The prevalence of intrapreneurship is about twice as high in high income countries as in low income countries. This is probably caused by a combination of a relatively high share of adults employed in multiperson organizations in high income countries, and higher levels of autonomy of employees in high income countries.

The relationship between independent entrepreneurship and intrapreneurship can be analysed at the micro (individual) level as well as at the macro (national) level. We found that at the individual level, intrapreneurs are much more likely to have intentions to start a new independent business than other employees. However, there is a negative correlation between intrapreneurship and early-stage entrepreneurial activity at the macro level. One explanation for these contrasting outcomes is the diverging effect of per capita income on intrapreneurship (positive effect) and on early-stage entrepreneurial activity (negative effect). The level of entrepreneurial activity seems to be driven by the same underlying characteristics, but its manifestation (i.e. entrepreneurship or intrapreneurship) depends on the economic and institutional context of the individuals involved.

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