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# **DRIVING FACTORS AFFECTING ENTREPRENEURIAL EMPLOYEES CHOICE BETWEEN ENTREPRENEURSHIP AND INTRAPRENEURSHIP IN LATVIA**

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**Driving Factors Affecting Entrepreneurial Employees  
Choice between Entrepreneurship and  
Intrapreneurship in Latvia**

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## **Abstract**

Company employees often are a great source of innovation and their relevance will continue to increase even more in the future, continuous innovation becoming a must to maintain competitive edge. However when an employee comes up with an idea (opportunity) and actually considers pursuing it, he can decide to start his own startup instead of developing idea inside the company. For company losing such employees is expensive since they often are driving force of innovation, are one of top performers and hold significant business knowledge. Therefore it should be of top interest for companies to know how to keep such employees from leaving.

Factors that impact the employee decision are not sufficiently researched in Latvia context. Therefore, this research focused to identify factors that determine employee choice (entrepreneurial decision) to pursue opportunity inside the company (intrapreneurship) instead of starting a new company (entrepreneurship) in Latvia.

This research is based on quantitative cross sectional design. Entrepreneurial decision potentially impacting factor model was developed, that was further used to create online survey for empirical data gathering. Research results were validated with domain experts.

Research allowed to identify factors that influence the entrepreneurial decision in Latvia providing valuable insights for companies. Risk aversion and environment (entrepreneurial ecosystem availability perception) factors were found to significantly differentiate entrepreneurs from intrapreneurs. Both of the factors are risk assessment related, indicating that in Latvia employee decision is mostly risk assessment driven. Study did not find confirmation of business, behavioral and cultural barrier impact on the decision.

## **1. Introduction**

Company employees often are great source of innovation due to their accumulated knowledge at their job, however unfortunately for their company, it doesn't necessary mean that they will decide to innovate inside the company. When an employee comes up with an idea (opportunity) how to create/improve something and actually considers doing so, he makes a decision (entrepreneurial decision) whether to pursue this opportunity inside the company or start a new company (leaving existing company). Many various factors have impact on this decision, thus by knowing these factors and changing employee perception of them can change the outcome of the decision.

This study aims to analyze key factors that affect Latvian company entrepreneurial employee decision to pursue opportunities inside the company (intrapreneurship) instead of starting a new company (entrepreneurship). Losing entrepreneurial employees from company perspective is expensive since entrepreneurial employees are often driving force of innovation, initiatives inside the companies, one of top performers, as well as hold significant specific company business knowledge. By knowing key factors that affect employee decision to leave (pursue entrepreneurship instead of intrapreneurship), companies could impact these factors favorably in order to keep such employees. Similarly from entrepreneurship promotion perspective (government, startup initiatives, incubators etc.) by better understanding reasons why entrepreneurial employees don't pursue entrepreneurship, these reasons could be mitigated thus increasing entrepreneurship engagement.

Factors affecting employees to become self-employed are well researched, as well as how to promote innovation inside enterprise and how startups get created. Individual factors affecting employee choice between entrepreneurship and intrapreneurship have been researched to some extent, however without impact weights and being specific to countries. Existing research for Latvia is focused more on entrepreneurship, how it develops, how to promote nascent entrepreneurship (see e.g. Baltrusaityte-Axelson, Sauka & Walter, 2008) and innovation, entrepreneur motivation (e.g. Avotins, Jermolajeva, Kantane & Sloka, 2014), however not covering intrapreneurship. Factors and their impact on the entrepreneurial decision are expected to be country specific due to overall environment differences that affect possible factor

ranges (e.g. entrepreneurship society perception, entrepreneurial education, culture), not to mention individual intrinsic differences, e.g. Cieslik, Domurat, Macko & Tuszka (2011) found self-efficacy, risk attitude and motivation among entrepreneurs to be different between countries. This presented an opportunity to investigate which factors have significant impact on the decision in Latvia context.

Additionally Latvia has some rather interesting differences when looking at the GEM (n.d.) entrepreneurship indicators at the time frame of the last 5 years (2012 - 2016) in Europe. Latvia consistently has been in top 3 countries in terms of entrepreneurial intentions (latent entrepreneurs who intend to start their own business), as well as one of top 2 countries with highest percentage of nascent entrepreneurs or owners of new businesses. Then again based on GEM Entrepreneurial Employee Activity indicator Latvia ranks below average in Europe, where Entrepreneurial Employee is comparable to intrapreneurship and according to GEM is defined as “development of new activities for an individual’s main employer, such as developing or launching new goods or services ...”. Thus showing high entrepreneurial employee population percentage that favors entrepreneurship instead of intrapreneurship and making Latvia more interesting from research perspective. Europe entrepreneurship and intrapreneurship activity overview is provided in World Economic Forum (2016a) report on intrapreneurship based on GEM (n.d.) 2011 – 2014 data: see Table 1 for country summary. EEA refers to entrepreneurial employee (as defined by GEM, intrapreneurship) activity and TEA to total early-stage entrepreneurial activity (entrepreneurship), both values are measured as proportion of the population aged between 18 and 64. As can be seen in the table – Latvia has only 2.2% for EEA and very high TEA of 13.3%.

<b>Country</b>	<b>EEA</b>	<b>EEA rank</b>	<b>TEA</b>	<b>TEA rank</b>
<i>Sweden</i>	9.10%	1	7.40%	17
<i>Denmark</i>	9.00%	2	5.20%	27
<i>United Kingdom</i>	6.50%	3	8.50%	11
<i>Belgium</i>	5.80%	4	5.40%	25
<i>Finland</i>	5.50%	5	6.00%	21
<i>Netherlands</i>	5.40%	6	9.60%	6
<i>Norway</i>	5.40%	7	6.60%	20
<i>Ireland</i>	5.10%	8	7.60%	15
<i>Luxembourg</i>	5.10%	9	8.40%	13
<i>Slovenia</i>	4.50%	10	5.50%	23

<i>Estonia</i>	4.30%	11	12.60%	2
<i>Austria</i>	4.20%	12	9.50%	7
<i>Switzerland</i>	4.10%	13	7.30%	18
<i>Lithuania</i>	4.00%	14	10.40%	4
<i>Slovak Republic</i>	3.60%	15	11.20%	3
<i>Germany</i>	3.50%	16	5.50%	24
<i>Romania</i>	3.40%	17	10.10%	5
<i>Croatia</i>	3.30%	18	8.10%	14
<i>France</i>	3.30%	19	5.40%	26
<i>Czech Republic</i>	3.10%	20	7.60%	16
<i>Bosnia and Herzegovina</i>	2.70%	21	8.40%	12
<i>Poland</i>	2.60%	22	9.40%	8
<i>Portugal</i>	2.50%	23	8.60%	9
<b>Latvia</b>	<b>2.20%</b>	<b>24</b>	<b>13.30%</b>	<b>1</b>
<i>Hungary</i>	2.10%	25	8.60%	10
<i>Spain</i>	2.00%	26	5.70%	22
<i>Greece</i>	1.10%	27	7.00%	19
<i>Italy</i>	0.70%	28	4.00%	28

Table 1. EEA and TEA (including overlap) in 28 European economies. Source: World Economic Forum (2016a).

This thesis contributes to better understanding of entrepreneurial decision by researching what are key factors that affect the decision in Latvia. Author does this by answering the following research question:

- **Which factors and to what extent influence employee choice between pursuing opportunities through entrepreneurship or intrapreneurship in Latvia?**

Additionally by answering the research question author provides suggestions as to how the results could be used in Latvia from company perspective (to keep employees) and correspondingly from entrepreneurship promotion perspective.

## **2. Literature Review**

Author first tried to gain better understanding of entrepreneurial decision by identifying elements of the decision and the decision itself. Then comparison of entrepreneurship and intrapreneurship is done to identify what actual choices an individual makes when selecting between the two options. Based on the gained understanding of the decision, author further searched for main factors that could have impact on the decision. Finally based on the identified factor set author evaluated which factors should be measured together, their relatedness, relevance and constructed theoretical framework with subset of factors to be measured in the research.

### ***2.1. Entrepreneurial Decision***

To better analyze entrepreneurial decision it's important to understand key concepts involved. Conceptually individual identifies (discovers) opportunity that he may decide to pursue through entrepreneurship or intrapreneurship. Means selection how to pursue this opportunity is a decision. Therefore author found necessary first to better understand/define what an opportunity, entrepreneurship, intrapreneurship is and how to frame a decision, what are its constituents. Further sections show author findings.

Opportunity: There are a number of different definitions of opportunity that provide insights about its meaning. Gumpert and Stevenson (1985) had two criteria for an idea to be considered as an opportunity - it needs to represent a desirable future state achievable through change and individuals trying to fulfill the idea must find it feasible to reach. McMullen and Shepherd (2006a) saw opportunity as subjective, only existing in the mind of to be entrepreneurs and being created by the efforts of entrepreneurs. Wickham (2006) viewed opportunity as a market gap or ability to do something differently to potentially do it better and create additional value.

However general opportunity definition lacks more entrepreneurial relation, hence a more narrow definition of entrepreneurial opportunity (referred to as just opportunity further in the research) is used. Casson (1982) viewed entrepreneurial opportunity as "a project which would form part of the optimal set [if information were not scarce] but which is not in operation [because information is scarce]." As outcome such projects produce various goods and services. Shane (2003) extended an entrepreneurial opportunity as "a situation in which a person can create a new means -



ends framework for recombining resources that the entrepreneur believes will yield a profit”. McMullen and Shepherd (2006b) suggested additionally that it is an opportunity act entrepreneurially, where entrepreneurial means a subset of individual actions, referring to the manner of opportunity attainment - through new goods and services.

Entrepreneurship: Good various initial definition summarization is provided by Kuratko (2009) who defines entrepreneurship as a “process of dynamic process of change, vision and creation”. Purpose of the process is to implement new ideas, solutions and create products. Entrepreneurship is related with high uncertainty that requires persistence and various skills to succeed. Jarillo and Stevenson (1986) viewed entrepreneurship only as a means (process wise) how to pursue identified opportunities. Then Gartner (1988) added that entrepreneurship is the process by which new organizations get created as such (thus organizations exist for the purpose of entrepreneurship). Venkataraman (1997) extended the definition and included the actor by defining “entrepreneurship is about how, by whom, and with what consequences opportunities to bring future goods and services into existence are discovered, created and exploited”. Entrepreneurship actor is entrepreneur. According to Wheelen and Hunger (2000) “an entrepreneur is the person, who organizes and manages a business undertaking and who assumes risk for the sake of a profit”, thus adding two important notions of risk and profit (being compensation for the risk) to the definition.

Intrapreneurship: Short and concise definition of intrapreneur is provided by Pinchot and Pellman (1999) as having meaning of intra (internal) corporate entrepreneur. Pinchot (1985) original extended definition views intrapreneurship as “the practice of developing a new venture within an existing organization, to exploit a new opportunity and create economic value”. Block and MacMillan (1993) added important distinction that these innovations are driven by employee initiative (not asked explicitly by management) in a bottom up way. Employees often identify, fix found issues in company existing internal processes, goods or services directly related with their expertise thus bringing new innovations.

Separate related concept is corporate entrepreneurship. According to Kanter (1984) corporate entrepreneurship is concerned about how companies promote employee innovation in the company by increasing employee engagement. Homsby, Kuratko and Zahra (2002) defined corporate entrepreneurship as the “transformation of

organizations through strategic renewal”. As noted by Sharma and Chrisman (1999) transformation can be in a form of gradual improvements in existing services, company processes etc.

It’s important to differentiate between corporate entrepreneurship and intrapreneurship that are sometimes mixed when talked in general about intrapreneurship. In case of corporate entrepreneurship the company management needs to define clear business goals, develop strategy. Then in the context of this strategy employees develop new ideas in order to achieve the business goals. In case of intrapreneurship there is no management defined strategy, goals are defined by employee himself. Author prefers differentiation proposed by Amo (2006) - intrapreneurship is initiated bottom-up by employees driven by own interests, in contrast corporate entrepreneurship is initiated by management as part of strategy to achieve its business goals.

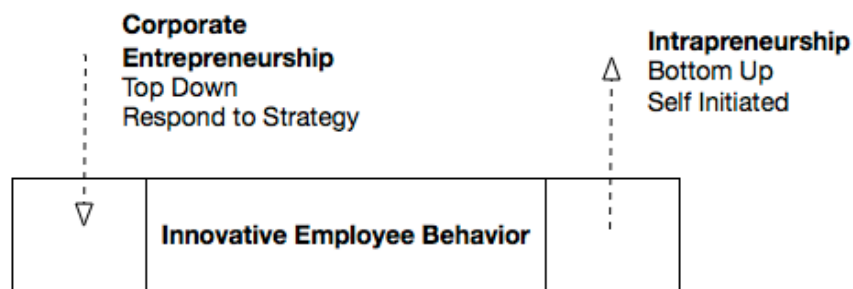


Figure 1. Innovative employee behavior. Source: Amo (2006).

In context of this research we’re looking at individual decision to pursue his identified opportunity, self-initiated, therefore in author’s view only notion of intrapreneurship is applicable. Correspondingly intrapreneur is a company employee who exhibits these above mentioned traits, behavior - innovates inside the company on his own initiative. Intrapreneur is a relative measure, since there isn’t a strict necessary amount of behavior/traits for an employee to qualify for intrapreneur, or e.g. necessary amount of innovation. Also it depends on time – for some periods of time employee can be an intrapreneur (behave intrapreneurially), some – not.

Entrepreneurship / Intrapreneurship Decision: Decision making model was necessary to better understand constituents of the decision, narrowing down how to search for factors. Author found multiple models for decision making. One of more time

validated was selected - Bandura (1986) social cognitive theory for general decision making. In this theory human functioning is a result of continuous interactions between personal, behavioral and environmental influences, illustrated in Figure 2. Personal factors in the form of cognition, feelings and (1) biological activities, (2) behavior, and (3) environmental factors create interactions.

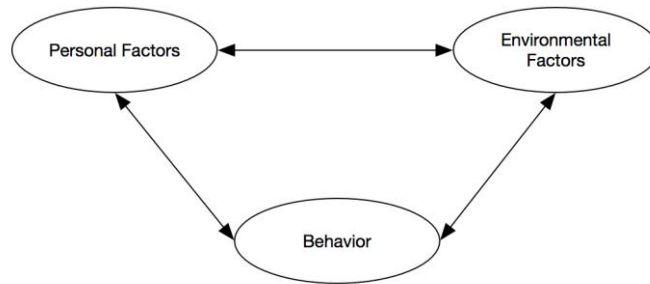


Figure 2. Social Cognitive Theory. Source: Bandura (1986).

Social cognitive theory provides good general model for decision making, however to be valuable for entrepreneurial decision author needed to apply it to entrepreneurial decision making context. Papadakis, Lioukas and Chambers (1998) adjustment for entrepreneurial decision making was used. Their resulting model has three components: the environment, the specific characteristics of the decision to be taken and the entrepreneur himself as depicted in Figure 3.

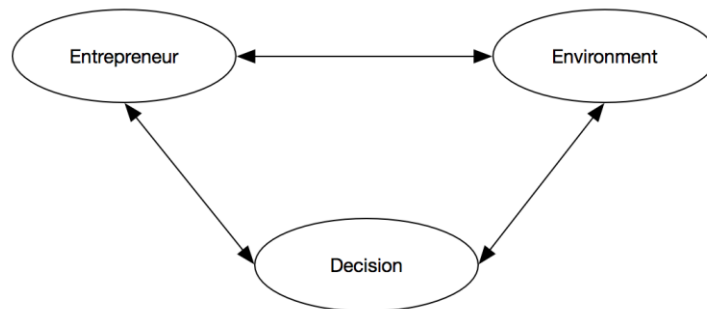


Figure 3. Extended triadic model. Source: Papadakis, Lioukas and Chambers (1998).

Thus interpreting in the context of this research - Decision is individual's decision to act either entrepreneurially or intrapreneurially. Decision context is fixed, thus factors affecting decision are individual's (employee's) trait factors and environment factors. Environment factors can further be divided into company (organization) factors and all

other environment factors (such separation is preferred to better identify what can be done by the company). Final conceptual model is depicted Figure 4.

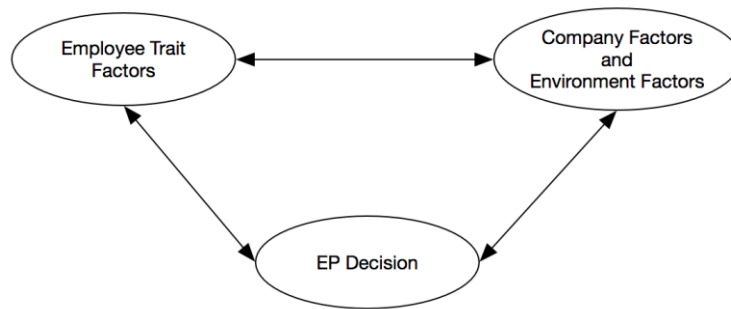


Figure 4. Extended triadic model. Source: adjusted author model, based on Papadakis, Lioukas and Chambers (1998).

Author further searched for factors that impact the entrepreneurial decision in the context this model, thus having two groups of factors - employee trait factors and company / environment factors.

## 2.2. Entrepreneurship and Intrapreneurship Comparison

Before proceeding to decision factor analysis, author found necessary to first compare entrepreneurship and intrapreneurship to identify what actual choices an individual makes when selecting between the two options. Although intrapreneurship is similar to entrepreneurship, there are many differences. Intrapreneurship happens inside the organization, entrepreneurship on the other hand is external. According to Davis (1999) entrepreneurs are free to develop their own practices, know how, then again intrapreneurs work in organizations that have their fixed practices, bureaucracy, and culture. The intrapreneur is the change promoter inside the existing organization facing peer resistance. Entrepreneur has no resistance and creates new organization from scratch. Full key dimension comparison is summarized in Table 2.

Aspect	Entrepreneur	Intrapreneur
Income	No financial security, benefits until company becomes profitable No income limits once opportunity becomes successful Investing own money (until funding rounds are successful)	High financial security Limited bonus (or small share of the profits in case of partnership) even if opportunity becomes very successful Results could be not appreciated at all Company money
Inde-	Full freedom to do whatever is	Commonly free to innovate within a

pendence	desired in terms of content, decision making and how to do it	company while it's in line with what the company does (core business), ability to make most decisions autonomously, somewhat limited ways how specific goals can be reached (company culture) Depends on manager's grace and support to be successful
Risk of Failure	Loss of own money, significantly higher Every mistake is magnified Rather susceptible to outside influences	Limited career risk as well as reputation inside the company Company mitigates failure risks (evening out the impact on the company) Company insulates outside negative influences
Scale	Need to build from scratch, until idea very successful, then can scale faster, otherwise slower Need to be resourceful to find necessary resources	Company provides necessary infrastructure for innovations to scale faster - customers, sales, marketing, expertise etc. Company in most cases provides necessary resources
Agility	Very quick to maneuver, pivot to new opportunities	Organizational bureaucracy, potentially decision making process, company culture can make initiatives slow
Effort to succeed	Hard effort to be successful (including long work hours)	Team effort, work - life balance can be maintained
Purpose	Opportunity recognition, definition, development	Opportunity recognition, definition, development
Ownership	Entrepreneur commonly owns the resulting company (or majority of it) and intellectual property	Intellectual property and opportunity results owned by the company

Table 2. Entrepreneurship and Intrapreneurship comparison. Source: compiled by author based on Davis (1999) categories as initial aspects.

### ***2.3. Employee Trait Factors***

In the context of the social cognitive theory author tried to find individual related factors that affect the entrepreneurial decision. Essentially trying to answer whether there is just one trait or a combination of traits that differentiates between entrepreneurs and intrapreneurs and employee decision to pursue one career (entrepreneur, intrapreneur or employee) choice or the other? Author further lists and explains factors for which he found enough research and evidence to differentiate

between entrepreneurs and intrapreneurs and some that are noteworthy.

Risk Aversion. Kihlstrom and Laffont (1979) suggest that more risk averse individuals become employees and less risk averse - entrepreneurs. Many other studies have confirmed that higher risk negatively influences entrepreneurial intention e.g. Praag and Cramer (2001). Then again some studies such as Busenitz and Barney (1997) have not found sufficient evidence of the relation, suggesting that relationship could involve some related other factors.

Risk aversion has also high impact in the context of intrapreneurship as suggested by Monsen, Patzelt and Saxton (2010) where as compared to entrepreneurs venture risk is shared between intrapreneur and the company. Intrapreneur acts as entrepreneur within an organization, hence organization support is crucial for him to be successful (Burgess, 2013). Organization can promote intrapreneurship by removing fear of failure, associated negative consequences and supporting risk taking. Antoncic (2003) suggests that intrapreneur risks more with career prospects and reputation as compared to financial risks, employment in case of entrepreneur, therefore is able to take higher risks.

Martiarena (2013) found that intrapreneurs are more risk averse than entrepreneurs. According to Douglas and Fitzsimmons (2012) intrapreneurial intention is positively affected by lower risk tolerance, similar to Monsen et al. (2010). Reverse relation is also true - the lower the risk aversion, the higher the entrepreneurial intention, however it held only for case when individuals had been previously employed. Risk aversion is related with risk, thus it would be preferable to measure risk aversion together with factors that influence risk assessment to better understand the impact.

Self-Efficacy. Bandura (1982) defined self-efficacy as “the strength of an individual’s belief that they can successfully accomplish a specific task or series of related tasks. It is related to self-confidence and individual capabilities, which are dependent on prior experience, vicarious learning, social encouragement, and physiological issues”. Individual would be faced with different tasks as intrapreneur than entrepreneur. Intrapreneur can seek support from more experienced colleagues inside the company, entrepreneur again would be required to act more autonomously. Then again for intrapreneur requesting support too often would be considered as lack of

experience and could negatively impact career growth. Hence the reason to consider that higher the individual's self-efficacy, the less likely they would ask for help when making decisions and would prefer entrepreneurship over intrapreneurship (other factors being equal).

Markman, Balkin, and Baron (2002) showed that entrepreneurs were identified to have a higher self-efficacy than general population. McMullen and Shepherd (2006a) found self-efficacy to be one of key drivers for entrepreneurial intention. McGee, Peterson, Mueller and Sequeira (2009) proposed that self-efficacy influences individual's confidence in their ability to search for opportunities and pursue them. According to Douglas and Fitzsimmons (2012) higher self-efficacy is positively related with entrepreneurial and intrapreneurial intentions (both). However overall insufficient research has been done to determine more precise relation to intrapreneurship. Self-efficacy is an assessment of own capabilities, thus in author's view should be measured together with other capability assessments, e.g. entrepreneurial skills.

Independence. Independence is individual's preference for decision making control, or as defined by Burger (1985) - "desirability of control". Individual makes own decisions as compared to simply following other people's orders. Independence is needed in order to be able to innovate, pursue new opportunities either inside the company or as an entrepreneur. Individuals are likely to have higher decision making freedom in both entrepreneurship and intrapreneurship as compared with regular employment. Hence by having preference for independence, intrapreneurship and entrepreneurship are both valid means how to pursue it.

McGrath, MacMillan and Scheineberg (1992) confirmed the idea that entrepreneurs prefer to act independently and not be associated with others. Similarly Wiklund, Davidsson and Delmar (2003) indicated that entrepreneurs value independence in regards to decision making. According to Shane (2003) the higher the independence preference the higher the entrepreneurial intention. Shane (2003) however did not confirm the hypothesis that higher independence preference affects intrapreneurial intention. Independence is a motivational factor and should be measured together with other motives. E.g. Avotins et al. (2014) evaluated independence together with income (reward), personal satisfaction and need for achievement.

Entrepreneurial ability. Entrepreneurial ability is set of human capital related skills required to perform various entrepreneur specific tasks. Lucas (1978) defined entrepreneurial ability as an “innate managerial talent”. In the context of this research author is interested in employee perceived entrepreneurial ability (not objective assessment), since when individuals make a decision whether to pursue entrepreneurship they rely on their own assessment. Gimeno, Folta, Cooper and Woo (1997) confirmed that entrepreneurial ability affects individual decision to become an entrepreneur. Arenius and Minniti (2005) concluded that self-assessment of entrepreneurial abilities (not only objective skills) is positively correlated with entrepreneurship.

Lucas (1978) proposed a model that differentiates between employees and entrepreneurs - less talented (skilled) individuals become employees and some employees above a certain skill threshold level become entrepreneurs. Lazear (2005) discusses that the range of various skills instead of the knowledge depth increases probability of an employee to become an entrepreneur. Marvel and Lumpkin (2007) however take a different view based on innovative entrepreneurs - employees pursue entrepreneurial activities when they have accumulated enough specific and deep knowledge in certain business or industry. According to Martiarena (2011) if an employee perceives his entrepreneurial ability to be high, he may pursue intrapreneurship equally likely as entrepreneurship. Similar to self-efficacy, entrepreneurial ability is an assessment of own capabilities, thus should be measured together with skill based factors.

Other traits factors. For further listed trait factors author did not find sufficient research for them to be considered as distinguishing factors, however still found them to be noteworthy.

*Need for Achievement.* McClelland (1961) defined need for achievement as a “preference for challenge, acceptance of personal responsibility for outcomes and innovativeness”. Individuals with high need for achievement are more likely to take up activities that require higher effort, have more risk and individual outcome ownership or in other words - are more challenging. Collins, Hanges and Locke (2004) did meta-analysis of existing need for achievement research and their main finding was that need for achievement is strongly related to entrepreneurial roles as compared to general



employee roles. However need for achievement was not a strong differentiator between entrepreneurs and intrapreneurs.

*Locus of control.* Rotter (1966) defined locus of control as a “generalized belief that a person can or cannot control his or her own destiny”. People who believe that they control events themselves are said to have an internal locus of control, wise versa – external locus of control. Rotter argued that individuals with an internal locus of control would prefer entrepreneurship since they would have a more direct effect on results. He found differences between entrepreneurs and employees in terms of locus of control. Begley and Boyd (1987) found that entrepreneurs and intrapreneurs did not differ in terms of locus of control.

*Intuition.* Intuition as defined by Timmons (1989) is the idea that entrepreneurs are able to see future possibilities, make decisions based on “sensing”, where others can’t. Intuition helps entrepreneurs make better decisions when there is insufficient information to perform in-depth analysis (Busenitz and Lau, 1996). Agor (1986) found that entrepreneurs were more intuitive as compared to managers and employees, however there was no significant difference as compared to top managers (latter could be considered as being close to intrapreneurs).

*Tolerance for Ambiguity.* Budner (1982) defined tolerance for ambiguity as “the propensity to view situations without clear outcomes as attractive rather than threatening”. Tolerance for ambiguity is an important trait for entrepreneurs, since entrepreneurs work in a more unpredictable environment (especially in company startup stage) as compared to intrapreneurs. Miller and Drodge (1986) found that entrepreneurs had significantly higher scores in tolerance for ambiguity as compared to intrapreneurs. However, Babb and Babb (1992) in their research found no significant difference in tolerance for ambiguity between entrepreneurs and intrapreneurs. Similarly later Begley (1995) also failed to confirm any significant differences.

#### ***2.4. Company and Environment Factors***

Further looking at the other element in the social cognitive theory – company factors and environment factors, author has gathered related key factors where he found sufficient research that these factors could differentiate between entrepreneurs and intrapreneurs.

Employee Ownership, Profit Sharing. New forms of higher employee remuneration enable the employees to be better aligned with the objectives of the company. Employee ownership and profit sharing as compensation is based on the belief that compensation should match employee contribution. Shaver, Gartner, Crosby, Bakalarova, and Gatewood (2001) argued that ownership is one of the main reasons for entrepreneurial behavior. Klanecek and Antoncic (2007) found that employee ownership will be positively related with intrapreneurship. Campbell, Ganco, Franco and Agarwal (2012) proposed that high compensation packages (e.g., wages and stock options) can be used to prevent valuable employees from leaving the company. However such compensation packages can be efficient up to a point, since provides funding for employees to start their own companies.

Attitude to majority ownership however should be more positively related to entrepreneurial intentions since in case of majority ownership the individual would get responsibility and recognition for company's achievements and would be in control. Douglas and Fitzsimmons (2012) found that employee's entrepreneurial intentions were positively related with the attitude to the company majority ownership. They however did not confirm relation with intrapreneurial intention - lower attitude to company majority ownership did not necessarily lead to positive intrapreneurial intention. Employee ownership / profit sharing is a motivational factor and should be measured together with other motivational factors.

Business Barriers. Companies are aligned to be efficient at their core activities. When an employee comes up with an opportunity, its feasibility / value is evaluated in the context of what the company is currently doing (core activities). Opportunity pursuit can face multiple business reasoning based company barriers depending on closeness to core activities. Common business barriers are company commitment to existing products and markets, less company support for non-core activities, limited new opportunity understanding and opportunity market entry costs being too high. Correspondingly the lower the company business barriers for employee opportunity, the more likely the employee will pursue the opportunity inside the company as confirmed by Meng and Roberts (1996). Business barrier factor should be measured together with other types of barrier factors to understand better which type of barriers has higher impact.

Company commitment is to the current products and markets. Hellmann (2007) in his model proposes that new ventures are commonly created for opportunities that don't fit well with company core activities. Lack of management support for new opportunities is also related with insufficient information for management decision making. Employees working on core activities (e.g. developing core technology) will have more opportunities to develop inside the company rather than pursue new ventures outside of the company (Klepper and Thompson, 2010). Employees working on the core activities are also more likely to be compensated higher. Additionally such employees would be freer to use latest technology and advances in their work (Agarwal, Echambadi, Franco & Sarkar, 2004). Employees with experiences in company core activities are less likely to start their own companies.

Non-core business related opportunities can have higher market acceptance costs (Meng & Roberts, 1996). Initial startup costs (including extra costs related with introduction unpredictability) and longer period for payback makes such opportunities less attractive from investment perspective. Existing products have customers and demand is predictable as compared to new opportunities.

Behavioral and Culture Barriers. According to Meng and Roberts (1996) behavioral and culture barriers are related to viewing new innovations as a threat to individual interests or existing company structure, having high level of blaming for failure, low praise for success and unwillingness to try out new ideas that are unfamiliar, not the way "how things are run" in the company. Few examples:

- Low success ownership - whole upper management chain receives praise for success;
- Challenging existing routines, company procedures (the way how the business is run);
- High levels of bureaucracy - approval chain inside the company;
- Need to overcome the collective wisdom as to what the company is;
- Threat to other employee internal interests, career prospects.

Career prospects and management relationship is another dimension of behavioral barriers. For example, insufficient management support, company leader turnover and limited career advancement. According to Robinson (2001) company culture, organizational hierarchy and bureaucracy barrier reduction is necessary to promote intrapreneurship. Agarwal et al. (2004) suggest that leaving employees can be viewed as a reaction to organizational crisis. Frustrated employees seek ways how to pursue their

opportunities outside of the company. Hellmann (2007) proposes that “some entrepreneurs start their companies only after being rejected by their employers.” Correspondingly the lower the company behavioral and culture barriers, the more likely the employee will pursue this opportunity inside the company. Similarly to business barrier factor, this factor is also a barrier type factor.

Environment Factors. Environment factors represent all employee external factors except company factors. Environment factors together are more commonly known as entrepreneurial ecosystem, author preferred to use the model established by Isenberg (2011). Entrepreneurial ecosystem is a rather complex concept that consists of many elements (e.g. finance, human capital, markets etc.) that can be applicable or not for a specific opportunity. Due to overall small research sample survey size and detailed consideration author decided to treat environment factors as a single factor (named – environment), since it would have been problematic to gather enough opportunity cases to cover entrepreneurial ecosystem dimensions thoroughly. Thus this environment factor would measure extent to which (in employees view) employee had all necessary entrepreneurial ecosystem resources necessary for his opportunity to pursue it through entrepreneurship.

## ***2.5. Theoretical Framework***

Up to now author has established framework based on triadic model from Papadakis et al. (1998) extended social cognitive theory applied to entrepreneurship. This model allowed to narrow down entrepreneurial decision influencing factor types, search and categorize them into Employee Trait Factors, Company Factors and Environment Factors, which author did. However in author's view some factors did appear to be too unrelated (especially employee trait ones), e.g. independence being motivation factor, as for entrepreneurial ability – skill assessment. After trying to understand how they are related, author found interesting factor cross cutting theory – utility maximization theory that explained how to link otherwise unrelated appearing factors.

Author further explains utility maximization theory, then summarizes all factor findings in the context of social cognitive theory and utility maximization. Lastly defines final model to be used in the research.

### *2.5.1. Utility Maximization Theory*

Utility maximization concept could be used to narrow down factors that affect entrepreneurial decision. There are many variations on utility models of decision making (starting from classical J. Bentham utility theory up to D. Kahneman theory of experienced utility), however main idea is that individuals given multiple choices will select one which potentially promises the greatest satisfaction (or maximum utility). Career selection between entrepreneurship, intrapreneurship and employment is also a choice where individuals try to maximize their utility. In other words - individuals choose occupation based on the total utility they expect to gain from specific choice within some period of time (time horizon). Douglas and Shepherd (2000) argue that when an individual selects work occupation he expects to gain value (utility) from income and utility/disutility from “work effort, risk bearing, independence and other working conditions” which in the context of this research are factors influencing entrepreneurial decision. Income for entrepreneurs / intrapreneurs is in the form of company ownership / profit sharing. Working conditions are related with company factors. Monsen et al. (2010) extended Douglas and Shepherd model and analyzed the decision making of potential intrapreneurs. They put more emphasis on risk taking and

work effort behaviors in their financial utility maximization model. Finally Martiarena (2013) built a unified work occupation selection model, where individual key decision affecting factors are expected financial reward, entrepreneurial ability and attitudes towards risk.

### 2.5.2. Literature Review Summary

Based on literature review and viewing factors from decision making theory author found the following factors affecting entrepreneurial decision summarized in the Table 3. Based on previous information about factor relatedness author grouped found factors into types to better understand which factors should be measured together. Column “In utility max. T.” marks whether specific factor is used in utility maximization theory. Note – table also includes some general insufficiently researched, previously not covered factors related with utility maximization.

<b>Factor</b>	<b>Significance</b>	<b>Type / Related to</b>	<b>In utility max. T.</b>
<b>(Traits)</b> Risk aversion	Multiple studies, influences EP decision.	Risk. Should be measured with other factors that strongly influence risk perception	X
Work effort	Few studies, non-conclusive results. (Douglas & Fitzsimmons, 2012), (Douglas & Shepherd, 2002)	Effort. Influenced by company and environment factors.	X
Independence	Multiple studies, EPs and IEPs both valuing highly	Motivation	X
Entrepreneurial ability	Multiple studies, differentiator trait.	Skills	X
Self-efficacy	Multiple studies, EPs and IEPs having equal level	Skills. Entrepreneurial ability, also ability skill assessment	
Need for achievement, locus of control, intuition, ambiguity, optimism	Few studies, contradicting results, results depended on surveyed population. (Chell, 2008)	Need for achievement - motivation. Rest - perception. Factors should be measured together since all related with individual’s world perception	
<b>(Environment)</b> Financial rewards	Multiple studies, Overall EPs and IEPs having equal level.	Motivation. In case of entrepreneurs / intrapreneurs is covered by ownership profit sharing	X
Ownership / profit sharing	Multiple studies, Overall EPs and IEPs having equal level, EP’s having more pronounced	Motivation	
Majority ownership	Well researched. Differentiator	Motivation. Problematic to	

	between groups	measure extent, need baseline. Covered by ownership for now as good approximation	
Intellectual property rights	Few studies, EP and IEP differentiator in countries where IP rights can be strongly enforced, in other cases inconclusive results. (Hellmann, 2007), (Yeganegi, Laplume, Dass & Huynhc, 2016)	Barrier. Covered by business barriers	
Working conditions	Some studies. EP and IEP differentiator. (Martiarena, 2013), (Douglas & Fitzsimmons, 2012), (Douglas & Shepherd, 2002), (Blanchflower & Oswald, 1998)	Barrier. Too broad category, author preferred to separate into few sub factors. Covered by business, behavioral and cultural barriers	X
Business barriers	Multiple studies, EP and IEP differentiator.	Barrier. Together with behavioral and cultural barriers	
Behavioral and cultural barriers	Multiple studies, EP and IEP differentiator.	Barrier. Together with business barriers	
Funding	Few studies, differentiator, however important to differentiate what type of funding, amount, stage. (Haynie, Shepherd & McMullen, 2009)	Enabler. Covered by environment	
Management support	Few studies, differentiator, results varied. (Meng & Roberts, 1996), (Pereira & Hashimoto, 2015)	Barrier. Covered by business and behavioral / cultural barriers	
Environment	Many studies, EP and IEP differentiator.	Enabler. Should be measured together with company factors (barriers)	
Opportunity / market scale, social network, government barriers etc.	Very few studies, varying and rather segmented results, factor relevance differs per industry, specific opportunity	Enabler. Covered by environment	

Table 3. Entrepreneurial decision impacting factor summary. Source: compiled by author. For not added study references please see corresponding literature review chapters.

### 2.5.3. Final Model Used

Author took utility maximization theory proposed factors as baseline. Then from

those factors selected ones with reasonable amount of studied results (at least 2 independent non contradicting research results). This way author obtained initial set: risk aversion, independence, entrepreneurial ability, financial rewards and working conditions. Financial rewards in case of entrepreneurs / intrapreneurs is better tested with ownership / profit sharing. Then considering decision making model environment / company separation, it was preferred to separate working conditions into sub factors. Based on research one good separation that covers more detailed sub factors was business barriers, behavioral and cultural barriers. Based on social cognitive theory triadic model, environment was also added. Lastly self-efficacy was well researched and fit together with entrepreneurial ability, hence was also added to the model. Further selected factor expected results were evaluated for applicability in Latvia context and potential expected adjustments were identified. Selected factor summary and expected results are summarized in Table 4. Separate factor selection reasoning was to cover different types of factors. For each factor type author selected one or two factors that had previous consistent results in terms of entrepreneurial decision impact. Due to lower impact according to existing research and already high factor count author did not select any factors of effort and world perception factor types.

<b>Factor</b>	<b>Found expected relation</b>	<b>Latvia adjusted expected relation</b>
Risk Aversion (Risk)	More risk averse individuals would choose intrapreneurship, less risk averse – entrepreneurship	Based on GEM (n.d.) data fear of failure in Latvia is higher than average (in Europe). Therefore it is expected that individuals could be more risk averse and choose safer career paths
Self-Efficacy (Skills)	There should be no significant differences between intrapreneurs and entrepreneurs	No differences expected
Independence (Motivation)	More independence valuing individuals would choose entrepreneurship, less - intrapreneurship. Difference might not be too pronounced, since differs in the level of preference	According to Avotins et. al. (2014) independence was found to be the highest motivational factor for entrepreneurs in Latvia. Independence difference between entrepreneurs and intrapreneurs might be more pronounced
Entrepreneurial Ability (Skills)	Entrepreneurs should have higher entrepreneurial ability perception than intrapreneurs, however it would not be a strong differentiator	Related with high level of risk aversion - becoming an entrepreneur and being successful is perceived as having certain innate skills, since is rarer. Difference is expected to be more pronounced
Employee	More ownership (especially majority	Employee ownership and profit



Ownership / Profit Sharing (Motivation)	ownership) / profit sharing seeking individuals would choose entrepreneurship, less seeking - intrapreneurship. though the difference might not be so pronounced	sharing practice is less developed in Latvia according to Berke-Berga, Dovladbekova, Sumilo and Baumanė-Ozolina (2015). Employees are not often aware of such options and entrepreneurs have little preference, as well as limited understanding of legal setup. Contrary entrepreneur company ownership is very clear. Therefore author would expect higher expectations in entrepreneur group
Business Barriers (Barrier)	Employees with less business barrier perception would be more inclined to innovate inside the company; Employees working in company core activities are less likely to start their own companies	When an individual has equal outcome options he would choose path with least resistance. Reduced or absence of barriers could provide easier option, however motivation rewards (outcomes) to pursue entrepreneurship and intrapreneurship would not equal due to less developed employee ownership / profit sharing. Therefore author would expect both types of barriers to have limited impact on entrepreneurial decision in Latvia, since individual would choose options based on other factors.
Behavioral and Culture Barriers (Barrier)	Employees with less behavioral and cultural barrier perception would be more inclined to innovate inside the company, instead of entrepreneurship	
Environment (Enabler)	Higher environment (entrepreneurial ecosystem) resource availability perception would lead to entrepreneurship, lower availability - intrapreneurship	Environment directly impacts risk associated with entrepreneurship choice. Considering that individuals in Latvia have high fear of failure, this factor should have increased significance on the decision.

Table 4. Final used factor model. Source: compiled by author.

### 3. Methodology

In this section the author describes the methodology used to research initially set research question. Research question was about environment occurring phenomenon, quantitative in nature, not qualitative. Purpose of the research was to determine factor weights, statistically significant differences, therefore quantitative research method was used. Entrepreneurial decision is a rather rare and isolated environment phenomenon (empirical study) hence quantitative cross sectional research design was chosen (instead of longitudinal design). Overall data collection (theoretical and empirical) consisted of these separate steps:

- Entrepreneurial decision related factor literature review;
- Found factor and decision information search, adjustments in the context of Latvia;
- Entrepreneurial decision survey - survey of Latvia entrepreneurs and intrapreneurs to evaluate factors impacting entrepreneurial decision;
- Expert interviews to validate that survey factor results are consistent with environment observations.

Entrepreneurial Decision Survey. Author did not find thesis related factor evaluation (or related) secondary data for Latvia. There was also no ready all selected joint factor test that could be used to measure the factors, therefore own survey was developed to obtain necessary factor data (full survey available in Appendix A). Survey responses were gathered during February / March 2017 using SurveyMonkey internet survey platform.

*Survey Design.* Two respondent groups - entrepreneur group (founders) and intrapreneur group. Each factor was measured using 3 - 4 statements, in a positive form (Likert scale based). 4 value (Disagree, Somewhat Disagree, Somewhat Agree, Agree) Likert scale was used without the Neutral value since such response would be very rare state for factor evaluation and to avoid survey skipping (common in Latvia). Statements to measure specific factors were obtained from factor measurement scales (standard tests to measure specific factors) and Latvia context assumptions. Likert scale was used to measure respondent relative perception of specific factor relevance. Relative scales were used since factors are not numeric.

*Respondent Search.* Personal contact network was used for survey pilot

(validation). Respondent search was done using LinkedIn (based on profile descriptions). Respondents had to be living and working in Latvia, though they could work for international companies.

Keywords used for entrepreneur group - owner, founder, co-founder, entrepreneur. Selection criteria: person is owner or cofounder of a company that is still in business (status in the user profile) and person has previous employment records before becoming an entrepreneur.

Keywords used for intrapreneur group - manager, senior, head, researcher, lead. Selection criteria: has not founded or cofounded any companies before, has at least 4 years of work experience, is currently employed, is in a leading management or professional position.

*Communication Channels:* email (found using search based on contact name and surname) and LinkedIn InMails.

*Survey Result Analysis.* Kruskal-Wallis H test was used to analyze whether there are distribution differences between intrapreneur and entrepreneur groups. Spearman's rho correlation analysis was used for individual factors and outcome - entrepreneur or intrapreneur (entrepreneur variable). Open question textual analysis based on segmentation was used to identify common themes. Group factor pattern analysis based on averages was used to find indicative patterns inside subgroups of respondents. Finally factor ordinal regression analysis was used to determine how good of a predictor of entrepreneurial decision joint factor model and individual factor contribution in the model is. Decision to become entrepreneur or intrapreneur was the dependent variable, eight factors – independent variables. No additional independent variables were added to the regression model since purpose was to validate factor impact only. Dependent variable was measured on dichotomous / ordinal scale instead of continuous, therefore binomial logistic regression and ordinal regression were applicable instead of multiple regression analysis. Ordinal regression was chosen to cover for future additional employee group addition (as 3<sup>rd</sup> outcome for dependent variable).

Expert Result Validation. Research results were validated with entrepreneurship and anthropology experts related with the research topic:

- Roberts Kilis, social anthropologist, Associate Professor at Stockholm School of Economics in Riga;
- Arnis Sauka, Associate Professor, Head of Centre for Sustainable Business at Stockholm School of Economics in Riga.

## 4. Analysis of Results

### 4.1. General Overview of Respondents

Overall 125 valid survey responses were gathered and further used in analysis with 61 respondents in entrepreneur group (EP) and 64 in intrapreneur group (IEP).

Gender distribution between EP and IEP groups is comparable - (79% male, 21% female) in EP group and (67% male, 33% female) in IEP group. Male higher representation in entrepreneurial and intrapreneurial positions is comparable with the market trends.

Further looking at the age structure of the respondents, age group of 26 – 45 years have 93% from all respondents (equal in EP and IEP groups). Such distribution is expected, since most entrepreneurs and intrapreneurs fall within this age group. This age group was also considered to be the main group for this research. It takes time to build up professional experience to be able to spot market opportunities, hence only 3% in the 18 - 25 age group. Distribution between EP and IEP groups is comparable.

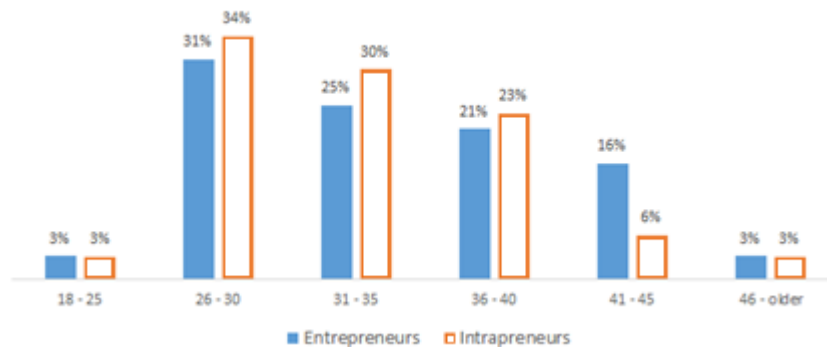


Figure 5. Respondents by age. Source: survey results.

Education level of the respondents falls into two main groups – respondents with bachelor and master degree level of education (88% for EP and 92% for IEP). Education level for entrepreneurs and intrapreneurs is also comparable, which conforms to the theory that human capital for both groups is comparable.

There is a significant difference between EP and IEP groups when viewed from company employee count perspective - entrepreneur companies are smaller than the intrapreneur ones. 77% of all entrepreneur companies having up to 50 employees as compared to 39% for intrapreneurs. This difference can be attributed to two factors - it

takes time for entrepreneurs to build up their companies and that intrapreneurs stay with the existing companies due to growth, opportunity prospects which often can be offered by large companies. High initiative, knowledgeable employee typically has a choice to start a new company (few employees) or lead a unit in already established company (many subordinates).

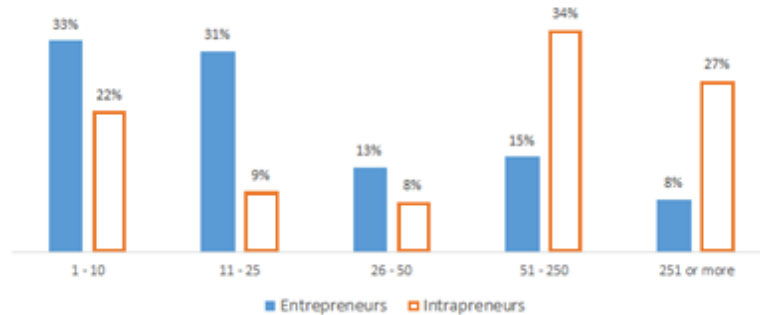


Figure 6. Respondents by company employee count. Source: survey results.

Industry distribution for EP and IEP groups is comparable. However service industry worker representation is dominant (sales, finance, IT and other services covering 80% in EP group and 82% IEP), as well as finance and IT taking 54% (in both groups). Current distribution of industries is probably related with respondent selection based on LinkedIn profiles. LinkedIn is used for professional networking, used predominantly in B2B, therefore service industry related profiles were more common. Higher IT industry representation could be related with business crosscutting function by providing new disruptive services in other industries (based on IT technologies) and increased relevance of technological advancement in last 10 years. Thus current research can be considered as being biased, having results related to service industry.

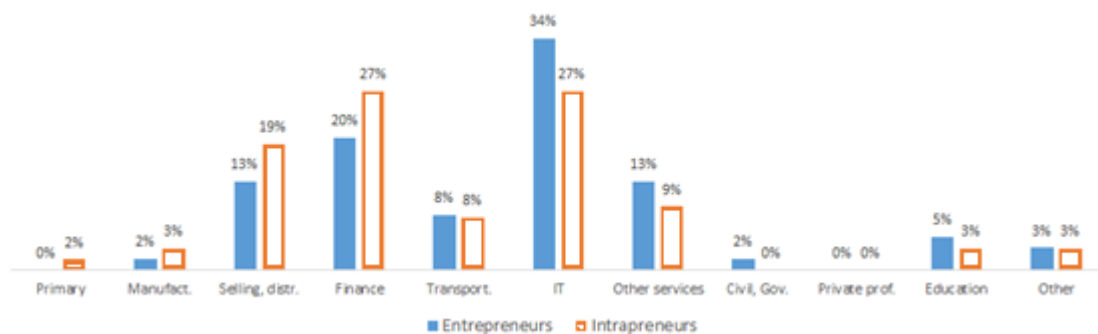


Figure 7. Respondents by industry. Source: survey results.

Entrepreneur and intrapreneur groups are also comparable based on individual

marital status, total work experience in organization and education match to work industry dimensions (see additional detailed comparison breakdowns in Appendix B).

#### 4.2. Analysis of Decision Making Factors

Kolmogorov – Smirnov Z criteria was used to determine whether factor scale values are normally distributed (test results available in Appendix C). Based on the criteria all factor scales were not confirmed to be normally distributed, therefore nonparametric statistical methods were used.

Risk Aversion. There is a significant difference between entrepreneurs and intrapreneurs - intrapreneurs are more risk averse, consistent with expected results. In entrepreneur group 91% considered themselves as taking risk, as compared to 54% in intrapreneur group. Difference is even more pronounced when comparing Agree group - 48% for entrepreneurs and only 9% for intrapreneurs.

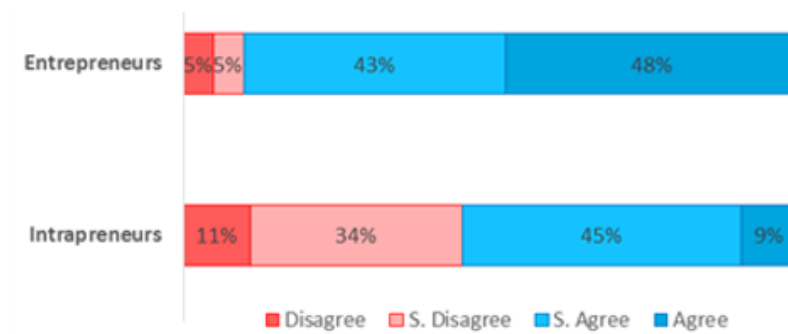


Figure 8. Respondents’ risk aversion factor. Source: survey results.

Kruskal-Wallis H test (KW test, full results in Appendix C) confirmed the distribution difference at 0.01 level, having Chi-Square of 34.8 and ranks for risk aversion Disagree / Somewhat Disagree of 75 compared to ranks of 54 and 34 for Somewhat Agree and Agree. Based on Spearman's rho correlation analysis (Spearman test, detailed results in Appendix C), there is a statistically significant correlation at 0.01 level between entrepreneur (deciding to pursue entrepreneurship) and risk aversion with a correlation coefficient of -0.536. In other words - the more risk averse the individual, the more likely he will pursue intrapreneurship instead of entrepreneurship.

Open question textual analysis also revealed strong confirming results. Two top reasons why intrapreneurs didn’t start their own companies were related with better perceived stability in existing company (9 responses) and low success rate when starting a new company (7). Intrapreneurs most often (8) mentioned high risk (to start a new

company) as a reason to remain with existing company.

Independence. It was expected that both entrepreneurs and intrapreneurs would value independence, entrepreneurs having higher extent and results are consistent. Higher level of Agree responses in entrepreneur group is consistent with expectations (54% against 41% in intrapreneur group). Somewhat interesting though is the group of entrepreneurs (8%) who stated that independence was not relevant for them. This group could be explained by cofounders - entrepreneurs might have started the company as part of a team where initiative was more driven by other cofounders.

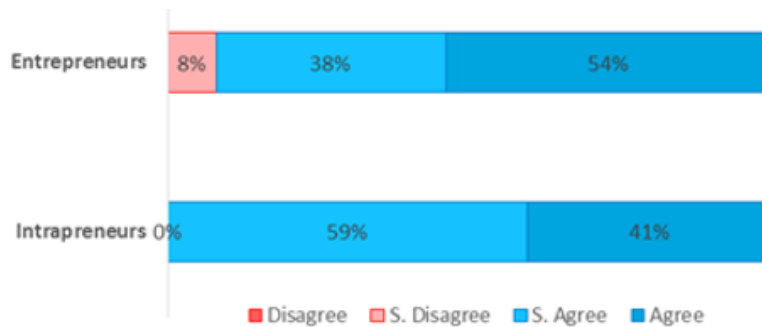


Figure 9. Respondents' independence factor. Source: survey results.

KW test confirmed the distribution difference at 0.05 level, having Chi-Square of 9.5 and ranks (from Disagree to higher) of 31, 70, 66 and 47. Based on Spearman test there was no statistically significant correlation between entrepreneur (becoming an entrepreneur) and independence factor, also predicted correlation coefficient was only -0.056. Open question textual analysis however confirmed independence relevance for entrepreneurs, it was the top reason why entrepreneurs had started the company (14).

Entrepreneurial Ability. Consistent to expected results in Latvia, there is a higher difference of entrepreneurial ability perception between entrepreneur and intrapreneur groups, intrapreneurs valuing their ability lower. 72% of entrepreneurs perceived their entrepreneurial ability as acceptable compared to 51% in intrapreneur group. In Agree group - 31% against 9%, similarly in Disagree group - 0% and 8% for intrapreneurs.

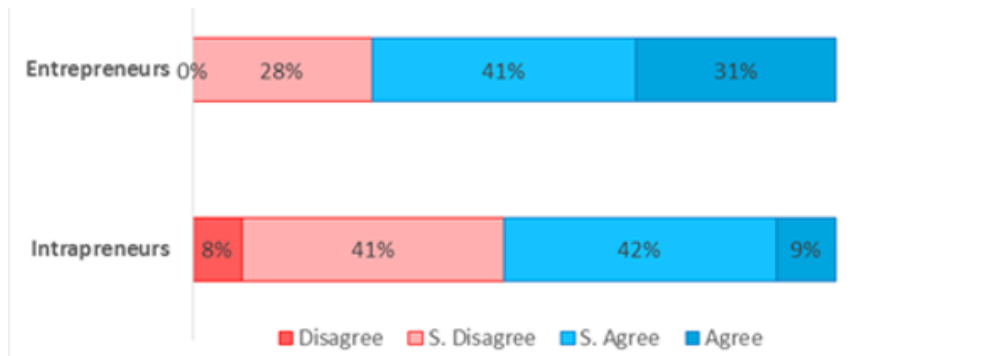


Figure 10. Respondents' entrepreneurial ability factor. Source: survey results.

Author found distribution difference at 0.05 level based on KW test, having Chi-Square of 9.8 and ranks of 70 for Disagree and 50 for Agree. There is also a statistically significant correlation at 0.01 level (based on Spearman test) between entrepreneur and entrepreneurial ability, with correlation coefficient of -0.276. In open question analysis intrapreneurs mentioned not being ready (4) for entrepreneurship as a third top reason why they remained with existing company.

Environment. There is a significant difference between entrepreneurs and intrapreneurs - intrapreneurs perceived less to them necessary resource availability in the environment to start a new company, consistent with expected results. In entrepreneur group 74% considered that they have the necessary resources, as compared to only 38% in intrapreneur group. When comparing Agree group - 23% for entrepreneurs, intrapreneurs had 0%. Similar results on the Disagree side - 0% for entrepreneurs, whole 14% for intrapreneurs.

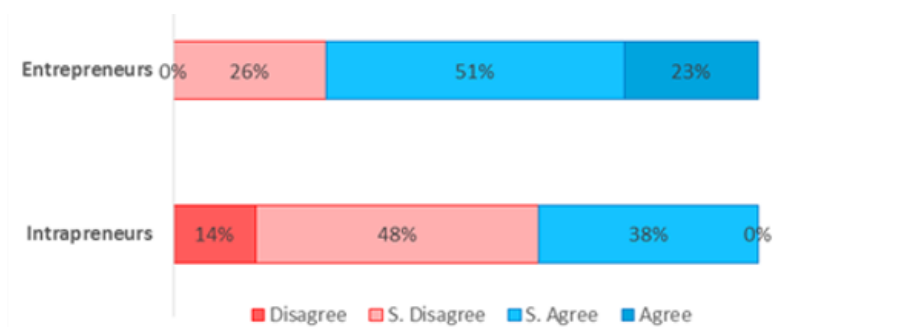


Figure 11. Respondents' environment factor. Source: survey results.

KW test confirmed the distribution difference at 0.01 level, having high Chi-Square of 33.2 and ranks for environment at 4 categories (starting from Disagree) of: 90, 70, 40 and 30 respectively. Spearman test results show that there is a statistically



significant correlation at 0.01 level between entrepreneur and environment with a correlation coefficient of -0.515. Meaning that individual will more likely pursue intrapreneurship instead of entrepreneurship when necessary environment resource availability is perceived to be low.

Open question textual analysis also highlighted similar findings. Entrepreneurs mentioned funding (10) and knowledge (9) as two top needed support. Intrapreneurs were lacking funding (5) as one of top reasons why they didn't start their own companies.

Business Barriers. In entrepreneur group 75% considered that they more likely don't have business barriers, as compared to only 50% in intrapreneur group. Agree on Disagree response differences were also pronounced, entrepreneurs having higher scores. Such results are different from expected results, when it was expected that barriers would be more equal between both groups.

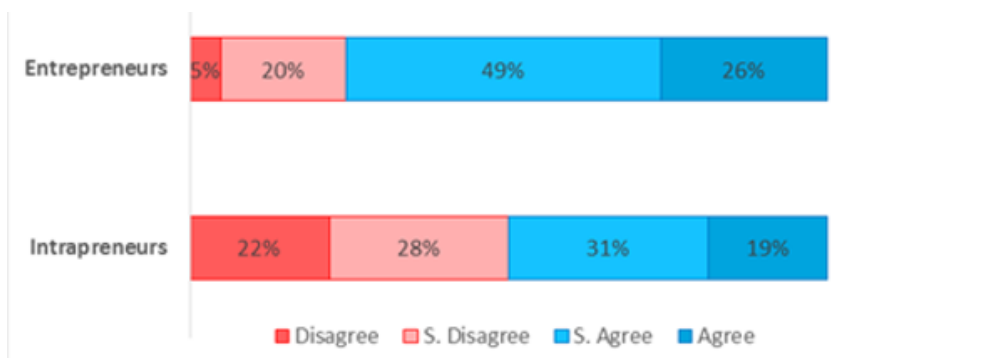


Figure 12. Respondents' business barriers factor. Source: survey results.

However based on KW test there is no statistically significant difference between the entrepreneur and intrapreneur distributions (Sig. level of .066). Based on Spearman test there is a statistically significant correlation at 0.01 level between entrepreneur and business barriers, with correlation coefficient of -0.230.

Behavioral and Cultural Barriers. 74% of respondents in entrepreneur group viewed that they more likely don't have behavioral and cultural barriers compared to 55% in intrapreneur group. The result shows that intrapreneurs remained with the existing company because of perceived less barriers, which contradicts the initially expected outcome.

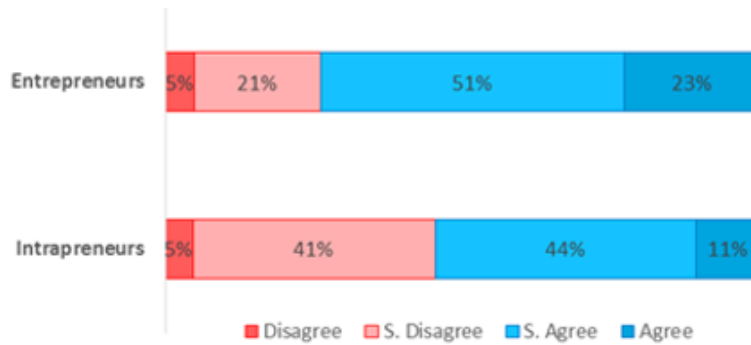


Figure 13. Respondents' beh. and cultural barriers factor. Source: survey results.

KW test was positive at 0.01 significance level, having Chi-Square of 13.529. Spearman test also identified statistically significant correlation at 0.01 significance level between entrepreneur and behavioral and cultural barriers, with correlation coefficient of -0.266. Textual analysis of open questions also found highlighted similar findings. Entrepreneurs mentioned management support (11) as single main factor missing in previous company as well as Employer (7) being one of main reasons to start a new company. Similarly in intrapreneur group - 14 mentions of management support as single missing company support.

Other Factors. For the following factors author did not find statistically significant differences based on KW or Spearman tests, or relevant mentions based on textual analysis.

*Self-Efficacy.* Entrepreneurs perceive themselves to be slightly better at self-efficacy, however difference is not significant (97% against 93% for intrapreneurs). Overall consistent with expected results that there should be no difference between groups.

*Ownership / Profit.* Contrary to expected results, there is no difference between entrepreneurs and intrapreneurs in terms of expected ownership profit. In entrepreneur group 92% expected company to share profits against 98% in intrapreneur group. Results might have been different if majority ownership would be evaluated. Important to note – ownership / profit was valued as very important in both groups.

#### 4.3. Group Factor Pattern Analysis

As additional value, author did sub group analysis by selecting sub groups from entrepreneurs and intrapreneurs based on specific criteria (e.g. age, gender) and

comparing with the overall results. Obtained results are not representative of the general population due to small selection size, however provide some insights for future research directions. Comparison was based on factor average values for each of the subgroups compared to corresponding average values for overall survey responses. Likert scale values were mapped to numeric values 1, 2, 3, 4 with Disagree = 1, Agree = 4. Author further describes found key interesting differences in compared groups.

Age group 18 - 30 / (against) Age group 30 - 40. Intrapreneurs are less risk averse at the age group 18 - 30 (average - 2.750) as compared to age 30 - 40 (2.471). Entrepreneurs become less risk averse with age (3.190 against 3.429). Entrepreneurial ability perception increases for entrepreneurs (2.810 against 3.036), but for intrapreneurs - decreases (2.667 against 2.471).

Working in education industry / not working in education industry. Entrepreneurs working in industry related to their obtained education (average - 3.190) are more confident in their entrepreneurial abilities than non-industry working ones (2.684). Also those working in industry perceive less barriers (business - 3.048, behavior - 3.119) compared to non-industry working ones (2.789 and 2.474 correspondingly). Intrapreneurs working in industry (average - 2.243) are more risk averse as compared to not working in industry (2.962).

Bachelor degree education / master degree education. Intrapreneurs with master degree education evaluated their entrepreneurial abilities lower (average - 2.323) than ones with bachelor degree (2.786). Similarly with environment perception (entrepreneurial ecosystem), intrapreneurs with master degree perceived it as less available (average - 2.097) as compared to bachelor degree (2.464).

Full list of performed group factor comparisons is available in Appendix C.

#### ***4.4. Regression Analysis of Decision Making Factors***

Author performed ordinal regression analysis to determine factor model impact on entrepreneurial decision. Decision to become entrepreneur or intrapreneur was the dependent variable, eight factors – independent variables. Result pseudo R-Square for the model was 0.506 based on Nagelkerke and 0.345 for McFadden, representing excellent fit based on value ranges. Using simplified R-Square interpretation, results show that the model explains roughly 51% of the variation in the outcome. From factor analysis there were two statistically significant factors (at 0.01 level): risk aversion and

environment. Risk aversion had estimated factor value - 0.963 and environment: -1.973, which correspond to odds ratios of 0.38 and 0.14 correspondingly; odds in favor of becoming an entrepreneur in case of independent factor increases, e.g. 0.38 equals 2.6 to 1 (entrepreneur / intrapreneur). Full model results are shown in Table 5.

		Estimate	Std. Error	Wald	df	Sig.
Dependent Variable	[Entrepreneur = 1.00]	-6.214	2.566	5.862	1	.015
Independent variables	<b>Risk Aversion</b>	<b>-.963</b>	.347	7.709	1	<b>.005</b>
	Self-Efficacy	.025	.546	.002	1	.963
	Independence	.103	.438	.056	1	.813
	Entrepreneurial Ability	-.149	.401	.137	1	.711
	Ownership	.773	.512	2.279	1	.131
	Business Barriers	-.615	.480	1.642	1	.089
	Behavioral and Culture Barriers	.013	.397	.001	1	.973
	<b>Environment</b>	<b>-1.973</b>	.521	14.315	1	<b>.000</b>

Table 5. Ordinal regression estimated model. Source: author statistical analysis results.

## 5. Discussion of Results

When attempting to answer the research question – “Which factors and to what extent influence employee choice between pursuing opportunities through entrepreneurship or intrapreneurship in Latvia?”, it was found that there are three factors that differentiate entrepreneurs from intrapreneurs (statistically significant correlation) - risk aversion, entrepreneurial ability and environment. All three factors were found to be inter correlated (risk aversion to environment: .479, entrepreneurial ability to environment: 0.311 and risk aversion to entrepreneurial ability: 0.366 at 0.01 level based on Spearman’s rho). To understand impact extent author constructed factor ordinal regression model predicting entrepreneurial decision and model provided good fit, overall explaining 51% variability of the outcome. Two factors were statistically significant - risk aversion with odds ratio of 0.38 (intrapreneur / entrepreneur outcome) and environment with 0.14 correspondingly. Both factors are related with risk - risk aversion determines acceptable risk threshold and environment affects risk (directly impacts perceived success / failure level), though environment factor could also be considered as prerequisite. Which implies that key factor for entrepreneurial decision in Latvia is risk assessment. Such model would also explain why there was statistically significant difference between entrepreneurs and intrapreneurs in terms of their perceived entrepreneurial ability (having correlation of 0.276 with entrepreneurship) - lower entrepreneurial abilities would mean higher risk to fail as entrepreneur, hence individuals with lower perception would be less likely to become entrepreneurs. Both of the factors explain what is missing for intrapreneurs to become entrepreneurs. As validated with experts such results appear to be reasonable and logical. Current research has insufficient data to test whether intrapreneurs would pursue entrepreneurship if risk of entrepreneurship would be acceptable, however in author’s view some next set of factors would determine the decision. Thus still raising a question what really are the differentiating qualities of entrepreneurs and intrapreneurs apart from one accepting the risk and others not.

Contrary to expected results, perceived business barriers and behavioral and cultural barriers were found to be statistically significantly higher in intrapreneur group. In author’s view this could be explained by higher priority disabling factors and too high barrier perception in intrapreneur group. Key factors affecting entrepreneurial

decision are disabling factors - risk aversion and environment resource perceived availability. These factors don't "allow" individual to pursue entrepreneurship. Then again barrier factors inside the organization explain why employee would have a preference to stay with the company when he had the actual choice to pursue entrepreneurship. Idea behind too high barrier perception is that employee would prefer to stay with the company over entrepreneurship when he would have very few barriers. Current data in intrapreneur group show that their level of perceived barriers is too high.

Overall independence and company ownership / profit sharing was found to be important in both entrepreneur and intrapreneur groups (based on descriptive statistics, having high scores). Such results are consistent with theory that both entrepreneurs and intrapreneurs prefer to make their own decisions and be rewarded for their extra efforts, main difference being how they decide to pursue it within each of the groups. Author did expect some differences in Latvia context due to less developed ownership / profit sharing practices. Results might have been different based on the theory, if importance extent would have been measured for independence and majority ownership (open question analysis confirmed this view). Self-efficacy was found to be equal in the groups, which is also consistent with the theory that entrepreneurs and intrapreneurs have same level of skills.

Based on group factor pattern analysis author found an interesting indication (sample data not sufficient to be representative) about intrapreneur group for future research. Age (increasing), intrapreneur working in industry matching with attained education and higher level of education (master degree) made intrapreneurs more risk averse, had their entrepreneurial skill perception and environment availability perception lower. Opposite patterns were observed in the entrepreneur group. In author's view above could be explained with experience – the more intrapreneur learns / increases his experience (but doesn't try to be an entrepreneur), the more challenges / risks he perceives related with entrepreneurship. As compared to entrepreneurs – they learn how to overcome, be better at entrepreneurship by doing, therefore their outlook becomes more positive. Age in this case thus would be a measure of experience. It would be valuable to investigate this pattern in more depth.

*To promote intrapreneurship.* Top reason why intrapreneurs didn't start their own companies were related with better perceived stability (lower risk) in existing

company, again returning to risk assessment. In author's views companies have ability to impact cost of best alternative in individual's risk assessment to start entrepreneurship. The higher the value of best alternative, the higher perceived potential loss when leaving the company. Companies can achieve this by balancing work stability, predictability and compensation packages, e.g. convincing individual that he will have guaranteed employment for next 5 years, with good steady career growth. It is also important to note that independence and ownership / profit sharing is equally important for intrapreneurs, however current research did not measure its extent and impact on the decision.

*To promote entrepreneurship.* Need to reduce perceived risk associated with entrepreneurship and help overcome minimum environment factor related risks. Key dimensions of risk in this context - chances of success, cost of failure, cost of best alternative, perceived rewards, time to fail. For example, there is no government welfare support during new venture creation. Both groups mentioned funding availability as a problematic factor to start a new company, especially necessary funding to develop, validate opportunity (high uncertainty and chance of failure), especially ones having high risk. Thus in case of no external funding, entrepreneurs need to finance the venture and own living expenses themselves. In case of failed venture, there is no option to return to previous job, low chance of finding job equivalent to previous position / salary as well as very limited government welfare support for unemployed. Additionally entrepreneurs mentioned need for knowledge / guidance support when starting new venture.

Research Limitations / Future directions. Author identified multiple limitations in the current research that could have impacted the results. Also correspondingly these limitations could be taken into account to perform new more precise research.

Respondent selection - respondents were selected based on LinkedIn professional network people search. As seen in the respondent data, industry representation was not evenly distributed, due to significantly lower preference to use such networks by professionals in certain industries. Thus research results potentially could be applicable only to certain industries and not generalized across others.

Opportunity complexity – results could potentially vary depending on how much effort is required to pursue specific opportunity. For example in pharma industry it

would take much longer to release a new drug into the market (quality controls, human testing etc.) than some simple consumer electronics product. Additionally opportunity pursuit could be easier through intrapreneurship or entrepreneurship, e.g. introducing improved product using existing production facilities in current company would be easier than setting up everything from start.

Limited survey respondent count - higher respondent count is preferred for more reliable results (in the range of 300 in total for both groups). Each potential respondent manual selection based on criteria and contact information search made potential respondent selection time consuming. Additionally entrepreneurs and intrapreneurs are less responsive to general requests and required individual communication. Hence the current research has somewhat limited number of responses (125 in total).

Factors selected - factors were selected based on the amount / result consistency of prior research in the area. It's possible that some other less researched factors could have had a higher impact on the entrepreneurial decision (as identified in regression analysis - current factors predicted up to 0.5 of the variance). Entrepreneurial decision influencing factors is still insufficiently researched domain.

Employee group baseline - comparison of entrepreneur and intrapreneur results with employees would have been preferred to validate expected differences between the groups (and intrapreneur respondent selection). Also it would allow to better understand how much intrapreneurs are like to employees, as well as what are the differences. Self-employed is another very interesting group.

Cofounders - common pattern is that companies are cofounded by multiple founders, whose skills are complementary. Degree of founder engagement differs - some of the founders potentially having less entrepreneurial traits and more relation/specific skills based reasons to participate in entrepreneurship. Such founders potentially could be more similar to intrapreneurs (or even employees) and on their own would not have decided to pursue entrepreneurship, thus impacting results. Author did not exclude such founders from the respondents due to fuzzy classification.



## 6. Conclusions

The goal of this research was to identify factors that determine employee choice (entrepreneurial decision) between pursuing opportunities through entrepreneurship or intrapreneurship in Latvia. Author developed 8 factor model based on theory, entrepreneurship research and decision research results for other countries. Factor model data were obtained using online survey that allowed to answer the research question of this study.

Research helped to identify factors that significantly influence the entrepreneurial decision in Latvia. Risk aversion, entrepreneurial ability and environment (entrepreneurial ecosystem) factors were found to differentiate entrepreneurs from intrapreneurs in terms of entrepreneurial decision. Risk aversion and environment factors were found to have significant impact on the decision, overall model explaining 51% variability of the outcome, having odds ratios of 0.38 and 0.14 for entrepreneurship. Both of the factors are risk assessment related. Important to note that author did not find confirmation of business, behavioral and cultural barrier impact on the decision. Also, though not as a differentiator, independence and company ownership / profit sharing was found to be very important both for entrepreneurs and intrapreneurs.

Considering results in context, innovative knowledge worker employee relevance will increase even more in the future. Continuous innovation becoming a must to maintain competitive edge. Critical problem solving, critical thinking and creativity being top three in demand skills by 2020 (World Economic Forum, 2016b). Therefore it should be of top interest for companies how to keep such employees from leaving. From environment perspective it's important to understand what is holding back the potential new entrepreneurs to support them. This paper contributes to understanding how to achieve this in Latvia context.

Risk aversion and environment factors explain why intrapreneurs don't pursue entrepreneurship (what holds them back). As further research direction author would find valuable to identify positive factors that influence the decision. Textual analysis revealed two additional interesting top reasons why entrepreneurs decided to start their own companies - pursuit of opportunity and ambitions.

## 7. References

- Agarwal, R., Echambadi, R., Franco, A. M., & Sarkar, M. B. (2004). *Knowledge transfer through inheritance: spin-out generation, development, and survival*. *Acad. Manage. J.*, 47 (4), 501–522.
- Agor, W. H. (1986). *The logic of intuition – how top executives make important decisions*. *Organizational Dynamics*, 14, 5–18.
- Amo, B.W. (2006). *The influence from corporate entrepreneurship and intrapreneurship on white-collar workers' employee innovation behaviour*. *International Journal of Innovation and Learning*, 3(3), 284-298.
- Antonicic, B. (2003). *Risk taking in intrapreneurship: Translating the individual level risk aversion into the organizational risk taking*. *Journal of Enterprising Culture*, 11(1), 1.
- Arenius, P., & Minniti, M. (2005). *Perceptual variables and nascent entrepreneurship*. *Small Business Economics*, 24(3), 233–247.
- Avotins, V., Jermolajeva, E., Kantane, I., & Sloka, B. (2014). *Analysis of entrepreneur's motivation to start business*. *European Integration Studies*, 8, 152 - 158.
- Babb, E. M., & Babb, S. V. (1992). *Psychological traits of rural entrepreneurs*. *Journal of Socio-Economics*, 21, 353 – 362.
- Baltrusaityte-Axelson, J., Sauka, A., & Walter, F. (2008). *Nascent Entrepreneurship in Latvia*. Riga, Latvia: Dardedze Holografija.
- Bandura, A. (1982). *Self-efficacy mechanism in human agency*. *American Psychologist*, 37, 122–147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Begley, T. M., & Boyd, D. P. (1987). *A comparison of entrepreneurs and managers of small business firms*. *Journal of Management*, 13, 99–108.
- Begley, T. M. (1995). *Using founder status, age of firm, and company growth rate as the basis for distinguishing entrepreneurs from managers of smaller businesses*. *Journal of Business Venturing*, 10, 249–263.

- Berke-Berga, A., Dovladbekova, I., Sumilo, E., & Baumane-Ozolina, I. (2015). *Development of Employee Integration: Share Ownership Perspective*. Proceedings of the International Scientific Conference "Economic Science for Rural Development", 79-88.
- Block, Z., and MacMillan, L G. (1993). *Corporate Venturing*. Boston, Massachusetts: Harvard Business School Press.
- Blanchflower, D. G., & Oswald, A. J. (1998). *What Makes an Entrepreneur*. Journal of Labor Economics, 16(1), 26-60.
- Budner, S. (1982). *Intolerance of ambiguity as a personality variable*. Journal of Personality, 30, 29–50.
- Burger, J. (1985). *Desire for control and achievement-related behaviors*. Journal of Personality and Social Psychology, 48, 1520-1533.
- Burgess, C. (2013). *Factors Influencing middle managers' ability to contribute to corporate entrepreneurship*. International Journal of Hospitality Management, 32.
- Busenitz, L. W. & Lau, C. M. (1996). *A cross-cultural model of new venture creation*. Entrepreneurship Theory and Practice, 20, 25–38.
- Busenitz, L. W., & Barney, J. B. (1997). *Differences between entrepreneurs and managers in small firms: Biases and heuristics in strategic decision-making*. Journal of Business Venturing, 12, 9–30.
- Campbell, B. A., Ganco, M., Franco, A. M., & Agarwal, R. (2012). *Who leaves, where to, and why worry? Employee mobility, entrepreneurship and effects on source firm performance*. Strateg. Manage. J. 33(1), 65–87.
- Casson, M. (1982). *The Entrepreneur*. Totowa, NJ: Barnes & Noble Books.
- Chell, E. (2008). *The Entrepreneurial Personality*. New York, NY: Routledge.
- Cieslik, J., Domurat, A., Macko, A., & Tuszka, T. (2011). *Motivation, Self-Efficacy, and Risk Attitudes among Entrepreneurs during Transition to a Market Economy*. The Journal of Socio–Economics, 40, 124–131.
- Collins, C. J., Hanges, P. J., & Locke, E. A. (2004). *The relationship of achievement motivation to entrepreneurial behavior: A meta-analysis*. Human Performance,

17(1), 95-117.

- Davis, K. S. (1999). *Decision criteria in the evaluation of potential intrapreneurs*. *Journal of Engineering & Technology Management*, 295-327.
- Douglas, E., & Fitzsimmons, J. (2012). *Intrapreneurial intentions versus entrepreneurial intentions: Distinct constructs with different antecedents*. *Small Business Economics*, 41(1), 115–132.
- Douglas, E. J., & Shepherd, D. A. (2000). *Entrepreneurship as a utility-maximizing response*. *Journal of Business Venturing*, 15(3), 231–251.
- Douglas, E. J., & Shepherd, D. A. (2002). *Self-employment as a Career Choice: Attitudes, Entrepreneurial Intentions, and Utility Maximization*. *Entrepreneurial Theory and Practice*, 26(3), 81-90.
- Gartner, W. B. (1988). *"Who is an entrepreneur" is the wrong question*. *American Small Business Journal*, 13, 11-31.
- GEM, (n.d). *Entrepreneurial Behaviour and Attitudes*. Retrieved March 10, 2017, from <http://www.gemconsortium.org/data/key-aps>
- Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. (1997). *Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms*. *Administrative Science Quarterly*, 42(4), 750–783.
- Gumpert, D. E., Stevenson, H. H. (1985). *The Heart of Entrepreneurship*. *Harvard Business Review*, March-April, 85–94.
- Haynie, M., Shepherd, D. A., & McMullen, J. S. (2009). *An Opportunity for Me? The Role of Resources in Opportunity Evaluation Decisions*. *Journal of Management Studies*, 46(3), 337-361.
- Hellmann, T. (2007). *When do employees become entrepreneurs?* *Manage. Sci.*, 53(6), 919–933.
- Homsby, J. S., Kuratko, D. F., & Zahra, S. A. (2002). *Middle Manager's Perception of the Internal Environment for Corporate Entrepreneurship: Assessing a Measurement Scale*. *Journal of Business Venturing*, 17, 1-253.
- Isenberg, D. (2011). *The entrepreneurship ecosystem strategy as a new paradigm for economy policy: principles for cultivating entrepreneurship*. Babson

Entrepreneurship Ecosystem Project, Babson College, Babson Park: MA.

- Jarillo, J. C., & Stevenson, H. H. (1986). *Preserving entrepreneurship as companies grow*. *Journal of Business Strategy*, 6, 10-23.
- Kanter, R. M. (1984). *The Change Masters*. New York, NY: Simon and Schuster.
- Kihlstrom, R. E., & Laffont, J. J. (1979). *A general equilibrium entrepreneurial theory of firm formation based on risk aversion*. *The Journal of Political Economy*, 87(4), 719–748.
- Klanecek, A., & Antoncic B. (2007). *The Influence of Employee Ownership on Intrapreneurship and Growth*. *Zagreb International Review of Economics & Business*, 10(2), 35-52.
- Klepper, S., Thompson, P. (2010). *Disagreements and intra-industry spinoffs*. *Int. J. Ind. Org.*, 28 (5), 526–538.
- Kuratko, D. F. (2009). *Introduction to entrepreneurship*. Canada: South-Western Cengage Learning.
- Lazear, E. P. (2005). *Entrepreneurship*. *Journal of Labor Economics*, 23(4), 649–680.
- Lucas, R. E. (1978). *On the size distribution of business firms*. *The Bell Journal of Economics*, 9(2), 508–523.
- Markman, G. D., Balkin, D. B., & Baron, R. A. (2002). *Inventors and new venture formation: The effects of general self-efficacy and regretful thinking*. *Entrepreneurial Theory & Practice*, 27(2), 149–165.
- Martiarena, A. (2013). *What's so entrepreneurial about intrapreneurs?* *Small Business Economics*, 40(1), 27–39.
- Marvel, M. R., & Lumpkin, G. T. (2007). *Technology entrepreneurs' human capital and its effects on innovation radicalness*. *Entrepreneurship: Theory & Practice*, 31(6), 807–828.
- McClelland, D. (1961). *The achieving society*. New York, NY: Van Nostrand.
- McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). *Entrepreneurial self-efficacy: Refining the measure*. *Entrepreneurship Theory and Practice*, 33, 965–988.

- McGrath, R., MacMillan, I., & Scheineberg, S. (1992). *Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs*. *Journal of Business Venturing*, 7, 115-135.
- McMullen, J. S., & Shepherd, D. A. (2006a). *Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur*. *Academy of Management Review*, 31(1), 132–152.
- McMullen, J. S., & Shepherd, D. A. (2006b). *Encouraging Consensus Challenging Research in Universities*. *Journal of Management Studies*, 43(8), 1643–1669.
- Meng, J.C.S., & Roberts, E.B. (1996). *Understanding Barriers to Innovation and Intrapreneurship in an R&D Organization*. Sloan WP #3895 March, the International Centre for Research on the Management of Technology MIT Sloan.
- Miller, D., & Drozge, C. (1986). *Psychological and traditional determinants of structure*. *Administrative Science Quarterly*, 31, 539–560.
- Monsen, E., Patzelt, H., & Saxton, T. (2010). *Beyond simple utility: Incentive design and trade-offs for corporate employee-entrepreneurs*. *Entrepreneurship Theory and Practice*, 34(1), 105–130.
- Papadakis, V., Lioukas, S., & Chambers, D. (1998). *Strategic decision-making processes: the role of management and context*. *Strategic Management Journal*, 19, 115-147.
- Pereira, L. M., & Hashimoto, M. H. (2015). *External Entrepreneurial Orientation: A Path to Corporate Innovation*. *Revista de Negócios*, 20(2), 4-14.
- Pinchot, G. 1985. *Intrapreneuring: Why You Don't Have to Leave the Corporation to Become an Entrepreneur*. New York, NY: Harper & Row.
- Pinchot, G., & Pellman, R. (1999). *Intrapreneuring in Action; A Handbook for Business Innovation*. San Francisco, CA: Berret-Koehler Publishers Inc.
- Praag, C. M., & Cramer, J. S. (2001). *The roots of entrepreneurship and labour demand: Individual ability and low risk aversion*. *Economica*, 68(26), 45–62.
- Robinson, M. (2001). *The ten commandments of intrapreneurs*. *New Zealand Management*, 48(11), 95-97.

- Rotter, J. (1966). *Generalized expectancies for internal versus external control of reinforcements*. Psychological Monographs, 80, No. 609.
- Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Cheltenham, UK: Edward Elgar.
- Sharma, P., & Chrisman, J. J. (1999). *Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship*. Entrepreneurship Theory and Practice, 23(3), 11–27.
- Shaver, K. G., Gartner, W. B., Crosby, E., Bakalarova, K., & Gatewood, E. J. (2001). *Attributions about entrepreneurship: A framework and process for analyzing reasons for starting a business*. Entrepreneurship Theory and Practice, 26(2), 5–33.
- Timmons, J. A. (1989). *The Entrepreneurial Mind*. Andover, MA: Brick House Publishing.
- Venkataraman, S. (1997). *The distinctive domain of entrepreneurship research*. In Advances in entrepreneurship, firm emergence and growth, 3, 119-138.
- Wheelen, T. L. & Hunger, D. L. (2000). *Strategic Management and Business Policy*. New York: Addison-Wesley Publishing.
- Wickham, P. A. (2006). *Strategic Entrepreneurship*. 4th edition. New York: Prentice Hall.
- Wiklund, J., Davidsson, P., & Delmar, F. (2003). *What do they think and feel about growth? An expectancy-value approach to small business managers' attitudes toward growth*. Entrepreneurship Theory and Practice, 27(3), 247–269.
- World Economic Forum (2016a). *Europe's Hidden Entrepreneurs: Entrepreneurial Employee Activity and Competitiveness in Europe*. Retrieved May 15, 2017, from <https://www.weforum.org/whitepapers/europe-s-hidden-entrepreneurs-entrepreneurial-employee-activity-and-competitiveness-in-europe>
- World Economic Forum (2016b). *The Future of Jobs and Skills, Top 10 skills*. Retrieved March 15, 2017, from <http://reports.weforum.org/future-of-jobs-2016/shareable-infographics/>
- Yeganegi, S., Laplume, A. O., Dass, P., & Huynhc, C. (2016). *Where do spinouts come from? The role of technology relatedness and institutional context*. Elsevier, Research Policy, 45, 1103-1112.

## 8. Appendices

### *Appendix A. Questionnaire*

Questionnaire respondent groups:

- Entrepreneurs - people who had been previously employed then have started their own companies that are still operational today;
- Intrapreneurs - Experienced employees working in leading (knowledge wise) product development, sales, R&D positions or team lead / management. These employees would need to match qualifying questions to be considered as valid intrapreneurs.

Questionnaire consists of 6 parts:

- Introduction, purpose, instructions;
- General / demographic questions, qualification questions;
- Scales for employee trait factors (3 - 4 statements per factor);
- Scales for company context factors and environment (3 - 4 statements per factor);
- Open questions;
- Completion information - for respondents where to find results of the research.

Title: Entrepreneurial Decision Survey

Surveys available here:

- Entrepreneur: <https://www.surveymonkey.com/r/TG7L2CZ>
- Intrapreneur: <https://www.surveymonkey.com/r/ZSHGTJ9>
- Mixed: <https://www.surveymonkey.com/r/MFGT76C>

Page 1. Description about the research (see online version).

Page 2. General questions, common for entrepreneurs and intrapreneurs

Select the option for your answer for each question.

1) Gender: Male / Female

2) Age: 18 - 25, 26 - 30, 31 - 35, 36 - 40, 41 - 45, 46 or older

3) What is the highest degree or level of school you have completed:

- Primary school graduate
- Secondary school graduate
- Professional degree
- Bachelor's degree
- Master's degree
- Doctorate degree



- Other (please specify)
- 4) What is your marital status:
- Single
  - Married
  - Live together (not married)
  - Other (please specify)
- 5) Total work experience in your current organization:  
0 - 2 years, 3 - 5 years, 6 - 10 years, 11 - 15 years, 16 or more years
- 6) Are you working in an industry directly related with your attained education:  
- Yes, No, Other (please specify)
- 7) Your current organization size:  
0 - 10, 11 - 50, 51 - 250, 251 or more
- 8) Business Industry
- Primary (farming, fishing, mining, etc.)
  - Manufacturing
  - Selling, distribution and retailing
  - Finance and banking
  - Transportation
  - Information technologies
  - Other service industries
  - Civil Service and local government
  - Professions in private practice
  - Education
  - Other (please specify)
- 9) Have you founded or cofounded a company in the past?  
- Yes, No, Other (please specify)

Qualification Question (Intrapreneurs and Mixed only)

Have you had a situation in the past when you identified an opportunity and practically evaluated to pursue it inside your company at the time or starting a new company?

Page 3. Trait factors

**Entrepreneur** instructions:

Please remember a situation when you were still working for your previous company, identified opportunity that you decided to pursue by starting your own company instead of remaining with the previous company.

Looking at yourself back then, please indicate how much you Agree or Disagree with each of the following statements:

**Intrapreneur** instructions:

Please remember a situation when you had great idea (opportunity) that you practically considered to develop on your own by starting a new company.

However instead you decided to remain with the company you worked in at the time. Looking at yourself back then, please indicate how much you Agree or Disagree with each of the following statements:

**Mixed instructions:**

Please remember a situation when you had a great idea (opportunity) that you practically considered to develop on your own by starting a new company. Then you made a decision to start your own independent company / or remain with the previous company (while working in your previous company).

Looking at yourself back then, please indicate how much you Agree or Disagree with each of the following statements:

	Disagree	Somewhat Disagree	Somewhat Agree	Agree
I was a person who took risks (instead of evading them)				
I preferred to pursue higher risk opportunities (and correspondingly higher return)				
I was quite risk taking when I made plans and when I acted on them				
I liked putting things at stake for potential higher returns				
When I planned something, I was able to accomplish it				
I was confident in my abilities to pursue identified opportunity outside of my company				
When something didn't work out, I persistently tried again				
I was able to overcome any problems when I put effort into it				
I preferred to make decisions myself				
Ability to make my own decisions was very important for me				
It was important for me to work independently, decide on my own				
I liked to work autonomously				
I had skills to identify many business opportunities				
My chance of success as an entrepreneur was high				
I had all necessary skills and abilities to be an entrepreneur				

I believed that I can be a successful entrepreneur				
--	--	--	--	--

Page 4. Company, Environment factors

Same instructions as for Page 3.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree
I wanted to be a co-owner of the profits that the opportunity could bring				
It was important for me that company shared potential opportunity profits with me				
I believed that in case of opportunity success, I should be entitled to percentage of the profits				
Company had partial/full IP rights related with the opportunity				
Company could have IP claim related with opportunity in case it was successful				
I believed that company could enforce its intellectual property rights related with the opportunity				
My work was related with company's core business functions				
Opportunity was related with company core business				
Company was open to explore other business opportunities				
Company management saw opportunity potential				
My proposed opportunity didn't pose a threat to individual positions inside the company				
Company was flexible to try out opportunities				
I would not be blamed for opportunity failure inside the company				
Company was willing to pursue less familiar opportunities				
I had necessary social network connections to start a company				
I believed that I have all necessary resources to pursue opportunity on my own (outside of the company)				

I had necessary financial funding to start a company				
I was able to obtain necessary resources when needed to develop my opportunity				
Current company management was positive towards me				
Current company management supported my career growth				
Current company management attitude was positive towards my proposed changes				
Current company management was open to new ideas, experiments				

## Page 5. Open Questions

Entrepreneur case:

- What factors influenced your decision to start your own company?
- What future support would be needed from entrepreneurial ecosystem?
- What was blocking you to develop your opportunity inside your previous company?

Intrapreneur case:

- What influenced your decision to stay with the company?
- What was blocking you to start your own company?
- What future company support would you need to be successful?

Mixed case:

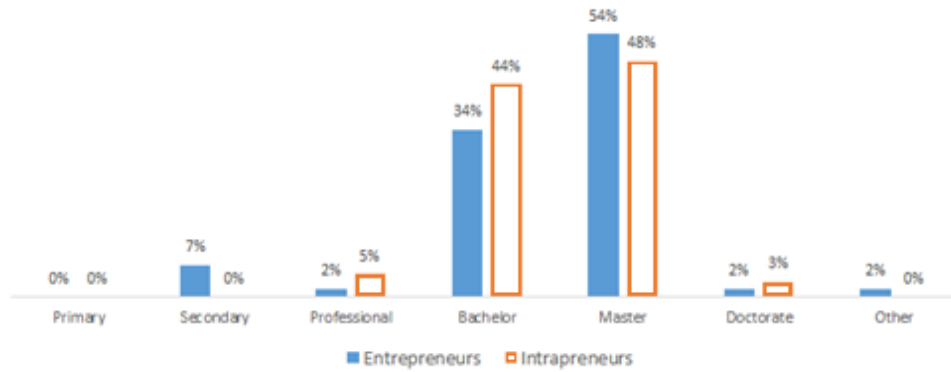
- What factors influenced your decision to start your own company or remain with current company?
- What future support would be needed from entrepreneurial ecosystem (everything outside of company) or what was missing for you to start your own company?
- What previous company support was lacking or was crucial for you to be successful?

## Page 6. Results

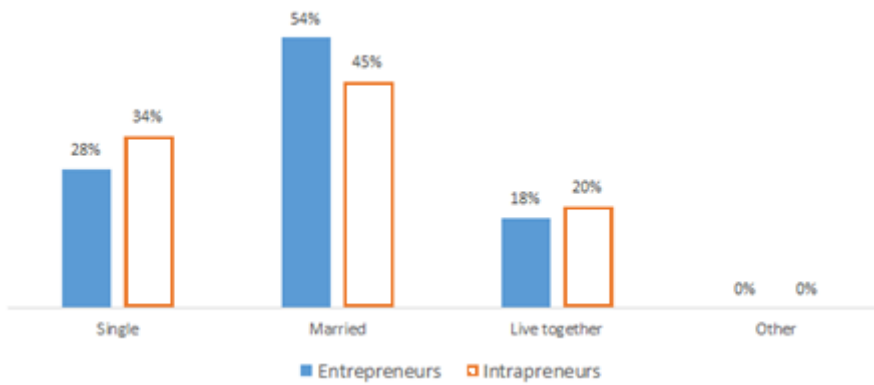
Information where participants would be able to see research results once it's complete. As well as thank you for participation.

## Appendix B. Additional Respondent Comparison Results

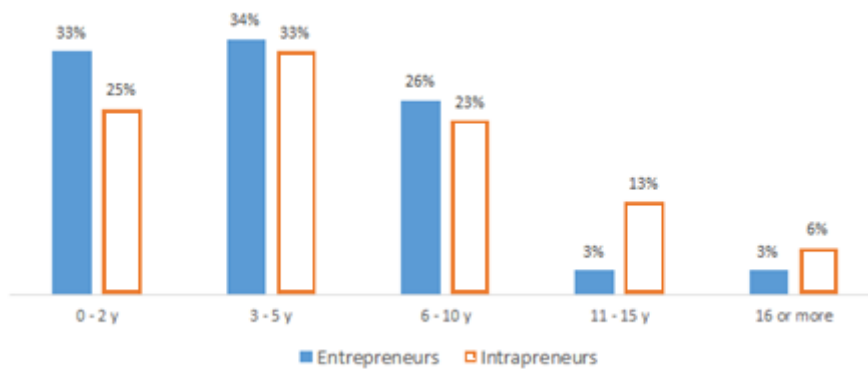
Respondent breakdown by education.



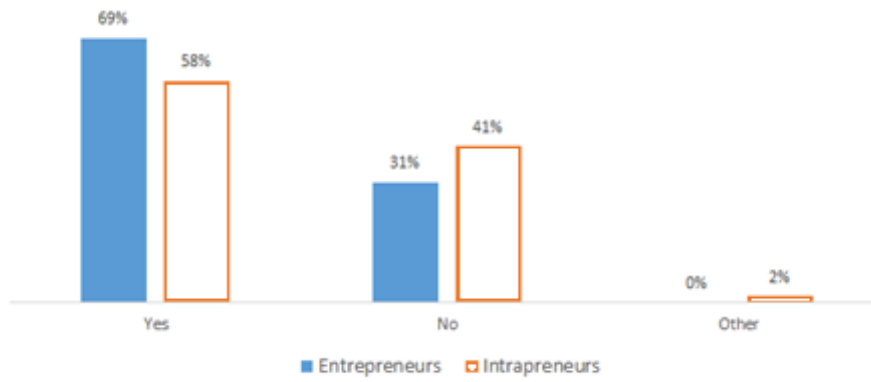
Respondents' breakdown by marital status.



Respondents' breakdown by Total Work Experience in Organization.



Respondents' breakdown by whether Education Matches Industry they work in.



## Appendix C. Statistical Analysis Results

### Survey Reliability Test

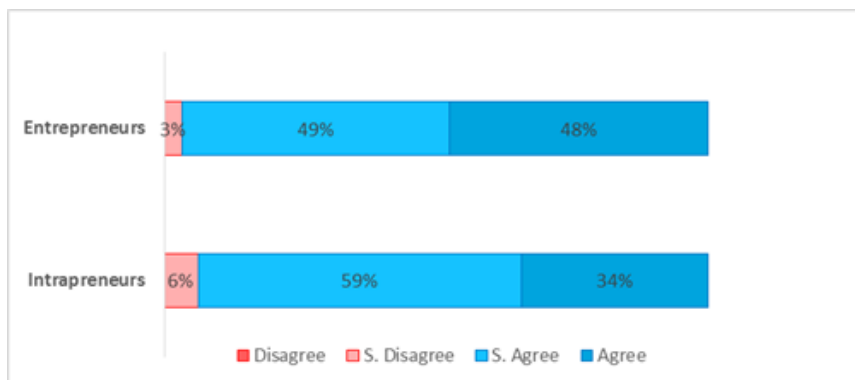
Cronbach's Alpha was used to validate factor scale validity.

Factor	Cronbach's Alpha	# Questions	Notes
Risk Aversion	0.899	4	
Self-Efficacy	0.708	4	
Independence	0.773	4	
Entrepreneurial Ability	0.850	4	
Ownership / Profit	0.724	3	
Business Barriers	0.860	4	
Behavioral and Culture Barriers	0.738	3	Removed question 1 (initial Alpha 0.612)
Environment	0.772	4	

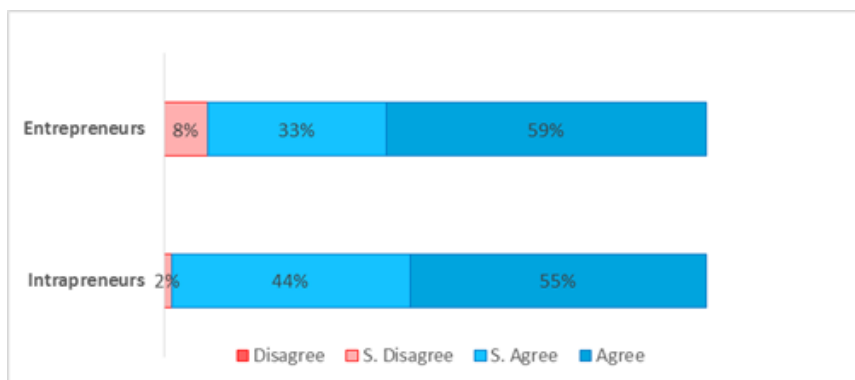
All scale Cronbach's alpha values are above 0.7, thus questions are consistent.

### Additional Factor Descriptive Analysis

Respondents' self-efficacy factor



Respondents' Ownership / Profit factor



### Distribution Type Test

Kolmogorov – Smirnov Z criteria significance was calculated for all scales to determine whether they correspond to normal distribution. Asymp. Sig. was lower than 0.05 for all 9 scales, hence author assumed that distributions are not normally distributed.

		RiskAversion	SelfAfficacy	Independence	EntAbility
Normal Parameters <sup>a,b</sup>	Mean	2.8320	3.2400	3.3120	2.6480
	Std. Deviation	.81739	.47455	.53095	.70718
Most Extreme Differences	Absolute	.085	.139	.131	.111
	Positive	.077	.093	.098	.111
	Negative	-.085	-.139	-.131	-.091
Test Statistic		.085	.139	.131	.111
Asymp. Sig. (2-tailed)		.026 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.001 <sup>c</sup>

		Ownership	BusBarriers	BehBarriers	Environment
Normal Parameters <sup>a,b</sup>	Mean	3.5253	2.6160	2.7547	2.4920
	Std. Deviation	.52066	.93732	.72728	.68313
Most Extreme Differences	Absolute	.227	.131	.152	.100
	Positive	.181	.099	.096	.097
	Negative	-.227	-.131	-.152	-.100
Test Statistic		.227	.131	.152	.100
Asymp. Sig. (2-tailed)		.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.004 <sup>c</sup>

### Distribution Analysis (Kruskal-Wallis H Test)

	RiskAversion	SelfAfficacy	Independence	EntAbility
Chi-Square	34.806	3.384	9.511	9.842
df	3	3	3	3
Asymp. Sig.	.000	.336	.023	.020

	Ownership	BusBarriers	BehBarriers	Environment
Chi-Square	.966	7.182	13.529	33.180
df	3	3	3	3
Asymp. Sig.	.617	.066	.004	.000



### Factor Correlation Analysis (Spearman's Rho Test)

		Entrepreneur
RiskAversion	Correlation Coefficient	-.536**
	Sig. (2-tailed)	.000
SelfAfficacy	Correlation Coefficient	-.154
	Sig. (2-tailed)	.086
Independence	Correlation Coefficient	-.056
	Sig. (2-tailed)	.537
EntAbility	Correlation Coefficient	-.276**
	Sig. (2-tailed)	.002
Ownership	Correlation Coefficient	-.041
	Sig. (2-tailed)	.652
BusBarriers	Correlation Coefficient	-.230**
	Sig. (2-tailed)	.010
BehBarriers	Correlation Coefficient	-.266**
	Sig. (2-tailed)	.003
Environment	Correlation Coefficient	-.515**
	Sig. (2-tailed)	.000

### Regression Analysis (Ordinal Regression)

Pseudo R-Square	
Cox and Snell	.380
Nagelkerke	.506
McFadden	.345

Test of Parallel Lines <sup>a</sup>				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	113.507			
General	113.507	.000	0	.

### Group Factor Pattern Analysis

Overall data average values for each of the factors was calculated and then used as baseline to identify when values differ significantly as compared to specific group.

Groups represent specific group definition from the overall data set, e.g. Age (26 – 40) means that only respondents in that age groups have been selected. EP stands for entrepreneur group and IEP – intrapreneur group. Significant value factor average absolute differences (> 0.25) as compared to baseline are highlighted in green. For example, for group – Age (18 – 30), Risk Aver. average difference is 0.356 lower between entrepreneur and intrapreneur groups (0.440) as compared to baseline of 0.797. Note – results are only indicative (due to too low respondent rates in groups), providing guidance for further research.

Baseline		Data	Risk Aver.	Self Affic.	Indep.	Ent. Ability	Owner.	Bus. barriers	Beh. barriers	Env.
	EP	61	3.328	3.443	3.459	3.033	3.508	2.967	2.918	2.967
	IEP	64	2.531	3.281	3.406	2.531	3.531	2.469	2.609	2.234
	Baseline		0.797	0.161	0.053	0.502	-0.023	0.498	0.309	0.733
<b>Groups</b>										
<b>Male</b>										
	EP	48	3.250	3.458	3.500	3.042	3.563	2.938	2.917	3.000
	IEP	43	2.558	3.302	3.465	2.581	3.512	2.465	2.558	2.116
			0.692	0.156	0.035	0.460	0.051	0.472	0.359	0.884
	Diff to baseline		0.105	0.005	0.018	0.041	0.074	0.026	0.050	0.151
<b>Age (26 - 40)</b>										
	EP	47	3.319	3.404	3.468	2.957	3.596	3.043	2.957	2.979
	IEP	56	2.607	3.321	3.429	2.554	3.536	2.464	2.643	2.339
			0.712	0.083	0.040	0.404	0.060	0.578	0.315	0.639
	Diff to baseline		0.085	0.079	0.013	0.098	0.083	0.080	0.006	0.093
<b>Age (18 - 30)</b>										
	EP	21	3.190	3.429	3.286	2.810	3.571	2.667	2.857	3.048
	IEP	24	2.750	3.375	3.417	2.667	3.500	2.125	2.500	2.500
	Diff		0.440	0.054	-0.131	0.143	0.071	0.542	0.357	0.548
	Diff to baseline		0.356	0.108	0.184	0.359	0.094	0.043	0.048	0.185
<b>Age (30 - 40)</b>										
	EP	28	3.429	3.429	3.607	3.036	3.643	3.286	3.000	2.929
	IEP	34	2.471	3.294	3.412	2.471	3.588	2.735	2.735	2.206
			0.958	0.134	0.195	0.565	0.055	0.550	0.265	0.723
	Diff to baseline		0.161	0.027	0.143	0.064	0.078	0.052	0.044	0.010
<b>Living with someone</b>										
	EP	43	3.233	3.442	3.372	3.116	3.442	2.977	2.930	2.884
	IEP	42	2.500	3.119	3.381	2.524	3.500	2.476	2.548	2.190
			0.733	0.323	-0.009	0.592	-0.058	0.501	0.383	0.693
	Diff to baseline		0.064	0.161	0.062	0.091	0.035	0.002	0.074	0.040
<b>Working in industry</b>										
	EP	42	3.333	3.500	3.548	3.190	3.595	3.048	3.119	3.024
	IEP	37	2.243	3.351	3.405	2.486	3.514	2.405	2.622	2.297
			1.090	0.149	0.142	0.704	0.082	0.642	0.497	0.727
	Diff to baseline		0.293	0.013	0.089	0.202	0.105	0.144	0.189	0.006
<b>Not in industry</b>										
	EP	19	3.316	3.316	3.263	2.684	3.316	2.789	2.474	2.842
	IEP	26	2.962	3.192	3.385	2.577	3.538	2.577	2.615	2.154
			0.354	0.123	-0.121	0.107	-0.223	0.213	-0.142	0.688
	Diff to baseline		0.442	0.038	0.174	0.394	0.200	0.286	0.450	0.045

Service industries										
EP	49	3.347	3.429	3.449	2.959	3.490	2.939	2.898	2.939	
IEP	52	2.462	3.231	3.404	2.519	3.538	2.481	2.577	2.212	
		0.885	0.198	0.045	0.440	-0.049	0.458	0.321	0.727	
Diff to baseline		0.089	0.036	0.008	0.062	0.026	0.040	0.012	0.006	
Education - Bachelor										
EP	21	3.333	3.476	3.619	3.000	3.381	2.905	3.000	2.762	
IEP	28	2.643	3.286	3.321	2.786	3.536	2.357	2.607	2.464	
		0.690	0.190	0.298	0.214	-0.155	0.548	0.393	0.298	
Diff to baseline		0.106	0.029	0.245	0.287	0.132	0.049	0.084	0.435	
Education - Master										
EP	33	3.394	3.485	3.364	3.121	3.515	2.939	2.909	3.121	
IEP	31	2.452	3.258	3.452	2.323	3.581	2.581	2.677	2.097	
		0.942	0.227	-0.088	0.799	-0.065	0.359	0.232	1.024	
Diff to baseline		0.146	0.065	0.141	0.297	0.042	0.140	0.077	0.292	

## *Appendix D. Open Question Analysis Results*

### *Entrepreneurs*

What influenced decision to start own company?

<b>Independence</b>	<b>14</b>
<b>Idea, Opportunity</b>	<b>13</b>
<b>Ambitions</b>	<b>10</b>
Employer	7
People	5
Money	4
Bored	3
Others	1

What future support would be needed from entrepreneurial ecosystem?

<b>Funding</b>	<b>10</b>
<b>Knowledge</b>	<b>9</b>
Nothing	6
Connections	2
Bureaucracy	2
Living Costs	2
Other	1

What previous company support was lacking?

<b>Management</b>	<b>11</b>
Business	5
No problem	4
Other	3

### *Intrapreneurs*

What was missing for you to start your own company?

<b>Stability</b>	<b>9</b>
<b>Higher Success Rate</b>	<b>7</b>
Finance	2

What influenced decision to remain with current?

<b>High Risk</b>	<b>8</b>
<b>Funding</b>	<b>5</b>
<b>Not Ready</b>	<b>4</b>
Bootstrapping Help	3
Other	1

What company support was lacking for you to be successful?

<b>Management</b>	<b>14</b>
Other	1