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Determinants of the Internationalization of Family Firms – a Structural Equation Modeling Analysis

Abstract: Currently, international behaviors of family businesses (FBs) attract a growing interest of researchers. In an increasingly competitive environment, numerous FBs are forced to expand into foreign markets in search for ways to survive or grow.
The article is both theoretical and empirical. In the theoretical part it presents theoretical concepts of FBs internationalization, especially determinants for their going international. In empirical part, the study focuses on two particular internationalization determinants: the attitude of family firm towards internationalization and some aspects of the business environment. Methodology used in the paper is unique. Authors use a structural equation modeling (SEM) to explore how strong is a causal effect of the attitude to internationalization and of the business environment to internationalize a firm. The results of the survey are presented on the sample of 216 firms, including 88 FBs (were investigated with the use of a survey questionnaire).
Key words: family firms, internationalization, small and medium-sized enterprises, family entrepreneurship, determinants of internationalization

Introduction

In recent years, there has been an intensification of research on internationalization of FBs. The decision of a family business owner to expand firm's

activity to foreign markets depends on many factors. Hence this problem is the main interest of this research study. The research objective of this paper is to explore whether there is a causal relationship between firm's attitude towards internationalization and its performance in internationalization. Additionally, we test relationship between some aspects of business environment and the effect of internationalization process in enterprise. We use in paper the structural equation modeling (SEM), which is an original research method in the field of international business and is promising for futures studies. The study contains the results of empirical study that has been carried out at the turn of 2013 and 2014 on the sample of N = 216 firm from all 16 Polish regions including N = 88 internationalized FBs.

Internationalisation theory backgroud

The research of firm-level internationalization as a separate field started in the 1950s and 1960 and its rapid development was in the mid-1970s [Daszkiewicz 2014; Daszkiewicz Wach 2013, 2014]. It was the period of development of so called stage theories which describe internationalization of firms as an incremental process [e.g. Johanson, Wiedersheim 1975; Johanson, Vahlne 1977; Bilkey, Tesar 1977; Cavusgil 1980]. Uppsala Model (U-Model) [Johanson, Vahlne 1977; Johanson, Wiedersheim 1975] is considered a pioneering and the most often cited one. However, it should be noted that their Johanson and Vahlne [2009] and Schweizer, Vahlne and Johanson [2010] updated their U-model four times [Wach 2014a]. It was due to ongoing changes in economies and in response to the development of research in the field of internationalisation of SMEs.

Later, Oviatt and McDougall criticized U-Model as inadequate in explaining the internationalization of some SMEs, particularly high-techs and high-tech related industries [Oviatt, McDougall 1994]. Their breakthrough INV theory *(International New Ventures)* was based on observations that internationalization of INV SMEs results from opportunity seeking behavior of entrepreneurs and states that some SMEs are "international from inception" because entrepreneurs seek growth opportunities in foreign markets. Thus, some firms can skip stages or not have any stages in all their internationalization process [Oviatt, McDougall l994].

The other best known internationalization theories include the resource-based view [Barney, 1991], the network approach [Johanson, Mattsson 1988; Coviello, Munro 1999], the integrative approach [Bell et al., 2003], the strategic management approach as well as international entrepreneurship,

which lies on the cross-section of internationalization and entrepreneurship [Wach 2012, Daszkiewicz 2014a]. Thus, firm's internationalization may be driven by entrepreneurs because of their individual characteristics. In this process, the entrepreneur's personal nature and international business experience play a significant role [Busenitz, Barney 1997; Zahra 2005].

Theoretical Background of the Internationalization of Family Firms

During the last decade family firms have become a topic of a growing number of research. Kontinen and Olaja reviewed the methodologies and theories used in the study of the phenomenon of internationalization of family businesses, the state of knowledge on the subject and made an attempt to look for answers to the question how to study this phenomenon in the future [Kontine, Olaja 2010]. The review carried out by the researchers showed that until 2010 only eight articles had used theories of internationalization. They also noticed that only limited number of studies had focused on factors influencing international behavior of FBs.

In turn, Daszkiewicz and Wach [2014b] used resource-based theory and international entrepreneurship theory in their studies of FBs [table 1].

In spite the problem how different factors influence internationalization of FBs seems to crucial, various research lead to different conclusions [Arregle et al. 2012; Daszkiewicz, Wach 2014].

Sciascia et al. found the inverted U-shaped relationship between family ownership and international intensity [Scascia et al. 2012]. In turn, Zahra [2003] claims that familiness positively influences international sales family members want to create the conditions for the firm to be long lasting for current and future generations.

On the contrary, Kontinen and Ojala [2010] claim that FBs are more likely to take a traditional, gradual path of internationalization. They tend to choose psychically close countries and rather indirect than direct entry modes. In the foreign direct investment process their behavior is less formal than in case of non-FBs and it might be also harder for FBs to build a portfolio of strategic resources [Kontinen, Ojala 2010].

Also Zaniewska [2012] claims that family businesses are less likely to internationalization. If they decide to expand into foreign markets they usually follow traditional pathway and often choose geographically closer markets.

Tab. 1: Internationalization theories and their application in the studies reviewed.

Internationalization theory	Description	Usage in FB internationalization studies
Process model of internationalization (Uppsala Model); (Johanson, Vahlne, 1977)	Describes internationalization as an incrementally evolving process, in which a firm internationalizes its operations by going through various stages	Graves, Thomas 2004, 2008; Claver et al. 2007; Casillas, Acedo 2005
Network model of internationalization; (Johanson, Mattsson 1988)	The internationalization of firms is explained with reference to the networks the utilize.	Graves, Thomas 2004 (to a limited extent)
Resource-based view; (Barney 1991)	Decisions are made within a coordinated framework of resources, capabilities and environmental contingencies	Graves & Thomas, 2006 (managerial capabilities), Daszkiewicz, Wach 2014 (internationalization motives)
Dunning's eclectic paradigm; (Dunning 1980)	Describes the internationalization of firms in terms of OLI-advantages: ownership, location, and internalization	Erdener, Shapiro, 2005 Pinho 2007 George et al. 2005
International entrepreneurship (Daszkiewicz 2014; Daszkiewicz Wach, 2014a; Wach, 2014b)	firm's internationalization may be driven by entrepreneurs because of their individual characteristics	Daszkiewicz 2014 (the influence of familiness on firm's internationalization)

Source: own study based on: Kontinen T., Ojala A. (2010), Daszkiewicz N. (2014), Daszkiewicz, Wach (2014b), Wach (2014b).

Graves and Thomas [2008] reviewed different research findings which show that FBs face unique barriers of internationalization. Their study explores the ways the family ownership and management influences firm internationalization. The scholars used the case analysis of the qualitative data which allowed them to define three particular determinant of the internationalization pathways undertaken by the eight SMFEs. These determinants (figure 1) are the degree to which the owning family was committed to internationalization, the amount of financial resources available for internationalization and firm's ability to develop the requisite capabilities [Graves, Thomas 2008]:

1. Level of commitment to internationalization – determines how aggressively SMFEs leveraged their resources in the international markets.
2. Funds available for international growth – internationalization is determined by firm's access to financial resources and its willingness to commit financial resources into international activities eg. exhibiting at international fair trade.
3. Ability to develop the organizational capabilities required for internationalization - the ability of SMFE to grow internationally dependents on its ability to acquire and configure its resources to develop globally relevant capabilities, especially the development of the firm's international network relationships, production, managerial, and marketing capabilities.

However the most popular typology of firm's motives for going international was developed by the OECD (1997a, 1997b). It distinguishes four categories of factors internationalization of the firm:

1. Pull factors – entrepreneur deciding to expand into foreign markets is guided by the ability to achieve a higher profit.
2. Push factors – entrepreneur enters foreign markets due to lack of opportunities in the domestic market.
3. Chance factors – entrepreneur sees the proper conditions in foreign markets and uses random opportunistic occasions.
4. Entrepreneurial factor – entrepreneur tends to grow. This factor is considered to be the original, without which the operation of any of the other would not be possible [Daszkiewicz 2004, 2014].

Fig. 1. Determinants of the internationalization process in family firms
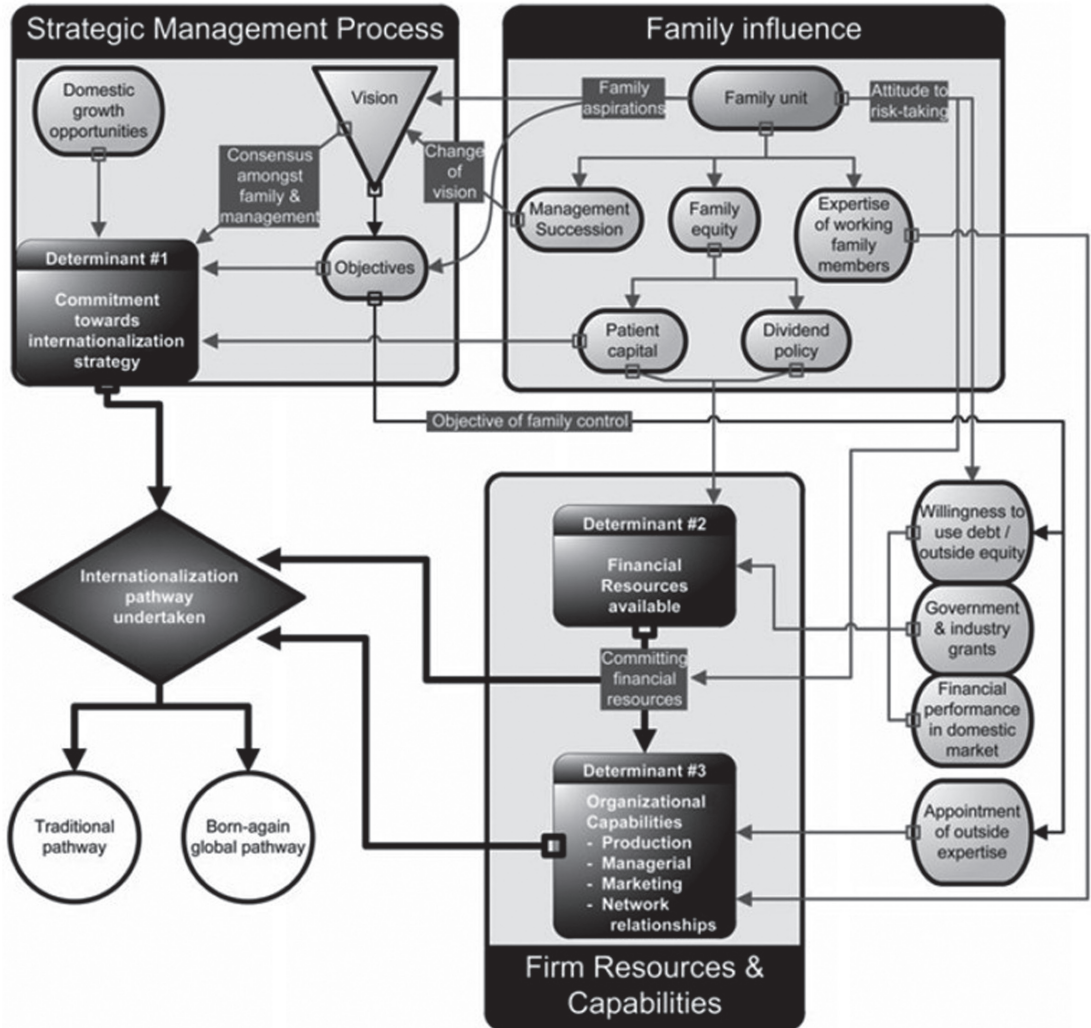
Source: Graves, Thomas 2008, p. 160.

The influence of firm's attitude towards internationalization and its business environment on the internationalization process

Nowadays, in the area of knowledge-based economy, knowledge is crucial for growth and development of economies and businesses. Knowledge is also increasingly used as an important variable to explain the process

of internationalization of firms. Thus, a numerous studies explore its role in firm's development and international expansion [Daszkiewicz, 2014b; Wach 2014b]. For instance, Wach [2014b] proved dependences between knowledge and internationalization process among Polish businesses. He selected six simple knowledge variables (human resources for internationalization, knowledge on international markets, experience on international markets, professional experience, international motivation, cosmopolitism and openness). Also Bartha and Gubik [2014] identified the knowledge elements that are crucial in the internationalization process of Hungarian firms. They used a two-dimensional model of business knowledge, which separates business knowledge along two dimensions: the tacit or explicit nature; and the codified or uncodified one. The scholars also measured the five types of business knowledge with a questionnaire. Thus, our research of firm's attitude towards internationalization which uses its six selected variables (motivation for foreign expansion, cosmopolitism and international openness, knowledge of international markets, general business experience) is similar to the above presented approaches. However, we include in our research also FBs and propose a different methodology.

The other determinant we investigate ie. business environment has also been a subject of different research. As already mentioned there are many factors influencing the firm-level internationalization process. Wach [2014a] classified them as internal factors (being in the firm) being elaborated especially in the resource-based view and the international entrepreneurship theory and external factors (being created in the external business environment), which are under special consideration of marketing based view as well as the international entrepreneurship theory. Business environment has been so far investigated from local to truly global level [Wach 2014a]. However we include the following components into our research (sensibility to internationalization, level of competitiveness, intensity of foreign competition, intensity of foreign capital, level of innovations).

Methodological Assumptions of the Empirical Research

The research objective of the paper is to explore whether there is a causal relationship between the attitude to internationalization and the enterprise performance in internationalization process and how strong the intensity of this causality is. Additionally, we test relationship between some aspects of business environment and the effect of internationalization process in enterprise.

In the course of the study, the following research hypotheses were assumed:

H1: Firm's attitude towards internationalization explains/influences the enterprise performance of internationalization

H2: A business environment is an important determinant of internationalization process.

H3: Among Polish family firms there is a higher impact of the attitude toward internationalization on internationalization process than among all enterprises surveyed

The methodology, we use in paper is the structural equation modeling (SEM), which is a combination of exploratory factor analysis [Jöreskog 1966, 1967] and multiple regressions [Wright 1918]. Statistically, it represents an extension of general linear modeling (GLM) procedures, such as the ANOVA and multiple regression analysis. SEM is a comprehensive statistical approach to testing hypotheses about relations among observed and latent variables (they are not measured directly, but are estimated in the model by several measured variables). The causal pattern of intervariable relations within the theory is specified a priori. The goal is to determine whether a hypothesized theoretical model is consistent with the data collected to reflect this theory. SEM is the large sample technique. Although here is little consensus on the recommended sample size for SEM [Sivo et al. 2006, Garver and Mentzer 1999, Hoelter 1983] a 'critical sample size' of 200 is proposed.

Two main components of models are distinguished in SEM: "the structural model" showing potential causal dependencies between endogenous and exogenous variables, and "the measurement model" showing the relations between latent variables and their indicators. Parameter estimation is done by comparing the actual covariance matrices representing the relationships between variables and the estimated covariance matrices of the best fitting model. This is obtained through the numerical maximization of a fit criterion, provided by maximum likelihood estimation.

In general, every SEM analysis goes through four steps of model specification, model estimation, model evaluation, and modification [Mueller 1997]. In model specification phase, based on the theory the relations between variables are specified. A model is presented in graphical form, where: observed variables are enclosed in rectangular boxes, latent variables in elliptical shape, a directional arrows show a hypothesized casual relation and curved arrows present unexplained covariance. Many different models can

be specified, but their quantity is limited to models which can be identified. In literature we can find some rules that help us make decision, if a model is indentified or not [Davis 1993, McDonald 1982; Rigdon 1995]. The identification status of a model is often assessed by comparing the total number of parameters to be estimated (t) with the number of unique (co)variances of measured variables (u)[1]. When t > u, the model is underidentified. If t ≤ u is a necessary but not sufficient condition for identification, and usually parameter estimation can commence. T=u implies that the model is justidentified, while t < u implies that it is overidentified (provided that indeed all parameters are identified and any latent variables in the system have been assigned an appropriate metric). To the most popular models, estimated in SEM procedure belong: a measured variable path analysis (MVPA) model, hypothesized structural/causal relations among directly measured variables, a confirmatory factor analysis (CFA) model: structural/causal relations between unobserved latent factors and their measured indicators, a latent variable path analysis (LVPA) model: structural/causal relations among latent factors or some combination of MVPA, CFA and LVPA model. After model identification, it can be estimated. The most popular estimation method is a maximum likelihood, which assumes underlying multivariate normality.

There are several indicators of goodness-of-fit and most SEM scholars recommend evaluating the models by observing more than one of these indicators [Bentler & Wu 2002; Hair et al. 1998]. According to Marsh, Balla and McDonald [1988] the criteria for ideal fit indices are relative independence of sample size, accuracy and consistency. Based on this stated criteria, Garver and Mentzer [1999] recommended the non-normed fit index (NNFI); the comparative fit index (CFI), and the root mean squared approximation of error (RMSEA). Therefore, the commonly applied fit indices are NNFI and CFI (>0.90 indicates good fit), RMSEA (<0.08 indicates acceptable fit), and commonly used χ2 statistic (χ2/ d.f. ratio of 3 or less).

In our study, the main endogenous variable is share of exports in revenues the company (*export/revenue*, observed variable), which is directly affects by the attitude to internationalization (*attitude*, latent variable) and business environment (*business id*, latent variable). The attitude to internationalization is determined by five variables i.e. the motivation for international expansion (*att1*), the cosmopolitanism and openness *(att2)*, the knowledge of international markets (a*tt3*), the experience of international

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[1] $u = \frac{p(p+1)}{2}$, where p is the total number of measured variables in the model.

markets (*att4*) and total business experience (*alt5*). By contrast, the business environment is the function of the sensitivity to the internationalization of the industry (*bus1*), the level of competitiveness in the industry (*bus2*), The intensity of foreign competition (*bus3*), the intensity of foreign capital (*bus 4)* and level of innovation in the industry (*bus5).* The model is estimated for data from 216 Polish enterprises, including 88 internationalized family businesses (table 2). It was carried out at the turn of 2013 and 2014 in all 16 Polish regions. A detailed list of questions from the questionnaire and the scale of answer used are shown in the table below (table 2).

Tab. 2. The list of questions and a scale of answer used in the study

Id variable	Question	Scale of answer
alt1	Motivation for foreign expansion	1-5
alt2	Cosmopolitism and international openness	1-5
alt3	*Knowledge of international markets*	1-5
alt4	*Experience on international markets*	1-5
alt5	*General business experience*	1-5
bus1	Sensibility to internationalization	1-5
bus2	*Level of competitiveness*	1-5
bus3	*Intensity of foreign competition*	1-5
bus4	*Intensity of foreign capital*	1-5
bus5	*Level of innovations*	1-5

Additionally, we use Cronbach's alpha to measure the internal consistency i.e.: how closely related a set of items are as a group. The alpha coefficient for the five items (*alt1--alt 5*) is 0 .839, suggesting that the items have relatively good internal consistency. For items *bus1-bus5* , the estimated Cronbach's alpha was 0,56, so we remove variable *bus2*, and got the greater internal consistency of the items (variables) in the scale (0.724).
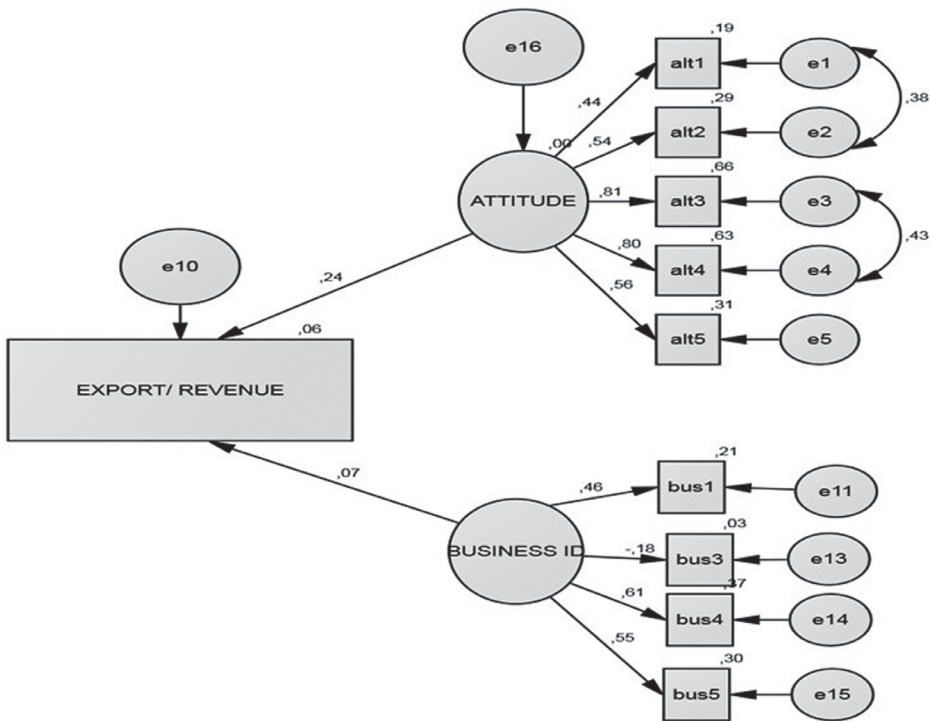
Source: own study.

Data analysis was carried out using SPSS version 21 and AMOS

Empirical Results and Discussions

Results are organized to accept or reject the three hypothesis. In figure 2, we present the model1, which analyzes the effect of the attitude to internationalization and the business environment to internalize the company, measured by the share of exports in revenues among all 217 surveyed enterprises. The goodness-of-fit test statistics suggest that the model fitting is acceptable: root mean square error of approximation (RMSEA) is 0.0564, goodness of Fit Index (GFI) and adjusted Goodness of Fit Index (AGFI) are larger than 0.9.

Fig. 2. Model 1- Effect of the attitude to internationalization and business environment to internalize the companies, measured by the share of exports in revenues (N = 217 , all companies). All coefficient are standardized.

Source: own study.

The results confirm that the attitude to internationalization is determined by five variables: *alt1-alt5*, which are all statistically significant. To the most important determinants of the attitude to internationalization belong the knowledge of international markets (*att3; b=0,81*) and the experience of international markets (*att4; b=0,80,*). Less important are the motivation for international expansion (*att1, b=0,44*), the cosmopolitanism and openness *(att2, b=0,54)*, and total business experience *(alt5, b=0,56)*. The result of estimation allow to accept hypothesis1, that the attitude toward internationalization is an important determinant of internationalization process among Polish enterprises (table 3).

The influence of the attitude toward internationalization is positive (*b= 0,24*) and statistically significant (*p=0,005*), but not very strong. It explains only 6% of the internationalization process variability.

We reject the hypothesis 2, that the business environment influence the internationalization process among Polish enterprises. The business environment, which is the function of the sensitivity to the internationalization of the industry, the intensity of foreign competition, the intensity of foreign capital and level of innovation in the industry is statistically insignificant.

To verify hypothesis 3 about higher impact of the attitude toward internationalization on internationalization process among Polish family enterprises than among all enterprises surveyed, we estimated once more model 1, using only data for 88 family enterprises (figure 3).

Tab. 3. Parameter and Standard Error Estimates for the Model 1.

		Estimate	S.E.	C.R.	P	Label
att1	<---	ATTITUDE	1,000			
att2	<---	ATTITUDE	1,263	,203	6,234	***
att3	<---	ATTITUDE	2,161	,468	4,616	***
att4	<---	ATTITUDE	2,219	,484	4,585	***
att5	<---	ATTITUDE	1,192	,240	4,960	***
Export/Revenue	<---	ATTITUDE	22,133	7,898	2,802	,005
bus1	<---	BUSINESS ID	1,000			
bus3	<---	BUSINESS ID	-,309	,167	-1,852	,064
bus4	<---	BUSINESS ID	1,763	,488	3,615	***
bus5	<---	BUSINESS ID	1,247	,332	3,750	***
Export/Revenue	<---	BUSINESS ID	6,022	7,223	,834	,404

Source: own calculations.

Fig. 3. Model 2- Effect of the attitude to internationalization and business environment to internalize the family business companies, measured by the share of exports in revenues (N = 88). All coefficient are standardized.
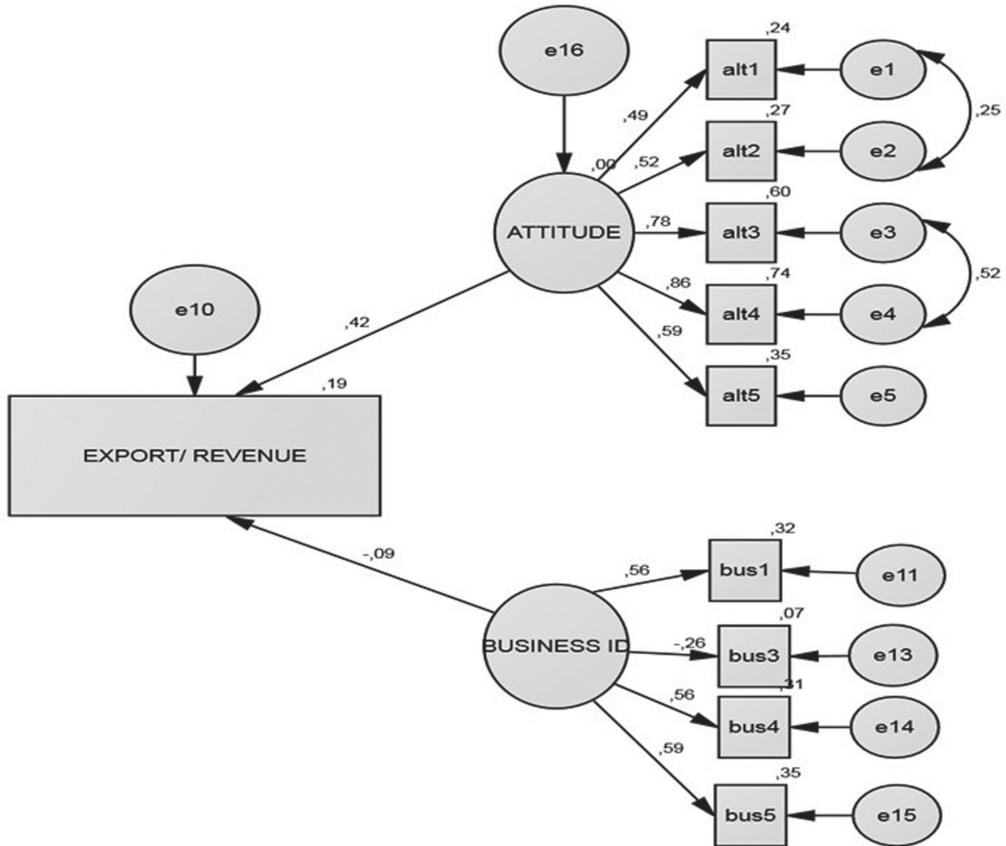
Structural model 2 provides a good fit with our data (NNFI 1.03, CFI 0,98, NFI 0.88, RMSEA 0.062). The attitude to internationalization is highly, positively, and significantly related to internationalization among family enterprises (standardized coefficient b=0.42). Because the coefficient between variable " Attitude" and "Export/revenue" is almost double higher in model 2 then in model 1, what allow us support the hypothesis 3. Similar to structural model 1, in model 2 the hypothesis 2 is not supported, because 'business ID' to 'export-revenue' are not statistically significant (see table 4; *b=-0.09 and p=0.496*).

Tab. 4. Parameter and Standard Error Estimates for the Model 2

			Estimate	S.E.	C.R.	P	Label
att1	<---	ATTITUDE	1,000				
att2	<---	ATTITUDE	1,045	,263	3,979	***	
att3	<---	ATTITUDE	1,790	,503	3,558	***	
att4	<---	ATTITUDE	2,082	,561	3,712	***	
att5	<---	ATTITUDE	,948	,258	3,675	***	
Export/Revenue	<---	ATTITUDE	32,252	10,765	2,996	,003	
bus1	<---	BUSINESS ID	1,000				
bus3	<---	BUSINESS ID	-,394	,225	-1,755	,079	
bus4	<---	BUSINESS ID	1,448	,523	2,769	,006	
bus5	<---	BUSINESS ID	1,140	,414	2,756	,006	
Export/Revenue	<---	BUSINESS ID	-5,804	8,516	-,681	,496	

Source: own calculations.

Conclusions

Many researches confirm the concentration on local business activities among family enterprises. It may result in differences in the internationalization process of family and non-family firms. It is related to a threat of losing control, a limited financial capital or a lack of flexibility in organization structure among FB enterprises. However in practice, family businesses enter more eagerly and more frequently on international markets.

In spite there are many theoretical concepts on internationalization of FBs, empirical studies in this field are no so numerous. In our paper we concentrate on two determinants of internationalization: firm's attitude towards internationalization and its business environment. Based on the calculations it was possible to confirmed two out of three hypotheses (*H1* and *H2*)

H1: Firm's attitude towards internationalization explains/influences the enterprise performance of internationalization – confirmed

H3: Among Polish family firms the is a higher impact of the attitude toward internationalization on internationalization process than among all enterprises analyzed- confirmed

So, our empirical analysis allowed us to confirm a strong influence of firm's attitude towards internationalization on its internationalization process, measured by the share of exports in revenues. What is more, this relation is much stronger among Polish family enterprises than among all enterprises analyzed.

However, the business environment as a function of the sensitivity to the internationalization of the industry, the intensity of foreign competition, the intensity of foreign capital and the level of innovation in the industry turned out to be statistically insignificant determinant of internationalization process. So the hypothesis *H2 A business environment is a important determinant of internationalization process)* had to be rejected.

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