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Innovativeness of Family Businesses in Slovenia: Do Heirs follow the Founders?

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Abstract

Background: The innovativeness of founders and their heirs and family businesses (FBs) is a relatively unexplored field of research, and its understanding is incomplete and inconsistent. **Objectives:** The goal is to compare the founders' innovativeness and investigate the relationship of life-long learning with the innovativeness of heirs in FBs. **Methods/Approach:** The paper is based on research, including a survey on FBs in Slovenia. The differences in the innovativeness of the two groups – founders and heirs are compared, and the strength of the dependence of the life-long learning and innovativeness through the external training of heirs determined. **Results:** The innovativeness of founders and heirs in FBs, measured by the number of new product and service lines and by the number of new processes that founders and heirs in FBs have developed or started marketing in the last five years, shows higher results for the founders. Life-long learning through external training correlates positively with the innovativeness of heirs. **Conclusions:** An appropriate culture for innovation needs to be created in FBs to foster innovativeness among heirs, which can be supported by life-long learning.

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Introduction

Most national economies are dominated by family businesses (FBs) (Mandl, 2008) which play an important role in national economies around the world and make an important contribution to stability and economic growth (Laforet, 2012). FBs are of particular importance for the growth and economic progress of EU economies. The EU Small Business Act (SBA) (European Commission, 2008) emphasizes the importance of family-owned businesses and the problem of their succession (the first SBA principle).

In recent years, family entrepreneurship and succession have often been the subject of research, and the interest has been steadily increasing since the 1990s (De Massis, Frattini, & Lichtenthaler, 2013). The interest in researching innovation in FBs is growing (Cefis & Marsili, 2006; Roessl et al., 2010; Laforet, 2013). Past research suggests that the creativity of previous generations influences the creativity of a new generation - this is attributed to the mentoring role of family/ non-family members and exposure to multiple adults in early life (Smyrnios et al., 2003). Research also suggests a link between control generation and innovation (Zahra, 2005) and that young FBs are more innovative than old FBs in adapting to radical innovation and winning awards for innovation (Laforet, 2013).

Previous research indicates that the founders are seen as enterprising in their leadership style. At the same time, usually, the next generation does not have the same motivation as the founders when entering the FB (Ganzaroli, Fiscato, & Pilotti, 2006). Although family entrepreneurs tend to keep the company in the hands of the family in the long run (Astrachan et al., 2002), various reasons are given for the collapse of FBs, including the withdrawal of the founder/parent, incompetence of the next generation, rivalry of heirs, industry development (Mahto et al., 2019). Possible reasons are incompetence for the innovativeness, technical-technological, and non-technological innovativeness, especially innovativeness of management style and values, culture, ethics, and norms are often overlooked.

This paper focuses on the transfer of those characteristics essential for the innovation capacity of the generation of heirs in the FB in a transition economy and its importance for innovation. We analyze the transfer of management, governance, and ownership in the FBs to the next generation in the context of innovativeness in the FBs in a transition economy. Slovenia has been chosen as the case study country since, in Slovenia, there was a break-even of previously very modest entrepreneurial tradition after the Second World War, which began to awaken again in the late '80s.

The research goal is to compare the innovativeness of the founders and their heirs. The goal builds on the premise that heirs are more managerially oriented than entrepreneurially and thus are less innovative than their parents. The following research questions were developed: (i) RQ1: Are heirs in FBs more innovative than founders?; (ii) RQ2: Does life-long learning through external training correlate positively with the innovativeness of heirs in FBs?. To answer these research questions, empirical research has been conducted on a sample of Slovanian SMEs.

Literature review

Family business

According to some estimates, the share of FBs in the EU is more than 60% of all companies worldwide, between 70-95% (European Family Businesses, 2017). As many as 20% of the Fortune 500 companies are controlled by families (Mohanakrishnan, 2020). However, some studies in different countries have confirmed the importance of FBs in the economies of these countries. Mandl (2008) estimates that FBs in the EU account for 70-80% and employ 40-50% of all employees. According to The Cornell

University Family Business Research Institute (Laforet, 2012), 75% of all family businesses globally employ 50% of the workforce. In Mexico, 80% of businesses are family-owned. Additionally, in Europe, around 80% (around two million companies) in Germany are family-owned and the German economy's backbone. These companies employ 75% of the workforce and contribute 66% of the German GDP. In Spain, as many as 71% of companies that generate over two million US dollars in annual turnover are family-owned. As many as 17% of the 100 largest Spanish companies are family-owned. The same source states that families run 99% of companies in Italy. 76% of the top 8,000 businesses are family-owned or controlled by families in the UK. Also, according to the Institute for Family Business (Laforet, 2012), more than 65% of UK businesses are family-owned. A similar conclusion is made by Astrachan & Schenker (2003), who estimate that FBs contribute up to 64% of GDP and employ 62% of the national workforce in the United States.

The importance of FBs in Slovenia can be justified through research in different periods, the last of which is from 2015 (Antončič, Auer Antončič & Juričič, 2015), which says that in Slovenia, as many as 83% of all FBs companies (including micro, small and medium-sized, even large) generate 69% of total sales, 67% of value-added and employ 70% of employees. Estimation for the ratio of FBs in Slovenia ranges between 40 and 50%, 60 to 80%, and 72.6%, respectively (Glas et al., 2006; Vadnjal, 2005).

However, the transition of FBs from one generation to another is critical in their development (Combs, 2020). On the other hand, numerous authors (Eddleston et al., 2008; Kellermanns & Eddleston, 2002) argue that conflict is one of the most important problems of FBs, while another group of authors (Mandl, 2008; Miller et al., 2003) argue that the key problem is succession. The transfer of a FB to the next generation is often a critical event in the life of the FB, since it is supposed for heirs to generate the increase in the ability to innovate, not just to replace the founding generation (Ganzaroli, Fiscato, & Pilotti, 2006).

Family business and innovativeness

According to Wang and Ahmed (2004), innovativeness is the ability of the company to innovate; it introduces new processes, products, or ideas into an organization (Marcati et al., 2008); it is often used alternately with the term "Innovation" and "Innovation Orientation" (Siguaw, Simpson & Enz, 2006).

The continuity and longevity of modern family firms depend largely on their ability to generate and implement innovation (Erdogan et al., 2019) and to renew through innovation (Hauck and Prügl, 2015). The innovation ability of the firm is a prerequisite of innovativeness and is reflected in innovation. It is the ability to mobilize employees' knowledge in the firm (Kogut and Zander, 1992) and combine it with new knowledge that results in product and process innovation (Cakar and Ertuerk, 2010). Innovation abilities as a source of competitive advantage are deeply rooted in the context of an organization, and it isn't easy to define and imitate them (Nonaka, 1994) accurately. A firm with a high level of innovation ability usually uses a knowledge transfer method, "learning by doing," which prevents competitors from accessing this knowledge in the market, and imitation of knowledge is more difficult (Cavusgil et al., 2003).

Hurt and Teigen (1977) defined individuals' innovativeness as a level to which an individual adopts relatively early something new compared to others in the social system. Aulawi et al. (2009) emphasize the importance of sharing knowledge to develop an individual's innovation ability.

Life-long learning in entrepreneurship

In September 2020, the European Commission presented the Strategic Framework for European Cooperation in Education and Training ("Education and Training until 2020"), which consists of six dimensions: quality of education and training, inclusion, environmental and digital transition, teachers and training leaders, higher education and the geopolitical dimension (European Commission, 2020).

The strategic framework has a list of goals to be achieved by 2020, and a similar list will be for 2030 with some minor modifications: (i) increase the number of children in preschool education; (ii) reduce the number of 15-year-olds who do not have sufficient skills in reading, mathematics, and science; (iii) reduce the number of people leaving education and training; (iv) increase the number of highly educated people aged 30-34; (v) increase the number of adults participating in life-long learning and training programs; (vi) increase the number of highly educated and people with initial vocational qualifications who will spend some time studying or training abroad, and (vii) increase the number of graduates aged 20 to 34 who should be employed.

However, life-long learning and training is not an unambiguously defined activity but can be observed through two basic groups of educational processes. The first group is life-long education, which views education as a life-long process that begins with compulsory schooling and that formally lasts throughout life and in which only organized learning is included. The second group is life-long learning, which refers to the overall life-long learning activity to improve knowledge, skills, and competencies, include learning in all periods of life and all forms (formal, non-formal, and informal) and has four basic goals: personal satisfaction and development of the individual, active citizenship, social inclusion, and employability (Vekić, 2015).

Life-long learning activities are an important part of training people for innovation. This relies not only on a broad and relevant education but also on developing extensive knowledge and skills that complement formal education. In teaching, emphasis should be placed on critical thinking, creativity, communication, user orientation, and teamwork, alongside domain-specific and language skills. Companies invite external experts into their environment and provide internal training for all employees, not only for heirs in the FBs, but they can send them for training outside the FB. Academic courses and practical workshops are a form of learning through which FBs gain the experience of others and have the opportunity to create new knowledge by combining their existing tacit knowledge with the knowledge of others (Nonaka & Takeuchi, 1995). The importance of academic courses and practical training outside the FB in different schools, universities, other educational institutions, companies is emphasized by various authors (Chirico, 2008; Duh, 2014). This allows heirs to add new knowledge that is important when FBs operate in markets that are changing rapidly (Chirico, 2008) and opens up new perspectives for the long-term survival of FBs. Also, these types of training and education (production, marketing, management, etc.) make it possible to acquire "pure knowledge" and develop skills that, once transferred to the FB, must be shared with and transferred to other members of the FB. Conversely, practical training within FB enables people to acquire, share, and pass on knowledge through generations (Le Breton-Miller et al., 2004). Training people for innovation relies on broad and relevant education and developing extensive knowledge and skills that complement formal education (Chirico, 2008; Nonaka et al., 2009).

The emphasis in the survey is on the innovativeness of individuals in FBs, the result of which is the innovativeness of FBs. It is assumed that by measuring the innovativeness of the FB, the individual's innovativeness can be indirectly measured. In this assumption, the definition of Tajeddini and Trueman (2008) and Verhees and

Meulenberg (2004), who claim that innovativeness is a feature of a firm or the owner (and therefore also of the heir, note by the author) is followed.

Methodology

Research instrument

Empirical research on the innovativeness of the generation of heirs in the FBs in the transition economy was conducted using the online survey tool (1KA.si). After 2000, we witnessed a real expansion of online surveys, becoming the leading way of modern data collection. The transfer of surveys to the Internet is a logical consequence of the rapid development of computer-aided data collection methods, increasingly marked by modern survey research.

Two separate survey questionnaires - one for the founders of the FB the other for the heir/s in the FB were prepared and used. Closed-ended questions were designed, where all possible answers are already foreseen and determined and are more suitable for the verification of the research, as they enable generalization. In the questionnaires, the Likert scale was used. Possible answers on a five-point Likert scale. The Likert scale is one of the most reliable ways to measure the level of satisfaction, agreement, liking, opinions, perceptions, etc. In univariate or descriptive statistics, the Likert scale is represented by mean measures, most often by the arithmetic mean. The data is checked for its distribution when using the Likert scale in further statistical analyses. If data distribution is normal, parametric tests appropriate to the interval measurement scale can be used. In the research, the Student's t-test was used to test the statistically significant differences between the mean values of the variables of the two samples, the founders and successors. By calculating Cronbach's alpha coefficient, a measure of reliability, the reliability of the variables included in the individual constructs was checked. Cronbach's alpha was developed to measure the internal consistency of a set of statements with the same measurement scale, usually the Likert scale, used in the research. Correlation analysis was used to determine the interdependence between two or more groups of variables. Pearson's correlation coefficient was used to determine the strength of the dependence (but not causality) between the variables.

The ability for people to respond as they find expected, socially accepted, likable, and not as actually corresponding to the facts is a disadvantage of the use of the Likert scale. But by precisely defining the concepts and carefully formulating the questions.

The limitation of the research is that the research question on a global scale from the point of view of the next generation has not been researched for FBs. The authors developed the survey questionnaires as no suitable tested, standardized scale has been found, and they were tested before the research was conducted. Thus, only individual tested scales for measuring the propensity of companies to innovate, individual innovation, company innovation, checking variables such as entrepreneurial skills of entrepreneurs, and social capital of entrepreneurs were included in the questionnaires. For other variables for which the measurement scale was not developed, the questions had to be compiled by the authors, or the existing questions for the needs of the research were adjusted.

The items of the research instrument are presented in Table 1. The questionnaires consist of five sets: the first set includes general, self-explanatory questions and statements about the FB's demographics and the entrepreneur (founder) or heir (data on the company and the general attitude of the company to the innovativeness and innovation; data on the founder/heir, education and previous work experience); the

second set covers specific questions and statements about the innovativeness of the individual (founder/heir) and the contribution of the founders and heirs to innovation; the fourth set contains specific questions and statements about the connection between individual factors and the heir's innovativeness, and the fifth set covers questions and statements about the innovativeness of FB.

Table 1
Research instrument

Code	Statement	Measurement
Innovativeness in FBs		
INNO1	Innovation is a priority of our company.	Likert scale (1-5); 1- not agree at all; 5-fully agree
INNO2	We nurture a culture of innovation in our company.	
INNO3	We have reserved funds for innovation and R&D activities.	
INNO4	Innovation is the key to our success.	
INNO5	Our company regularly tests new ideas.	
INNO6	Our company is looking for new ways to do things.	
INNO7	Our company is creative in business methods.	
INNO8	Our company is often the first on the market with new products and services.	
INNO9	Our company addresses innovations as too risky, and there is resistance to them.	
INN10	The introduction of new products on the market has increased in our company in the last 5 years.	
Formal measures of innovativeness		
FORM-INNO1	Please estimate how many patents you have registered in the last 5 years	Likert scale - 1 (no new patents, licenses, trademarks), 2 (one), 3 (two), 4 (three to five) to 5 (more than five patents, licenses, trademarks).
FORM-INNO2	Please estimate how many license agreements you have bought in the last 5 years	
FORM-INNO3	Please estimate how many license agreements you have sold in the last 5 years	
FORM-INNO4	Please rate how many trademarks you have registered in the last 5 years	
Personal innovativeness		
PER-INNO1	I often surprise people with my new ideas.	Likert scale (1-5); 1-not agree at all; 5-fully agree
PER-INNO2	People often ask me for help with creative activities.	
PER-INNO3	I am more satisfied if I develop a new idea than if I master a skill.	
PER-INNO4	I prefer a job that requires original thinking.	
PER-INNO5	I don't usually go on with new work the way I've been taught.	
PER-INNO6	I prefer a job that requires inventiveness than skills and practice.	
PER-INNO7	I am a very creative person.	Source: (Jackson, 1976; 1994)
PER-INNO8	I like to experiment with different ways of doing the same things.	
Organizational innovativeness		
ORG-INNO1	In the last 5 years, I have developed/started marketing 0, 1, 2, 3-5, more than 5 new product lines and services.	Likert scale (1-5); 1-not agree at all; 5-fully agree
ORG-INNO2	In the last 5 years, I have developed/started marketing 0, 1, 2, 3-5, more than 5 new processes.	
ORG-INNO	In the last 5 years, there have been changes in production/service/process lines.	
Life-long learning		
EDU1	External training enables the acquisition of new knowledge that is important for working in rapidly changing markets and is positively related to the heir's innovativeness.	Likert scale (1-5); 1-not agree at all; 5-fully agree
EDU2	External training in programs in specialized areas, such as marketing, production, management, is positively related to the heir's innovativeness.	
EDU3	External training enables the transfer of knowledge that others have to the heir in the FB, which combines the tacit knowledge into new knowledge, increasing the innovativeness of the heir.	

Source: Authors' work; Jackson (1976; 1994)

Data

The population addressed in the research are FBs. According to SiStat (2020) data, there are 205,139 companies in Slovenia, and 99.8% are micro, small, and medium-sized companies. When we talk about the number of FBs in Slovenia, we start from the research of Antončič, Auer Antončič, and Juričič (2015) that the share of FBs in all companies in Slovenia is 83% (170,265 companies, author's estimate).

Publicly available databases on companies enable and facilitate the implementation of various surveys, but in addition to advantages, they also have many limitations (Žmuk, 2017). One of them, which is important for the conducted research, is that it is difficult to obtain a list of companies with FB status from public databases because this characteristic of the company is not recorded.

The author collected the company database for several years and contained more than four hundred FBs, which correspond to at least one criterion for FB. The majority of FBs in Slovenia are micro, small and medium-sized companies (Antončič, Auer Antončič & Juričič, 2015), so large companies, according to the number of employees, were not included. 408 FBs were included in the survey. Purposive sampling was used. In such sampling, representativeness is the lowest, and more relevant units should be included in future research.

The limitation for inclusion in the sample was that the owner/founder is actively present in the company (either active and employed or retired, still active or procurator), and also that the next generation is at least partially present in the FB (either active and employed successor or successor who already participates in FB but is not yet employed).

A 25% response rate was achieved. 103 FBs, with 103 founders and 103 heirs from Slovenia, were included in the sample. Thus, 206 survey questionnaires were obtained and considered in the survey. The founders and successors were also provided with the response option "I can't rate" (the computer assigns a value of "-99"), so there were relatively few empty fields. The basic demographic characteristics of both samples are shown in Table 2.

The average age of the FB in the survey is 23.5 years (the oldest was founded in 1961 and the youngest in 2013). First-generation FBs (79.6%) predominate among FBs compared to second-generation FBs (20.4%). In the FBs of the first generation, the founders of the FB are strongly involved in the management and operation of the FB are active and employed. The heirs already participate, but not actively, are students or pupils and are not employed in the FB. In the FB of the second generation, the heirs are already formally included in the FB and are employed, and the founders have already partially or fully transferred the ownership and management of the FB to their heirs; the founders are retired but still active and possibly procurators.

52.4% micro, 29.1% small, and 18.5% medium-sized FBs are included in the sample. Although micro FBs dominate the sample, the average number of employees is 30, a small company with an average of 3 family members (2.77). By activity, FBs were classified into manufacturing, service, and trading companies; The sample of 103 FBs is predominated by service companies with 46.6%, followed by manufacturing companies with 27.2% and trade companies with 26.2%.

The founders are dominated by men (82.5%). There are 18 women (17.5%). The founders are mostly active and employed in the FB (57.3%). Among heirs, men also predominate by gender (61.2%); 40 women (38.8%). Heirs are mostly already active - formally involved, employed, and in one of the leading positions (63.1%).

Table 2
Demographic characteristics of the sample (founders/heirs)

Variable	Characteristics (#)	%
The predominant type of activity of FB	Manufacturing (28)	27.2%
	Services (48)	46.6%
	Trade (27)	26.2%
Gender of the founder	Male (85)	82.5%
	Female (18)	17.5%
Gender of the heir	Male (63)	61.2%
	Female (40)	38.8%
Involvement of the founder in FB	Active, employed (59)	57.3%
	Active, retired, procurator (44)	42.7%
Involvement of the heir in FB	I participate as a student; I am not employed (38)	36.9%
	Formally involved, employed, and leading position (65)	63.1%
Is an heir chosen?	Yes, one (50)	48.5%
	Yes, more of them (39)	37.9%
	No (14)	13.6%
Already performed transfer of FB	Management (27)	26.2%
	Ownership - fully (2)	1.9%
	Ownership – in part (5)	4.9%
	Management and ownership (20)	19.4%
Generation of FB	First generation (82)	79.6%
	Second generation (21)	20.4%
The founder's level of education	Primary school (1)	1.0%
	Vocational school (19)	18.4%
	Secondary school – technical (27)	26.2%
	Secondary school – general (14)	13.6%
	College (9)	8.7%
	HEI – business (12)	11.7%
	HEI – technical (14)	13.6%
	HEI – other (4)	3.9%
	Master's degree (3)	2.9%
The heir's level of education	Primary school (1)	1.0%
	Vocational school (2)	1.9%
	Secondary school – technical (16)	15.5%
	Secondary school – general (23)	22.4%
	College (6)	5.8%
	HEI – business (35)	34.0%
	HEI – technical (5)	4.9%
	HEI - other (3)	2.9%
	Master's degree (10)	9.7%
	Ph.D. (2)	1.9%
The work experience of the founder at the establishment of the FB	No previous work experience (14)	13.6%
	Co-owner in another company (4)	3.9%
	Employed in FB (8)	7.8%
	Employed in another company (77)	74.7%
The work experience of the heir before involvement in FB	No previous work experience (45)	43.7%
	Work in other company – internship (13)	12.6%
	Work 1yr in other company - same industry (3)	2.9%
	Work 1 yr in other company - different industry (11)	10.7%
	Work in other company +2yr – same industry (8)	7.8%
	Work in other company +2yr – different industry (23)	22.3%

Source: Authors' work

According to the level of education, the sample is dominated by founders with secondary school - technical orientations (26.2%). Before establishing their FB, most founders were employed in another company (74.7%). The founders have already determined one potential heir of the FB in 50 companies (48.5%), more than one potential heir in 37.9% of companies, and have not yet determined an heir in 13.6%. In 26.2% of FBs, the founders have already transferred management to the next generation; in 19.4% management and ownership, in 4.9% of FBs, they have carried out a partial transfer of ownership and a complete transfer of ownership in only 2 FBs (1.9 %). According to the level of education, the sample is dominated by heirs with a higher educational degree - business orientation (35; 34.0%). The majority of heirs (45; 43.7%) had no previous work experience before joining the FB, while 22.3% had worked in another company from various industries for more than one year.

While 77 founders (74.8%) had previous work experience in another company before establishing their own business, the heirs mostly (43.7%) joined the FB without previous work experience. The finding is not surprising, as 26,938 young people aged 15 to 29 were registered as unemployed in Slovenia in December 2015, this is 23.8% of all registered unemployed, and most children from FB take the opportunity to work in the domestic FB, while it is harder to find it in other companies.

Regarding the level of education, there is a difference between the founders and the heirs. The founders mostly have a secondary technical education and a vocational education. In contrast, the heirs have higher education in the business field and general secondary education, with fewer technical graduates. Several heirs with a master's degree in social sciences (economics) and business-organizational sciences (entrepreneurship, management) indicate that they are focused on upgrading their knowledge in business management.

Research results

Innovativeness of FBs

Table 3 presents the descriptive statistics of construct variables in FB innovativeness. The variable "Innovations are considered too risky in our company, and there is resistance to them" (INNO9) was set as the flipped statement. The Cronbach's alpha is 0.761, which means that the reliability of the construct in terms of FB innovativeness is good (coefficient value between 0.70 and 0.90).

Table 3
Descriptive statistics of construct variables in the field of FB innovativeness

Code	N	Mean	St. Dev.
INNO1	203	3.33	1.176
INNO2	201	3.42	1.147
INNO3	201	2.92	1.252
INNO4	202	3.30	1.327
INNO5	204	3.65	1.137
INNO6	204	3.94	.916
INNO7	205	3.75	.899
INNO8	200	3.27	1.202
INNO9	201	2.54	1.077
INN10	199	3.60	1.180

Source: Authors' work
Note: Likert scale (1-5); 1-not agree at all; 5-fully agree

The company's attitude towards innovativeness was measured with the first four variables, marked INNO1 - INNO4. The mean values of these variables range between 2.92 and 3.42. The lowest mean value is for the variable "We have reserved funds for innovation and R&D activities" (INNO3; mean value 2.92). The standard deviations for the variables used to measure a company's attitude towards innovation are different; they all exceed 1,147, with the largest being "We have funds reserved for innovation and R&D activities" (INNO3; standard deviation 1,252) and "Innovation is the key to our success" (INNO4; standard deviation 1,327). The following six variables labeled INNO5 - INNO9, measure the innovativeness of the FB. The mean values of these variables are between 2.54 and 3.94; the lowest mean value is reached by the variable "Innovations in our company are considered too risky, and there is resistance to them" (INNO9; mean value 2.54); in doing so, the founders and heirs express that they neither agree nor reject this statement; the highest mean reached by the variable "Our company is looking for new ways of doing things" (INNO6; mean 3.94). The largest standard deviation is for the variable "Our company is often first in the market with new products and services" (INNO8; standard deviation 1,202). The standard deviation for the variable with the highest mean is below 1.0; for others, it is between 1.0 and 1.2.

Table 4 measures the formal indicators of innovativeness in FBs, including new patents, licenses, and trademarks in the last five years. The FORM-INNO1 variable measures the number of patents registered with the FB in the last 5 years; the variables marked FORM-INNO2 and FORM-INNO3 measure the number of licenses bought and sold in the last 5 years, and the variable marked FORM-INNO4 measures the number of registered trademarks in the company in the last 5 years. The highest mean values are for the variables "number of registered trademarks" (FORM-INNO4; mean value 1.62, which means on average one registered patent) and "the number of purchased license agreements" (FORM-INNO2; average value 1.60, which means on average one purchased license agreement) and for these two variables, the dispersion of responses is also greater; the standard deviation exceeds the value of 1.0.

Table 4
Formal indicators of innovativeness in FBs

Code	N	Mean	St. Dev.
FORM-INNO1	204	1.15	0.542
FORM-INNO2	205	1.60	1.207
FORM-INNO3	205	1.09	0.471
FORM-INNO4	206	1.62	1.105

Source: Authors' work
Note: Measured on Likert scale from 1 (no new patents, licenses, trademarks), 2 (one patent, license, trademark), 3 (two patents, licenses, trademarks), 4 (three to five patents, licenses, trademarks) to 5 (more than 5 patents, licenses, trademarks).

Personal and organizational innovativeness of heirs and founders

Personal and organizational innovativeness of heirs and finders was measured by the several items and compared.

Table 5 presents the descriptive statistics of construct variables in the field of innovativeness of heirs. The reliability coefficient (Cronbach alpha) is 0.764, which means that the reliability of the construct in the field of heir's innovativeness is good (the value of the coefficient is between 0.70 and 0.90).

Table 5
Descriptive statistics of variables measuring the personal and organizational innovativeness of heirs

Code	N	Mean	St. Dev.
Personal innovativeness			
PER-INNO1	102	3.87	0.699
PER-INNO2	100	3.93	0.742
PER-INNO3	102	3.72	0.958
PER-INNO4	101	4.17	0.722
PER-INNO5	101	3.36	0.878
PER-INNO6	103	3.46	0.916
PER-INNO7	102	3.94	0.672
PER-INNO8	102	3.96	0.770
Organizational innovativeness			
ORG-INNO1	91	2.85	1.584
ORG-INNO2	86	2.64	1.463
ORG-INNO3	88	3.09	1.345

Source: Authors' work
Note: Likert scale (1-5); 1-not agree at all; 5-fully agree

The first 8 variables marked PER-INNO1 - PER-INNO8 measure the heir's innovativeness with the JPI scale; most mean values are between 3.72 and 4.17. The dispersion of responses around the mean is very consistent. The highest mean is reached by the variable "I prefer work that requires original thinking" (PER-INNO4), whose standard deviation is among the lowest. The two mean values are lower - for the variable "I don't usually continue with a new work in a way I was taught" (PER-INNO5; mean 3.36) and "I prefer work that requires inventiveness rather than skills and practice" (PER-INNO6; mean 3.46), where standard deviations are also higher - except for "I am more satisfied if I develop a new idea than if I master a skill"(PER-INNO3), which has the highest value of standard deviation (0.958) in this set of variables.

Respondents answered the number of new products, services, processes, production, service, and process lines changes. Mean values of variables "How many new product or service lines have you developed in the last 5 years" (ORG-INNO1), "How many new processes have you developed in the last 5 years" (ORG-INNO2), and "What was the nature of the changes you made as an heir in production/service/process lines in the last 5 years "(ORG-INNO3) is between 2.64 and 3.09; standard deviations reflect a greater dispersion of data around these values; the lowest standard deviation (1,345) is achieved by the variable with which the heirs assessed the nature of changes in production/service/process lines in the last 5 years, which has the highest mean value (3.09). The mean value of 2.85 means that they have developed and started marketing 2 new products or services in the last 5 years.

Table 6 presents the descriptive statistics of construct variables in founders' innovativeness. The same 11 variables were used to measure the construct in the founders' innovativeness as for the heirs. The reliability coefficient (Cronbach alpha) is 0.852, which means that the reliability of the construct in the field of innovativeness of the founders is good (the value of the coefficient is between 0.70 and 0.90).

Table 6
Descriptive statistics of construct variables in the field of founders' personal and organizational innovativeness

Code	N	Mean	St. Dev.
Personal innovativeness			
PER-INNO1	103	3,89	0,815
PER-INNO2	103	3,88	0,844
PER-INNO3	103	3,73	0,972
PER-INNO4	102	4,16	0,754
PER-INNO5	97	3,41	0,921
PER-INNO6	103	3,64	1,083
PER-INNO7	103	4	0,78
PER-INNO8	103	3,75	0,86
Organizational innovativeness			
ORG-INNO1	90	3,46	1,5
ORG-INNO2	85	3,2	1,478
ORG-INNO3	95	3,45	1,319

Source: Authors' work
Note: Likert scale (1-5); 1-not agree at all; 5-fully agree

Within the first eight variables marked PER-INNO1 - PER-INNO8, which measure the innovativeness of founders with a JPI scale, most of the mean values are between 3.73 and 4.16. The dispersion of responses around the mean is very consistent. The highest mean is achieved by the variable "I prefer work that requires original thinking" (PER-INNO4; mean 4.16), whose standard deviation is the lowest (0.754). Two mean values are lower - for the variables "I do not usually continue with new work in the way I have been taught" (PER-INNO5; mean 3.41) and "I prefer work that requires inventiveness rather than skills and practice" (PER-INNO6; mean value 3.64), where standard deviations are also higher - except for "I am more satisfied if I develop a new idea than if I master a skill" (PER-INNO3), which has the second-highest value of standard deviation (0.972) in this set of variables.

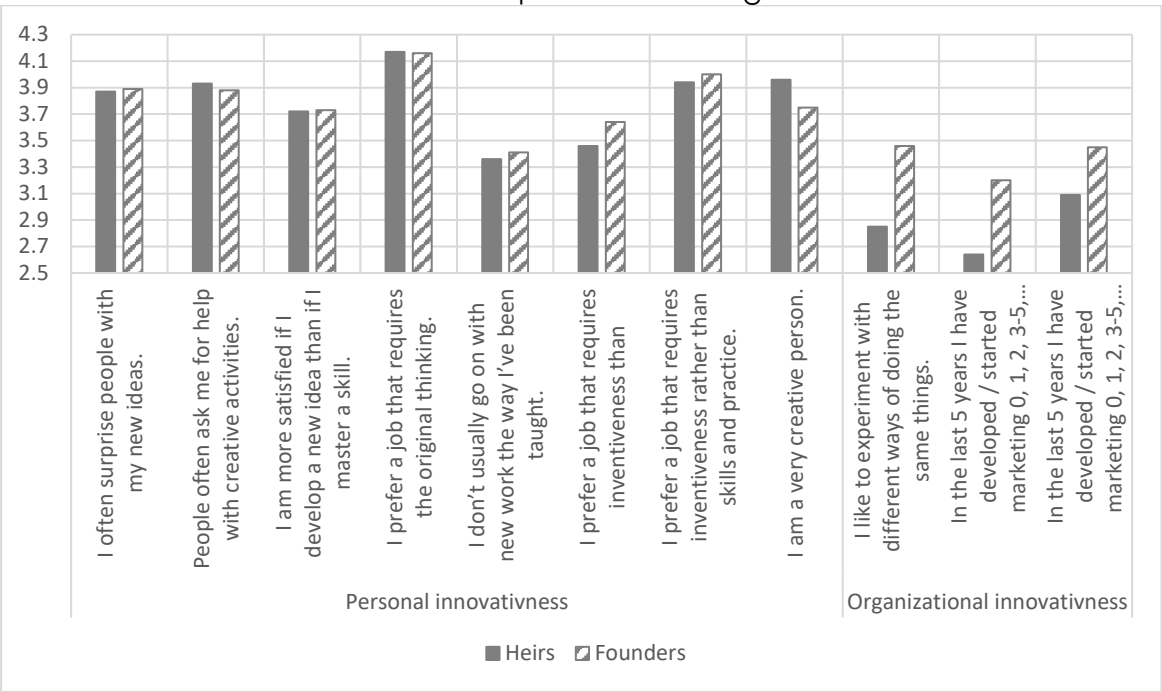
Respondents answered the number of new products, services, processes, production, service, and process lines changes. The mean values of the variables used to measure the innovativeness of heirs, and (ORG-INNO1), "How many new processes have you developed in the last 5 years" (ORG-INNO2) and "What were the changes you made as a founder in manufacturing/service/process lines in the last 5 years" (ORG-INNO2) is between 3.20 and 3.46; standard deviations express a greater dispersion of data around these values (0.754 - 1.083) but are consistent. The mean value of 3.46 means that they have developed and started marketing, e.g., 3 new products or services or processes in the last 5 years.

Founders' and heirs' personal and organizational innovativeness

The JPI scale measured personal innovativeness with 8 variables/statements (Jackson, 1976; 1994). The founder or heir who achieves a higher number of points on the scale (from 1-5) (sum of mean values of variables) is more creative, inventive, capable of original thinking, motivated to develop new solutions to problems, appreciates new ideas, likes to improvise. Lower values are characteristic of founders and heirs who have less motivation for creativity, rarely seek originality, are conservative thinkers, prefer routine. The highest value of the sum of the values of the means for 8 variables on the scale can be 40, and the lowest is 8. A comparison of the JPI values for the founders (30.46) and heirs (30.41) showed 0.002%. The T-test confirmed no statistically significant differences between the JPI values for founders and heirs.

Figure 1 presents the mean values of heirs' and founders' personal and organizational innovativeness.

Figure 1
Mean values of heirs' and founders' personal and organizational innovativeness



Source: Authors' work

A comparison of the mean values of the variable with the code ORG-INNO1, which measured the number of new product and service lines developed or launched by the heirs or founders in the last 5 years, showed that the mean value of the variable for founders exceeds the mean value of variables for heirs by 21.4%. Also, a comparison of the mean values of the variable ORG-INNO2, which measured the number of new processes developed or launched by heirs or founders in the last 5 years, showed that the mean value of the variable for founders exceeds the mean value of the variable for heirs by 21.1%. In the case of the variable ORG-INNO3, we measured the nature of changes in production/service/process lines in the last 5 years. The average values of the variables for the founders also exceed by 11.6% average values of the variables for heirs. The t-test for all three variables ORG-INNO1 to ORG-INNO3 was calculated. The T-test (Table 7) confirmed statistically significant differences between the mean values of the variables for founders and heirs for the variables ORG-INNO1 and ORG-INNO2. In contrast, the t-test did not confirm statistically significant differences for the variable ORG-INNO3.

Based on the mean values of the personal innovativeness PER-INNO1 to PER-INNO8, a t-test was calculated to check whether there are statistically significant differences between the mean values of these variables, which were used to measure the construct in the field of innovativeness of heirs and founders (Table 7). It was found that the values of the variables measuring personal innovativeness show that both founders and heirs are more creative, inventive, capable of original thinking, motivated to develop new solutions, appreciate new ideas, they like to improvise, but people who have less motivation for creativity according to the JPI index, rarely look for originality, are conservative thinkers, prefer routine. On the contrary, the t-test for the variables measuring organizational innovativeness confirmed that the founders

are more innovative than the heirs in the FBs in the transition economy, as they have developed/started marketing more new products/services and processes than heirs in the last 5 years.

Table 7
T-test of mean value differences between the founders' and heirs' innovativeness

	Mean difference	Lower Boundary	Upper Boundary	df	T-test	P-value
Personal innovativeness						
PER-INNO1	-0.02	-0.22919	0.18919	203	0.1885	0.8507
PER-INNO2	0.05	-0.17018	0.27018	201	0.4478	0.6548
PER-INNO3	-0.01	-0.2758	0.25580	203	0.0742	0.9409
PER-INNO4	0.01	-0.19434	0.21434	201	0.0965	0.9232
PER-INNO5	-0.05	-0.2972	0.19720	196	0.3988	0.6905
PER-INNO6	-0.18	-0.45556	0.09556	204	12.879	0.1992
PER-INNO7	-0.06	-0.26058	0.14058	203	0.5898	0.5560
PER-INNO8	0.21	-0.01487	0.43487	203	18.413	0.0670*
Organizational innovativeness						
ORG-INNO1	-0.61	-133.259	-0.42741	179	38.368	0.0002***
ORG-INNO2	-0.56	-100.398	-0.11602	169	24.900	0.0137**
ORG-INNO3	-0.36	-0.74873	0.02873	181	18.273	0.0693**

Note: *** statistically significant at 1%; ** 5%; *10%; Likert scale (1-5); 1-not agree at all; 5-fully agree
Source: Authors' work

Life-long learning and heirs' innovativeness

Table 8 presents descriptive statistics of variables related to life-long learning through external training and innovativeness.

The mean values of the variables for the construct in the field of the life-long learning through external training range between 4.21 ("External training enables the transfer of knowledge held by others to the heir in the FB, combining it with tacit knowledge in the FB into new knowledge thus increasing heirs innovativeness"; EDU3) and 4.24 ("External training enables the acquisition of new skills relevant to working in fast-changing markets"; EDU1), standard deviations are ranging between 0.698 and 0.766; the dispersion of responses around the mean is small.

Table 8
Descriptive statistics of construct variables in the field of factors of heirs' innovativeness

Code	N	Mean	St.Dev
EDU1	100	4.24	0.698
EDU2	101	4.21	0.766
EDU3	100	4.21	0.729

Note: Likert scale (1-5); 1-not agree at all; 5-fully agree
Source: Authors' work

Table 9 presents the results of the correlation calculated between the construct variables in the field of heir's innovativeness (PER-INNO1 to PER-INNO8) and the variables of the construct in the field of the heir's life-long learning through external training (EDU1, EDU2, and EDU3).

The correlation showed that heir's innovativeness, measured by ORG-INNO2, is positive, weakly related to EDU1. There is a positive, weak correlation between heir's innovativeness, measured by ORG-INNO3 and EDU2. Positive, weak correlations also exist between innovativeness, measured by PER-INNO1, ORG-INNO1, ORG -INNO2,

and EDU2. There are positive, weak correlations among the innovativeness measured by PER-INNO1, PER-INNO2, PER-INNO7, PER-INNO8, and (EDU3).

Table 9
Pearson correlation coefficient between the variables of innovativeness and life-long learning through external training

Life-long learning through external training			
	EDU1	EDU2	EDU3
Personal innovativeness			
PER-INNO1	0.102	0.223*	0.274**
PER-INNO1	0.093	0.153	0.200*
PER-INNO3	0.023	0.159	0.095
PER-INNO4	-0.100	0.175	0.106
PER-INNO5	-0.041	0.079	0.002
PER-INNO6	-0.037	0.015	0.002
PER-INNO7	0.155	0.237*	0.291**
PER-INNO8	0.075	0.186	0.237*
Organizational innovativeness			
ORG-INNO1	0.159	0.226*	0.153
ORG-INNO2	0.250*	0.243*	0.204
ORG-INNO2	0.217*	0.167	0.200

Note: *** statistically significant at 1%; ** 5%; *10%
Source: Authors' work

Discussion

The generation of heirs in FBs in the transition economy, including Slovenia, is just as innovative as founders. This is reflected in the increased innovativeness of the next generation of FBs in the last five years, which exceeds the first-generation FBs in terms of the average number of technical-technological innovations, and lags behind it concerning non-technological (program, organizational, management, and methodological) innovations. Although FBs that a generation of heirs has already taken over are in a more mature period of the FB's life cycle, when managerial skills are more needed, heirs are also becoming more entrepreneurs, which is forced into them by modern competitive conditions. The next generations in FBs are cautious, but they already have a different attitude towards risk-taking, confirmed by the research. The finding is inconsistent with Molly et al. (2012). They note that next-generation FBs grow slower because they tend to forego part of their growth (and innovations are growth determinants, the author's note) rather than risk the loss of family control due to the increased use of debt.

In today's global economic environment, FBs must no longer reduce the interest and effort for innovation as they once did when the first generation, when the time of the FB transfer to the next generation approached, became more cautious and readier to take the only moderate risk, and also invested less not to jeopardize the long-term existence of the FB. In the research, similarly to Eddleston et al. (2008) and McCann et al. (2001), when they say that innovativeness has greater potential for greater success when guided by comprehensive strategic business decision-making and a long-term orientation, it was found that the second generation evaluates, that their early involvement in business decision-making and strategic planning processes, as well as cooperation in creating a common vision of the company with the first

generation of entrepreneurs, is important for the innovativeness and long-term existence of the FB.

The research found that the innovativeness of founders and heirs in FBs in a transition economy does not differ significantly. The results of measuring the innovativeness of founders and heirs in the FB with the JPI scale did not differ statistically. This finding does not confirm the results of previous research by the authors of Langlois (2007); Miller, Le Breton Miller, and Lester (2010; 2011), who showed that heirs are less innovative than founders.

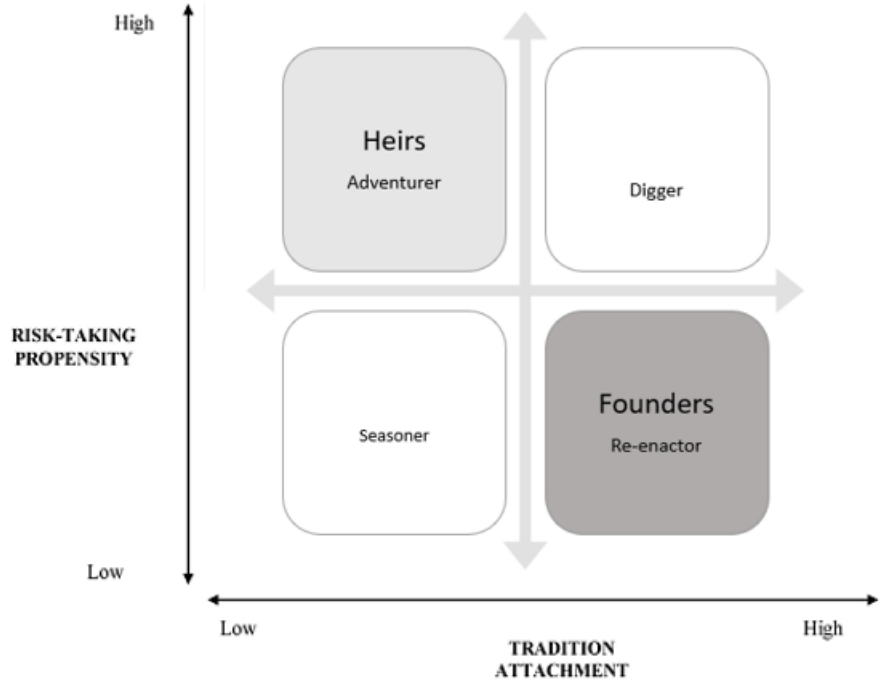
It is estimated that the difference in the assessment of innovativeness, which results from the measurement with the JPI scale, where the interest lays on creativity, inventiveness, ability to think the original, motivation to develop new solutions and search for new ideas, and tendency to improvise, in this research compared to past research, due to changes in business conditions in the economic environment of FBs (since 2008, author's note) and the awareness of the next generation that innovation is essential for the long-term survival of FB. The innovativeness of founders and heirs in FBs was measured by the number of new product and service lines and the number of new processes that founders and heirs in FBs have developed or started marketing in the last five years. The survey result was different, and greater innovativeness of the founders was shown. With this finding of the research, however, the findings of previous research by Langlois (2007), Miller, Le Breton Miller, and Lester (2010; 2011) were confirmed. The findings of research by Prajogo and Ahmed (2006), who argue the opposite - that heirs are more innovative than founders, were also not confirmed.

Heirs show a slightly higher propensity for risk than founders, consistent with Arregle et al. (2021) finding that founders, before the transition, become more cautious about taking a moderate risk. Heirs also exhibit a high degree of innovativeness, consistent with Kraus et al.'s (2012) statement that entrepreneurship attracts people who prefer a more innovative way of solving problems. Heirs in FBs in a transition economy are more open to interaction and cooperation across geographical and technological boundaries.

Based on the above-discussed results, we can argue that the position of Slovenian FB's founders is more of a Re-enactor, while the Heirs could be considered more as Adventurers (Rondi et al., 2019). Figure 2 presents the position of heirs and founders on the innovation model of Slovenian FBs

The research findings coincide with the previously mentioned research concerning life-long learning. The research results confirmed that life-long learning through external training is positively related to the innovativeness of heirs. Positive correlations between heir's innovativeness and external training are most often manifested through the transfer of knowledge to heirs, who combine this knowledge with tacit knowledge in FBs and create new knowledge, or through the creativity of heirs, their willingness to experiment and develop new ideas. The heirs rated the importance of new skills, which are important for operating in rapidly changing markets, for their innovativeness. External training programs are considered in the family entrepreneurship literature to be very important for the development of heirs, as they enable them to acquire new knowledge that is essential when FBs are operating in markets subject to very rapid change (Cabrera-Suárez et al., 2001; Chirico, 2008, Calabrò et al., 2019) and play a key role in innovation processes (Litz & Kleysen, 2001; Filser et al., 2018).

Figure 2
Position of heirs and founders on the innovation model of Slovenian FBs



Source: Adapted from Rondi et al. (2019)

The non-technological innovation approach is supposed to turn routine companies into innovative ones, while in Slovenia, there are almost no educational institutions that would offer knowledge about innovation management (Ženko & Mulej, 2014). It is, therefore, necessary to modernize existing programs and offer more courses focused on innovation and innovation management, in particular innovation sources with concepts of commercially sustainable innovation, innovation strategies, innovation marketing, innovation financing, and control, thus filling the gap in this area (Duh, Letonja, & Vadnjal, 2015). Education and innovation should be encouraged to lead to technical-technological and non-technological innovation (Ženko & Šardi, 2014).

Conclusion

The research contributes to a better knowledge of the family entrepreneurship segment from the aspect of the problem of succession and innovation management in FBs in Slovenia. The research results are important for the future planning of entrepreneurship support, the key share of which is represented by FBs, especially smaller FBs. In-depth knowledge of FBs and the problems of succession and innovativeness in this important economy segment is added to the multitude of knowledge about entrepreneurship, entrepreneurial start-ups, and forms of entrepreneurship, such as dynamic entrepreneurship, women's entrepreneurship, franchising, biotech entrepreneurship, etc.

An important limitation of the research was that few theoretical sources with combinations of the fields studied were viewed globally. Many researchers study individual aspects of the transfer of succession in FBs to the next generation, but none of them innovativeness of founders and heirs and factors related to the innovativeness of FBs. The research was limited to family businesses of the first and the second generation, so the results can not be generalized to any companies. In the future, based on researchers' interdisciplinary work, the various dilemmas of FBs and the impact of individual factors on the innovativeness of heirs in FBs should be explored.

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