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Familiness as a Determinant of Competitiveness of Family Businesses – The Organisational Effectiveness-Based Approach

Joanna Kurowska-Pysz, Pawel Czart, Sebastian Kot

Abstract

This paper determines the profile of a family business that ensures the greatest engagement of family members in running a family business and has the strongest impact on the competitiveness of such an enterprise and its organisational effectiveness. The theoretical part addresses organisational effectiveness. It emphasises the variety of criteria and areas of its assessment and the relationships between organisational effectiveness and competitiveness. It discusses familiness as a unique resource and competitive advantage of family businesses. The analytical part presents the research methodology, including the authors' formula for calculating the measure of familiness and the procedure for identifying the profile of a family business, ensuring the greatest familiness engagement in business activities, which affects the organisational effectiveness and competitiveness of family businesses. This procedure was based on applying the gray system theory (GST). The research was based on the incomplete numerical induction method on a targeted sample of 200 family businesses operating in Poland that met the research criteria. The results show that the features most responsible for the highest engagement of familiness in the family enterprise are the territorial scope and size of the company, and the age of the family member involved in the activities of the enterprise. Small and medium-sized enterprises operating on the domestic market, in which a family member aged 36-45 is involved, generate the highest level of familiness in all seven researched areas of organisational effectiveness, including in the area of goals, and also generate the highest level of competitiveness of family businesses.

Keywords: *family business, familiness, competitiveness, organisational effectiveness, the Grey System Theory*

JEL Classification: L21, L25, M21, D41

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1 INTRODUCTION

Family businesses are the oldest known forms of entrepreneurship (Skackauskiene et al., 2019) that dominate global business (Maloni et al., 2017) and determine the competitiveness of any modern economy (Ding & Wu, 2010). They are characterised by the coupling of family and business subsystems and their mutual interactions (El Masri et al., 2017). Family businesses are driven by both financial and non-financial motives and unique attributes, such as a close relationship between the management and the family of the owners or the value system of the owner's family, shaping the company's image (Ratten et al., 2017).

The specific resources of a family business, e.g., family values (Malbašić et al., 2016), human resource management practices (Fedyk et al., 2021) or the conscious use of a particular leadership style (Erkutlu, 2008), can have a significant impact on their performance, the organisation's effectiveness and its competitiveness (Makadok, 2001). The ability to effectively

allocate these resources is related, e.g., to such features of the enterprise as size, period of operation on the market, business profile, or territorial range.

Many studies confirm that fidelity, trust, collectivism (Dede & Ayranci, 2013), identification (Gupta et al., 2009), and commitment (Simon et al., 2012) are used by families to strengthen the business' competitiveness (Chrisman et al., 2012) and achieve economic and non-economic goals (Garcés-Galdeano et al., 2017), such as ensuring the family's social-emotional well-being (SEW) (Kammerlander & Ganter, 2015). This prosperity is based on one of the key competitive advantages of family businesses, i.e., the engagement of the family in the company's operations (Berrone et al., 2012). This competitive advantage is shaped by the family members' ties to the family business (Schröder et al., 2011) developed on many levels, through:

- taking on roles and tasks by family members, ensuring formal and informal supervision of the company,
- identification of family members with the company, shaping the unique identity of family businesses, and even the image of the company being an extension of the family itself,
- development of social relations based on family members' relationships with the company's employees and regular, long-term suppliers or customers,
- emotional attachment of family members to the company, intertwined with business factors, resulting in the blurring of boundaries between the family and the company, and even psychological appropriation of the company by the family,
- integrating successive generations into the family business, ensuring the renewal of family ties with the company through dynastic succession.

In this paper, the authors take a closer look at one of the unique resources of family businesses, which is the family's engagement in running the business, referred to in the literature as "familiness" (Bequeath, 2014). Familiness is a value resulting from the use of the family character of the company (Więcek-Janka, 2016). At the same time, familiness is a competitive advantage of a family business, which, from the perspective of Resources Based View, is a unique bundle of dynamic and synergistic resources based on family (e.g., culture and tradition), family members (e.g., skills and commitment), and business (e.g., strategy, activities) (Habbershon & Williams, 1999). It can be argued that a competitive family business will not cope without the engagement of the family, and the family without familiness.

The relationship between familiness and the organisational effectiveness and competitiveness of family businesses has not yet been the subject of research in family businesses in Central and Eastern European countries. In the post-war period, the political system in the countries of the communist bloc was not conducive to the development of family businesses. It was not until the political transformation of the late 1980s and the marketisation of the economy in the 1990s that these companies were able to operate unhindered. The socio-economic conditions for the development of family business in Poland are determined, e.g., by the engagement of family members in the activities of such entities (Wach, 2014).

The paper aims to determine the profile of a family business that ensures the greatest engagement of family members in running a family business and has the greatest impact on the competitiveness of such an enterprise and its organisational effectiveness in achieving goals.

In the paper's theoretical part, fundamentals of organisational effectiveness are discussed, emphasising the variety of criteria and areas of its evaluation, as well as the relationship between familiness, organisational effectiveness and competitiveness of family businesses was analyzed. In this part, family life is also characterised as a unique resource and competitive advantage of family businesses.

In the paper's analytical and research parts, the methodological assumptions of the research are presented, including the authors' formula for calculating the measure of engagement and the procedure for identifying the profile of a family business that ensures the greatest engagement of the family in business activities, which affects the organisational effectiveness and competitiveness of family businesses. The section discussion and results presents the main findings and addresses all research questions, including key features of a family business determining the highest level of familiness for the competitiveness factor in the area of organisational effectiveness responsible for the objectives of family businesses. The study ends with a conclusion. It also indicates study limitations and further research directions.

The research was conducted in an interpretive methodological approach, based on the method of incomplete numerical induction on a purposive sample of 200 family businesses operating in Poland, meeting the study's criteria.

The paper's added value is the creation of a procedure for assessing the relationship between the characteristics of a family business and specific resources, such as commitment. Grey system theory (GST) was used for this purpose (Liu & Forrest, 2010). This made it possible to create a ranking of the characteristics of family businesses, and then a profile of a family business ensuring the greatest family's engagement in the business activity.

The combination of issues such as GST and family business is currently found in articles in the Web of Science and Scopus databases in only two publications (Więcek-Janka et al., 2001; Więcek-Janka et al., 2019). In this aspect, this paper can be considered as an original solution to the problem of identifying the relationships between the resources of a family business subject to qualitative assessment (e.g., altruism, trust, collectivism, or fidelity) and the areas of their organisational effectiveness and competitiveness of the company.

2 THEORETICAL BACKGROUND

2.1. Fundamentals of Organisational Effectiveness

The economic approach to effectiveness refers to the relationship between results and costs of achieving them and is related to the theory of efficient resource allocation (Nordhaus, 2019). Economic effectiveness focuses on the analysis, evaluation, and interpretation of financial indicators, such as financial liquidity, debt and debt service, profitability or the property and capital situation of the organisation. The organisational approach to effectiveness is broader and considers, e.g., the organisation's complex social and psychological aspects (Steers, 1975). Organisational effectiveness is a positive trait that refers to the beneficial effects of the actions taken, reflecting the organisation's success in achieving the expected goals from a holistic perspective (Williams et al., 2019). It also plays a key role in value creation, competitiveness, and socio-economic development (Al-Shaiba et al., 2020). Therefore, in the area of achieving the company's goals, a strong relationship between its organisational effectiveness and competitiveness can be identified.

The assessment of organisational effectiveness is most often combined with the resources and goals of the organisation (Cameron, 1986), which in the case of family businesses, poses some difficulties. A hindrance is, for instance, considering the diversity of business and non-business goals of their activities, divergent understanding of goals by different stakeholder groups (Cruz et al., 2007) (e.g., family and employees), and the presence of additional resources, e.g.,

familiness. The literature review did not confirm the separation of methods of assessing organisational effectiveness dedicated to family businesses.

Some authors have attempted to create a uniform model of organisational effectiveness (Sharma & Singh, 2019), considering economic indicators and qualitative elements used by managers, as well as specific values (Malbašić et al., 2016). Some of these models (interpersonal relations, systems, internal process, and teleological) (Lewin & Minton, 1986) were considered by the authors in their studies. The authors were also inspired by Cameron's (1986) models of organisational effectiveness, which include specific criteria for their application, e.g., when the market situation allows for comparisons between competing organisations. Cameron's (1986) approach confirms that in the assessment of the organisation's effectiveness, clear criteria corresponding to its specificity are needed to be able to capture all the factors determining organisational effectiveness and competitiveness. At a basic level, organisational effectiveness and competitiveness can be measured by economic indicators. In the case of family businesses, it is insufficient, as their success is evidenced by financial results and other resources, such as familiness.

The literature presents various approaches to defining criteria for assessing organisational effectiveness. Steers's (1975) research has shown that the following are most often taken as criteria for assessing effectiveness: adaptability – flexibility, effectiveness and satisfaction, while, e.g., profitability is considered much less often. A different approach was proposed by Rummler and Brache (2000) (nine correlated variables influencing organisational effectiveness), Hammer (2007) (process and enterprise maturity model), and Kaplan and Norton (2001) (the balanced scorecard). Various approaches to the criteria for assessing organisational effectiveness indicate that this issue is too complex to develop a universal evaluation model, e.g., for family businesses. Such attempts have been made, but not in relation to family businesses (Kiselić et al., 2018). Owners and managers of family businesses adopt different criteria for evaluating organisational effectiveness and different standards by which they make this assessment. In the authors' opinion, it is justified to distinguish at least seven areas of activity of family businesses that can be examined in terms of organisational effectiveness (Table 1), among which, area 4, i.e., the objectives of the company's activity, is most strongly identified with competitiveness.

Tab. 1 – Areas of organisational effectiveness assessment – a presentation for the purposes of the research presented in the study. Source: Author's own study based on Lewin et al. (1986) and Taylor (1919)

No.	Area Name	Area characteristics
1.	Human relations	Ensuring balance in the mutual relations between employees and owners; increasing family and employee satisfaction; building family and employee loyalty to the company; supporting the commitment, creativity, and professional development of employees, including involved family members; improving the work-life balance of employees and family members; ensuring a non-discriminatory work culture that avoids conflicts between the family members involved and other employees.
2	System	Analysis of changes in the organisation's environment and its adjustment to the requirements of the environment; integrating the organisation; building accountable governance structures that consider family members and non-family employees; creating conditions for the development of business responsible for the

		family, employees, and the local environment; striving to improve the reliability and quality of the organisation's operations.
3	Internal processes	Building the authority of the company owners among employees; maintaining discipline in the organisation; ensuring effective communication and information processing systems, raising employees' awareness of the company's operating goals; ensuring the internal cohesion of the organisation.
4	Objectives	Strengthening the company's competitiveness on the market; optimal allocation of all resources; creating a vision of the company's development considering family and business goals; acting for the benefit of the local environment of the company and improving the satisfaction of external stakeholders; supporting the local economy, e.g., through the creation of new jobs; creating a positive reputation of the family business on the market and in the immediate environment.
5	Management	Building a business model based on socially and family-recognised values (e.g., trust, commitment, cooperation); creating an employee identity consistent with the ethical and moral values recognised by the family and the company, and with the vision of the future of the family business.
6	Environment	Actions taken by a family business to reduce air pollution, the consumption of non-renewable natural resources, energy consumption, water consumption and noise reduction in all production processes; reduction of waste generation; disposal of unnecessary products, semi-finished products and other substances in the company's possession; protection of biodiversity.
7	Results	Creating products and services in a way that reduces the negative impact on the environment; analysis of factors influencing change: revenues (effectiveness of the scale of operations), profitability, level of sales, cost optimisation, return on investment or, for example, operational effectiveness.

2.2. Familiness as a Determinant of Organisational Effectiveness and Competitiveness of Family Businesses

Any company, regardless of size, legal form or sector, can be considered a family business, as long as the ownership structure and management indicate it. A precise definition of a family business poses a number of difficulties (Astrakhan et al., 2002) to researchers, related to the variety of approaches and typologies used (Hernández-Linares et al., 2017). Although there is a set of characteristics and conditions that must be met in order for an entity to be considered a family business, cultural and institutional diversity means that the functioning of family businesses may vary between countries. The authors are closest to the approach according to which family businesses are organisations in which the main operational decisions and succession plans are influenced by a family member performing managerial functions (Handler, 1992), in which family members have legally sanctioned control over ownership. The awareness of the necessity of succession for the next generation can be recognized as one of the competitive advantages of family businesses, considering that the overwhelming majority of businesses, in general, are based on the idea that their lifetime will be unlimited and will bring continuous benefits to their owners in the form of profit (Kliestik et al., 2019). They do

not consider the stages in the business life cycle. Therefore, familiness can be recognized as one of the factors stabilizing the entropy and turbulence of the economic and political environment in which family companies are interacting.

Family businesses vary greatly in size (from SMEs to large and even multinational companies), operate in a variety of industries and sectors of the economy, are of different ages, and have a diverse ownership structure (e.g., companies in sole family ownership, companies with minority owners outside the family) and management (e.g., companies managed by family members or companies managed by external managers). Such a wide variety of family businesses (Chua et al., 1999) makes it necessary to pay attention to the features or elements that make it possible to compare and evaluate them. It is much more complicated than with non-family businesses (Cruz et al., 2007). Family entities pursue objectives that can be attributed to economic and non-economic orientation and have specific types of resources at their disposal, e.g., commitment.

The engagement of family members in the business based on identification with the family identity is one of the features that most clearly distinguishes family businesses from non-family businesses (Whetten et al., 2014). Both types of businesses run under the supervision and direction of managers and owners. Managers plan, execute, and control resources to achieve the set aim in the desired form. They need specific characteristics to accomplish their goals and have managerial skills. If owners become managers, they have to provide all these competencies, and additionally, they need to consider the family and company interests and balance them (Khan et al., 2020). It is strongly related to family issues. It is an added value for the operation of a family business, resulting from the mutual trust of family members, loyalty, and identification with the company. These elements are referred to in the literature as “familiness” (Habbershon & Williams, 1999). In practice, there is a varying level of familiness in family businesses, and some of them are not aware of having this value.

As a set of features resulting from the interpenetration of emotionality and rationality within a family business (Wilson & Tonner, 2020), and at the same time a unique combination of organisational and family identity, familiness is a competitive advantage that distinguishes a family business from any other entity on the market (Beck et al., 2020). A great influence on the shaping of this competitive advantage on the owner family (Kellermanns & Eddleston, 2004), especially its engagement in the family business and mutual altruism (Nordqvist, 2005). The difference between family businesses and other businesses is determined by such resources as family ties, collectivism, and familiness itself. These are sources of competitive advantages that are difficult to imitate (Fang et al., 2012) or substitute for by competitors (Colbert, 2004).

Family business researchers (Rutherford et al., 2008) say that family businesses outperform non-family businesses overall, and family engagement seems to increase good performance (Chrisman et al., 2004). Therefore, the level of family engagement can have a significant impact on the results of family businesses (Shinnar et al., 2013), as well as on their organisational effectiveness (Al-Shaiba et al., 2020) and competitiveness.

The degree of family engagement in running the business is one of the frequently used criteria for classifying family businesses. It is pointed out by, e.g., Graves (2006) and Więcek-Janka (2016), who distinguish:

- A low degree of family engagement, meaning only participation in strategic decision-making.
- A medium level of family engagement, meaning that at least one family member manages the business or owns a decision-making package.

– A high degree of engagement, meaning that family members are involved in the day-to-day operations of the company.

A similar view is presented by Birley et al. (1999), who also base the classification of family businesses on the level of family engagement in running the business. They distinguish:

- family in – strongly involved in running the business through ownership of property, participation in management, employment in the company, and deriving benefits from it,
- family out – whose members are not obliged to get involved in the activities of the family business (except for the family member managing the business and persons in the ownership structure),
- family business jugglers – which can periodically demonstrate differentiated engagement in the company's operations from an ownership and management perspective.

In the literature, the engagement of family members in running a business is also connected with the use of their relational competencies in the sphere of cooperation with various stakeholder groups, e.g., with customers. A specific approach towards the company's partners, motivations, and skills of family members can be considered as a competitive advantage. Such an advantage can also be an effective system of internal communication between family members and employees outside the family, as well as communication of the family business with external stakeholders (Monteiro et al., 2022). Another competitive advantage is the positive image of a family business, which supports the communication of the quality of products or services offered by the family business (Krappe et al., 2011).

The impact of familiness on effectiveness and competitiveness is a complex issue, due to the number of elements that need to be analysed. In particular, the multidimensionality of the assessment of the competitiveness (Ruzekova et al., 2020) of the enterprise becomes a difficult challenge in the case of family businesses.

The methodology for measuring the family character of a company was developed by Astrakhan et al. (2002). It is based on three parameters that are to determine the strength of family influence – F (Family Influence). They are as follows:

- P (Power) is the strength of the family measured by the ownership structure (family businesses are considered those entities in which the family owns more than 66% of the capital),
- E (Experience) is the experience measured by the activity of generations of the family in management and the supervisory board (e.g., the number of family members and generations in these bodies),
- C (Culture) is the engagement of the family, measured by, e.g., the employment of family members in the company.

Further studies based on this methodology have only partially correlated “familiness” with effectiveness, but they show that it is very difficult to separate the family from the business. Among the analysed family businesses, the prevalence of engagement as strong, normal, and weak was identified, but positive relationships were also found between strong family engagement and good business performance (Jaskiewicz, 2005). Other studies have confirmed that companies with a high family members' engagement were more effective than companies not controlled by the family (Rutherford et al., 2008). Further research has shown that the extent to which family values are linked to company values can determine the family businesses' competitiveness (García et al., 2014).

In the research on the development of family SMEs in Poland, conducted in 2009–2018, the duality of the relationship between a family business and a family was considered an important

factor. Polish family businesses have to face challenges that affect the shape of their strategies and business models in the socio-economic conditions prevailing in the countries of Central and Eastern Europe. It is particularly important given the ongoing process of globalisation. Still, the distinguishing factors of such companies are the entrepreneurship of family members, understood as their engagement in the management of the family business and the participation of more than one generation in the functioning of the family business (Marjański & Sułkowski, 2019). It justifies undertaking research on the relationship between the profile of family businesses and the level of engagement of family members in the activities of family businesses, as well as the impact of this relationship on the effectiveness of family businesses.

3 METHODOLOGY

3.1. Research Problem and Objective

This paper determines the profile of a family business that ensures the greatest engagement of family members in running a family business and has the greatest impact on the competitiveness of such an enterprise and its organisational effectiveness in achieving goals.

Studies show that familiness can have an impact on the results of family businesses (Shinnar, 2013), the achievement of goals, their effectiveness (Cruz, 2007) and competitiveness (Al-Shaiba et al., 2020). Previous studies in this area concerned the general assessment of the organisational effectiveness of family businesses based on financial and non-financial elements (Williams et al., 2019), while there is a lack of research on the relationship between family business, organisational effectiveness, and selected elements of the family businesses' competitiveness. This rather poorly researched issue is a research gap that requires broader analysis, as family businesses are constantly looking for an optimal method of assessing effectiveness and competitiveness, considering, e.g., such specific resources as familiness. The authors posed the following research questions to solve this scientific problem:

1. Which features of a family business provide the highest value of familiness in a family business?
2. How does familiness affect the areas of organisational effectiveness of a family business and its competitiveness?

3.2. Methodological Approach

The research was carried out in an interpretative methodological approach, with the assumption that social assigning meanings to the formulated conclusions is important in solving the research problem (Burns et al., 2020). As a general method of research, the method of incomplete numerical induction is indicated. Following the assumptions of the interpretative paradigm, the study does not present any research hypotheses.

Considering the conditions of conducting the research, i.e., the inability to study the entire population of family businesses, the authors designed a research procedure based on the GST. Another argument in favour of using the GST in this approach was the specificity of complex systems, which also include family businesses. In the case of such systems, researchers usually have incomplete information at their disposal about the system's behaviour, its structure, boundaries, and interactions with the environment. In the absence of complete information about the system, the GST can be used because it does not require many assumptions about the sample's size and distribution (Więcek-Janka et al., 2016). GST-based methods are more advanced in terms of performance and can solve problems with limited information (Tabor, 2018). The authors base this view on the results of previous studies (Xin, 2015), which have

proven that in the analysis of socio-economic systems, a holistic approach, based on the GST and systems thinking methods, allows for obtaining reliable results. Figure 1 presents the research procedure used by the authors.

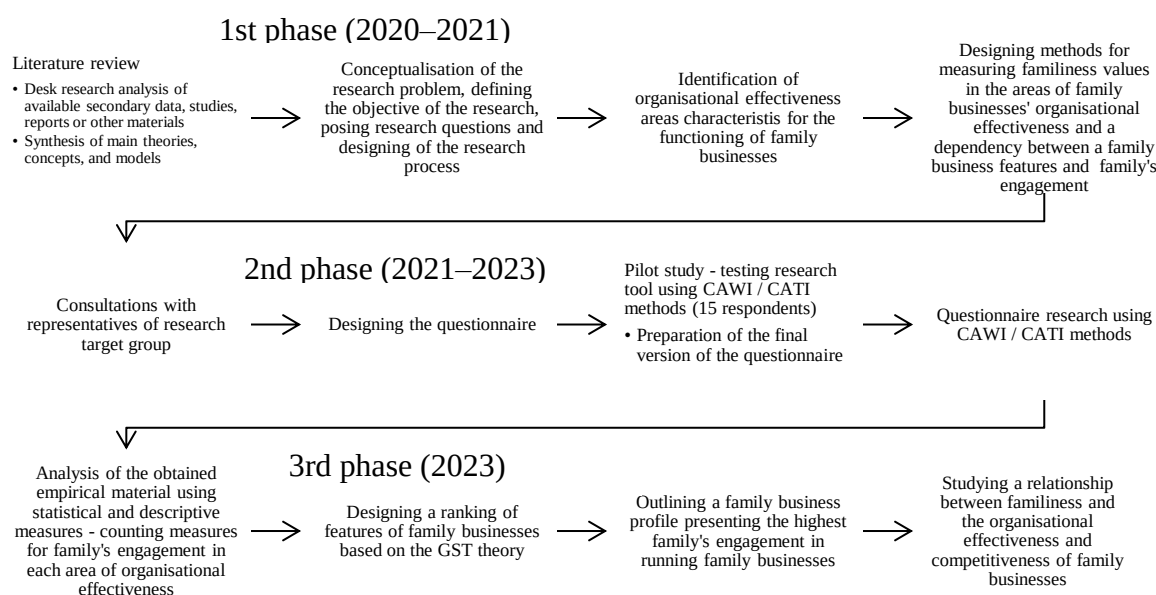


Fig. 1 – Research procedure. Source: own elaboration

In order to determine the areas of organisational effectiveness of family businesses, including the factor concerning their competitiveness, common elements of well-known methodologies for assessing the organisational effectiveness of enterprises were used (Lewin & Minton, 1986; Taylor, 1919), i.e., criteria and factors related to family businesses. The set of organisational effectiveness factors included elements identified in six models (Lewin & Minton, 1986) and additional factors correlated with the use of the environment, which the authors developed themselves, as the literature draws attention to the company's green reputation and its impact on the environment (Brodny et al., 2023).

The target group of the research were family businesses from the SME sector, based in Poland, in which the owner family owns at least 60% of the capital, and at least one family member is involved in the company's operations. Due to the lack of precise statistics on the number of family businesses in Poland, it was not possible to determine a representative sample for the study. Therefore, deliberate sampling using the snowball method was used, recruiting subjects who met the described sampling criteria to participate in the study. The respondents in the survey were family members involved in the company's operations. Each company surveyed was represented by one respondent.

To avoid the co-authors' personal biases regarding data collection and analysis, one engaged an external contractor who was responsible for sample selection, data collection, and coding. The pilot study was conducted on a sample of 15 family businesses, and the actual study was conducted on a sample of 200 family businesses.

The tool for the research was an interview questionnaire. The study was carried out using CATI and CAWI techniques.

The questionnaire consisted of two parts. The first part included metric questions relating to eight characteristics of a family business, such as:

- the period of the company's operation (up to 3 years; from 4 to 10 years; over 10 years),
- the age of the family member involved in the family business (under 25 years, 26-35 years; 36-45 years; 46-55 years; over 56 years),
- the type of position held by the family member (senior managers; junior managers; other),
- the company's business profile (services; trade; production; other)
- company size (micro; small; medium),
- legal status (natural person conducting business activity; partnership; capital company; other),
- territorial scope (local; regional; national; international),
- how the company was established (founded by the family; taken over by the family; separated from another entity; created as a result of succession; other).

The presented features were used as independent variables in the research process.

The second part of the questionnaire included questions on seven designated areas of organisational effectiveness of family businesses:

1. Human relations,
2. System,
3. Internal processes,
4. Objectives, including competitiveness factors,
5. Management,
6. Environment,
7. Results.

The answers to the questions were given by the respondents according to a seven-point Likert scale, where grade 1 was assigned the lowest engagement, and grade 7 – the highest engagement of family members in the functioning of family businesses. The degree of family engagement in the family business was used as a dependent variable.

The data obtained in the study was encoded and analysed using the IBM SPSS Statistics tool. Statistical analyses were carried out for all areas of organisational effectiveness, in which the value of family engagement was examined. The average values of family engagement occurring in each area of organisational effectiveness were used to determine the measures of engagement, which were calculated based on the following formula.

Formula 1. Engagement measure. Source: Authors' own elaboration

$$M_z = \frac{\tilde{x}_1 + \tilde{x}_2 + \dots + \tilde{x}_N}{N}$$

where:

M_z – a measure of commitment

$\tilde{x}_N$ – average level of engagement for individual areas of organisational effectiveness

N – abundance

The collected data were analysed using parametric and non-parametric tests, but the results were inconclusive and fuzzy. It did not allow for further advanced statistical analyses and prompted the authors to use the GST. We used the GST based on the grayscale to rank the characteristics of family businesses, thus determining the relationship between the characteristics of a family business and the level of familiness. Detailed steps within the methodology developed by the authors are presented in Figure 2.

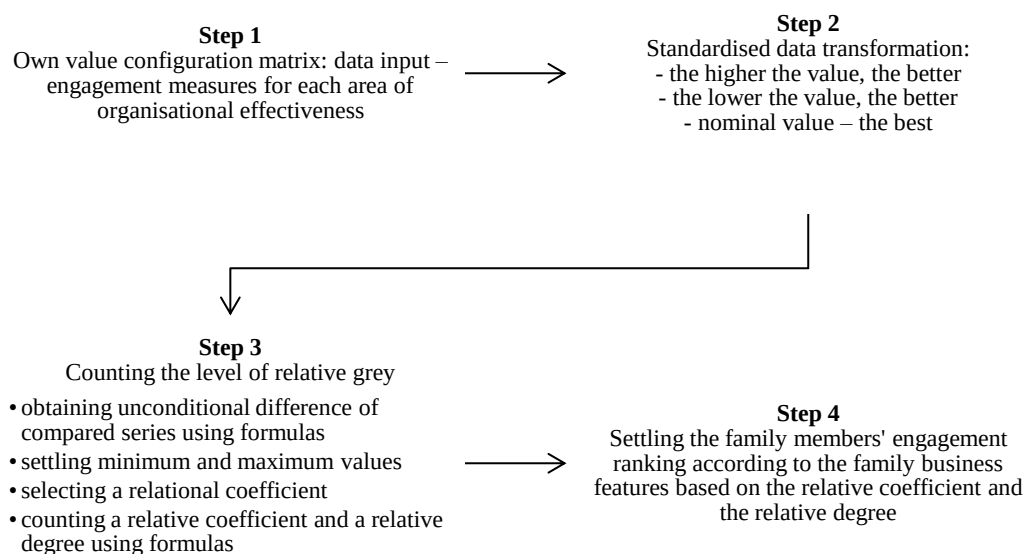


Fig. 2 – The process of generating a relational degree with the value of familiness. Source: own elaboration

Step 1 was to develop a self-value matrix, where the number of characteristics of a family business is equal to the number of independent variables from the survey questionnaire, and the number of factors influencing familiness is the number of areas of organisational effectiveness (from O1 to O7).

Formula 2. Self-value matrix. Source: Slavek and Jović (2012)

$$x = \begin{bmatrix} x_1(1), x_1(2), \dots x_1(n) \\ x_2(1), x_2(2), \dots x_2(n) \\ \dots \\ x_m(1), x_m(2), \dots x_m(n) \end{bmatrix}$$

where:

x – the average value of the level of engagement for the characteristics of a family business in particular areas of organisational effectiveness

m – number of family business features

n – number of areas of organisational effectiveness

In the self-value matrix, the designations of organisational effectiveness areas are adopted according to the following list (Table 2).

Tab. 2 – Designations of organisational effectiveness areas in the self-value matrix. Source: Authors' own elaboration.

Organisational effectiveness area	Designation
Human relations	O1
System	O2
Internal processes	O3
Objectives	O4

Management	O5
Environment	O6
Results	O7

In Step 2, the values entered into the matrix were standardised to eliminate discrepancies between different units and reduce variability. The calculations were made according to formula 3. The result was a value from 0 to 1.

Formula 3. Average engagement value after data standardisation. Source: Panda et al. (2016, p. 585)

$$x_i^*(k) = \frac{\max x_i(k) - x_i(k)}{\max x_i(k) - \min x_i(k)}$$

where

$x_i(k)$ – the original order of the average value of the engagement

$x_i^*(k)$ – order of values after data processing, standardisation of values

$\max x_i(k)$ – maximum value of average exposure

$\min x_i(k)$ – minimum value of average exposure

In Step 3, the grey relational coefficient $\xi_i(k)$ is calculated from the standard data values obtained in Step 2 using the following formula.

Formula 4. Grey relational coefficient. Source: Panda et al. (2016)

$$\xi_i(k) = \frac{\Delta_{\min} + \xi \Delta_{\max}}{\Delta_{oi}(k) + \xi \Delta_{\max}}$$

where:

$\Delta_{oi} = |x_0(k) - x_i(k)|$

$X_0(k)$ is the maximum standard data value = 1

$X_i(k)$ is the current standard value of the data

$\Delta_{\min}$ and $\Delta_{\max}$ are the minimum and maximum values of absolute differences

The grey relational grade (GRG) was then calculated. The following formula is used for this purpose.

Formula 5. Grey relational degree. Source: Panda et al. (2016)

$$\gamma_i = \frac{1}{n} \sum_{k=1}^n \xi_i(k)$$

where:

γ_i is a required relational grey grade for the areas of organisational effectiveness and the characteristics of a family business

n is the number of organisational effectiveness areas = 7

$\xi_i(k)$ is a grey relational coefficient

In Step 4, as a result of the presented calculations, a ranking of the grey ratio was formulated, which made it possible to rank the characteristics of a family business in terms of their impact on the level of engagement of a family member in running a family business in the studied areas of organisational effectiveness.

The final stage of the research procedure was to develop a profile of a family business presenting the greatest engagement of family members in running a family business in relation to all analysed areas of effectiveness, as well as the factor directly related to competitiveness, considered in the area of the objective, i.e., strengthening the company's competitiveness.

A factor analysis was performed for this purpose. Then, non-parametric tests (Mann-Whitney U test) were performed, i.e., a set of factors related to seven areas of organisational effectiveness (including the factor related to competitiveness) was compared as dependent variables and individual characteristics of the family business as independent variables. The statistical significance of the compared characteristics of family businesses and the level of standard deviation (SD) were considered. This made it possible to determine which features of the family business profile are statistically significantly related to the areas of organisational effectiveness and the competitiveness factor.

4 RESULTS AND DISCUSSION

4.1. Main Findings

The results of calculations carried out following the methodology presented in Figure 2 are presented below, which made it possible to determine the relationship between the characteristics of a family business and the level of familiness, and then a ranking of the characteristics of a family business was built due to the engagement of a family member in running the business. The first step in the third phase was to calculate the average measures of engagement (Table 3).

Tab. 3 – Analysis of the comparison of average engagement values and engagement measures – results of the analysis. Source: Authors' own elaboration

Variables	Period of the company's operation								Respondent's age							
	up to 3 years and over 10 years				4-10 years				up to 45 years				for 46 years			
	M	SD	M	SD	t	df	p	Mz	M	SD	M	SD	t	df	p	Mz
Human relations	3,58	30,46	3,45	30,59	0,52	198	0,603	3,517	3,64	30,18	3,33	30,81	1,21	198	0,226	3,486
System	3,47	22,55	3,47	24,13	-0,01	198	0,989	3,467	3,55	23,17	3,35	23,56	0,76	198	0,448	3,449
Internal processes	3,49	38,49	3,48	38,20	0,03	198	0,977	3,487	3,57	38,07	3,36	38,59	0,79	198	0,432	3,467
Objectives	3,56	23,58	3,54	24,46	0,06	198	0,950	3,548	3,65	23,55	3,40	24,61	0,94	198	0,349	3,524
Management	4,29	34,77	4,29	34,44	0,02	198	0,986	4,288	4,38	33,81	4,15	35,62	0,76	198	0,450	4,266
Environment	1,56	13,95	1,54	14,34	0,13	198	0,895	1,549	1,59	14,28	1,49	13,89	0,86	198	0,392	1,539
Results	3,48	14,65	3,41	14,89	0,30	198	0,766	3,446	3,58	14,63	3,25	14,85	1,22	198	0,225	3,414
Variables	Type of position held								Company profile							
	management and other				senior managers				Service				remaining			
	M	SD	M	SD	t	df	p	Mz	M	SD	M	SD	t	df	p	Mz
Human relations	3,62	30,83	3,41	30,18	0,84	198	0,404	3,518	3,45	30,43	3,62	30,65	-0,64	198	0,526	3,533
System	3,58	23,55	3,36	23,11	0,86	198	0,391	3,471	3,39	22,29	3,59	24,88	-0,75	198	0,456	3,489
Internal processes	3,56	38,63	3,42	38,01	0,57	198	0,572	3,489	3,42	37,44	3,60	39,61	-0,68	198	0,498	3,506
Objectives	3,68	24,26	3,42	23,70	0,97	198	0,332	3,552	3,47	23,25	3,66	25,14	-0,70	198	0,483	3,569
Management	4,41	35,45	4,17	33,67	0,81	198	0,421	4,292	4,18	33,87	4,46	35,55	-0,90	198	0,369	4,319

Environment	1,57	14,47	1,52	13,83	0,43	198	0,671	1,550	1,54	14,16	1,57	14,13	-0,25	198	0,799	1,552
Results	3,59	15,15	3,31	14,32	1,09	198	0,276	3,449	3,40	14,64	3,52	14,97	-0,47	198	0,636	3,459
The size of the family business								Legal status of the company								
Variables	micro		small and medium		<i>t</i>	<i>df</i>	<i>p</i>	Mz	IDG		remaining		<i>t</i>	<i>df</i>	<i>p</i>	Mz
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Human relations	3,52	30,24	3,44	38,07	0,12	198	0,905	3,480	3,36	28,93	3,68	31,94	-1,25	198	0,212	3,520
System	3,47	23,00	3,47	31,76	-0,01	198	0,995	3,469	3,28	21,78	3,66	24,68	-1,50	198	0,135	3,473
Internal processes	3,49	37,84	3,36	50,11	0,20	198	0,838	3,424	3,33	35,98	3,66	40,40	-1,28	198	0,204	3,491
Objectives	3,56	23,94	3,33	26,20	0,35	198	0,730	3,442	3,38	22,26	3,72	25,58	-1,31	198	0,193	3,553
Management	4,29	34,23	4,31	43,59	-0,03	198	0,974	4,300	4,08	31,78	4,51	37,04	-1,41	198	0,159	4,295
Environment	1,55	13,96	1,53	18,64	0,07	198	0,946	1,540	1,48	12,83	1,63	15,32	-1,28	198	0,202	1,551
Results	3,44	14,60	3,63	18,91	-0,28	198	0,779	3,531	3,28	13,88	3,62	15,55	-1,32	198	0,187	3,450
Territorial scope								How the company was founded								
Variables	local		national		<i>t</i>	<i>df</i>	<i>p</i>	Mz	built from scratch		remaining		<i>t</i>	<i>df</i>	<i>p</i>	Mz
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Human relations	3,33	30,84	3,55	30,65	-0,78	174	0,434	3,441	3,47	30,55	3,76	30,16	-0,82	198	0,413	3,617
System	3,24	23,41	3,52	23,41	-1,05	174	0,297	3,380	3,40	23,10	3,88	24,13	-1,36	198	0,175	3,636
Internal processes	3,33	37,88	3,52	39,12	-0,67	174	0,503	3,427	3,43	38,23	3,81	38,25	-1,05	198	0,295	3,619
Objectives	3,41	24,11	3,55	23,92	-0,51	174	0,614	3,482	3,48	23,88	3,91	24,34	-1,17	198	0,244	3,697
Management	4,13	34,67	4,25	34,48	-0,37	174	0,711	4,194	4,21	34,43	4,71	34,84	-1,15	198	0,251	4,460
Environment	1,47	14,19	1,58	13,99	-0,82	174	0,414	1,524	1,53	14,07	1,64	14,51	-0,67	198	0,502	1,588
Results	3,33	14,71	3,35	14,29	-0,06	174	0,950	3,337	3,39	14,70	3,75	14,98	-1,00	198	0,320	3,572

M – the average value of the level of engagement; *SD* – standard deviation; *t* – the value of the Student's t-test for independent samples; *df* – number of degrees of freedom; *p* – statistical significance; *M_z* – a measure of commitment

From the level of the full sets of organisational effectiveness areas, none of the familiness values showed statistically significant importance. As a consequence of these research findings, further analytical activities were carried out using the GST.

In Step 1, a self-value matrix was created (Table 4).

Tab. 4 – Engagement level self-value matrix. Source: Authors' own elaboration based on the results of the CATI / CAWI survey

Independent variable		Organisational effectiveness / – measures of engagement						
		O1	O2	O3	O4	O5	O6	O7
Period of the company's operation	Feature 1	3,52	3,47	3,49	3,55	4,29	1,55	3,45
The age of the family member involved in the business	Feature 2	3,49	3,45	3,47	3,52	4,27	1,54	3,41
Type of position held	Feature 3	3,52	3,47	3,49	3,55	4,29	1,55	3,45
Company profile	Feature 4	3,53	3,49	3,51	3,57	4,32	1,55	3,46
Company size	Feature 5	3,48	3,47	3,42	3,44	4,30	1,54	3,53
Legal status	Feature 6	3,52	3,47	3,49	3,55	4,29	1,55	3,45
Territorial scope	Feature 7	3,44	3,38	3,43	3,48	4,19	1,52	3,34
Method of creation	Feature 8	3,62	3,64	3,62	3,70	4,46	1,59	3,57
Max XI(K)		3,62	3,64	3,62	3,70	4,46	1,59	3,57

$$\min x_i(k) \quad 3,44 \quad 3,38 \quad 3,42 \quad 3,44 \quad 4,19 \quad 1,52 \quad 3,34$$

The calculations included in Table 4 made it possible to determine the maximum and minimum values of family engagement in each of the examined areas of organisational effectiveness. The lowest values of engagement (clearly below the average) were obtained in the environmental area, and the highest – in the area of the way the company is run, concerning the business model of a family business.

In Step 2, as a result of standardisation of the data previously entered into the self-value matrix, values from 0 to 1 were obtained, which ensured a reduction in the variability of the units present in the matrix (Table 5).

Tab. 5 – Standardising data values. Source: Authors' own elaboration based on the results of the CATI / CAWI survey

Independent variable		Organisational effectiveness / – standardised familiness self-value						
		O1	O2	O3	O4	O5	O6	O7
Period of the company's operation	Feature 1	0,56 9	0,65 9	0,68 1	0,58 4	0,64 6	0,60 8	0,53 7
The age of the family member involved in the business	Feature 2	0,74 5	0,73 1	0,78 2	0,67 7	0,73 0	0,76 4	0,67 0
Type of position held	Feature 3	0,55 9	0,64 6	0,67 0	0,57 0	0,63 2	0,59 8	0,52 2
Company profile	Feature 4	0,47 4	0,57 5	0,58 0	0,50 4	0,53 0	0,55 7	0,48 1
Company size	Feature 5	0,77 8	0,65 1	1,00 0	1,00 0	0,60 2	0,75 9	0,17 4
Legal status	Feature 6	0,55 0	0,63 6	0,65 6	0,56 5	0,62 2	0,57 5	0,51 8
Territorial scope	Feature 7	1,00 0	1,00 0	0,98 9	0,84 3	1,00 0	1,00 0	1,00 0
Method of creation	Feature 8	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0
	X0(k)	1,00	1,00	1,00	1,00	1,00	1,00	1,00
	max	0	0	0	0	0	0	0

In Step 3, the relational grey grade (GRG) was calculated, which is the basis for building a ranking of the characteristics of family businesses, which have the greatest engagement of the family in running the family business (Table 6).

Tab. 6 – Relational grey degree (GRG) – calculation. Source: Authors' own elaboration based on the results of the CATI / CAWI survey

Independent variable		GRG for each of the areas of organisational effectiveness						
		O1	O2	O3	O4	O5	O6	O7
Period of the company's operation	Feature 1	0,431	0,34 1	0,31 9	0,416	0,354	0,392	0,463
Respondent's age	Feature 2	0,255	0,26 9	0,21 8	0,323	0,270	0,236	0,330
The age of the family member involved in the business	Feature 3	0,441	0,35 4	0,33 0	0,430	0,368	0,402	0,478

Company profile	Feature 4	0,526	0,425	0,420	0,496	0,470	0,443	0,519
Company size	Feature 5	0,222	0,349	0,000	0,000	0,398	0,241	0,826
Legal status	Feature 6	0,450	0,364	0,344	0,435	0,378	0,425	0,482
Territorial scope	Feature 7	0,000	0,000	0,011	0,157	0,000	0,000	0,000
Method of creation	Feature 8	1,000	1,000	1,000	1,000	1,000	1,000	1,000

$$\Delta_{min} = 0$$

$$\Delta_{max} = 1$$

$$\zeta = 0,5$$

The ζ value is a distinguishing or identifying factor and ranges from 0 to 1. A value of 0.5 is usually assumed.

The last Step (4) in the methodology was to build a ranking of the grey ratio, which allowed us to rank the features of a family business, starting from those that have the strongest impact on the family's engagement in running a family business (Table 7).

Tab. 7 – Computational results for Step 3 and Step 4 of Grey Systems Theory. Source: Author's own elaboration based on the results of the CATI / CAWI survey.

		Grey ratio coefficient								Trait position in the ranking
Independent variable		O1	O2	O3	O4	O5	O6	O7	GRG	
Period of the company's operation	Feature 1	0,537	0,594	0,610	0,546	0,586	0,560	0,519	0,565	4
The age of the family member involved in the business	Feature 2	0,662	0,650	0,697	0,608	0,649	0,679	0,603	0,650	3
Type of position held	Feature 3	0,531	0,585	0,602	0,537	0,576	0,555	0,511	0,557	5
Company profile	Feature 4	0,487	0,541	0,543	0,502	0,515	0,530	0,491	0,516	7
Company size	Feature 5	0,692	0,589	1,000	1,000	0,557	0,675	0,377	0,699	2
Legal status	Feature 6	0,526	0,579	0,592	0,535	0,570	0,540	0,509	0,550	6
Territorial scope	Feature 7	1,000	1,000	0,978	0,761	1,000	1,000	1,000	0,963	1
Method of creation	Feature 8	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	8

The authors' research shows that the territorial scope of family businesses, the size of the company, and the age of the family member are the three main characteristics influencing the level of family engagement in the business activities of family businesses (Table 8). The level of family engagement in the business activity of family businesses is less influenced by such features as the period of operation of the family business, the type of position held, or the legal status of the family business. On the other hand, the way companies are established and the profile of a family business have the lowest share in building the family's engagement in the business.

Tab. 8 – Ranking of the characteristics of a family business influencing the value of familiness. Source: own elaboration

Trait position in the ranking	A feature of a family business
1	Territorial scope
2	Company size
3	The age of the family member involved in the business
4	Period of the company's operation
5	Type of position held
6	Legal status
7	Company profile
8	Method of creation

In the presented ranking, the main features of a family business were identified, determining the strength of their impact on the value of familiness. Following the theory that the engagement of family members in running a family business affects not only its organisational effectiveness, but also its competitiveness, the value of the factor load was determined for the factor of organisational effectiveness related to competitiveness (Table 9). The resulting factor charge value for the key features of the family business is high. The results of the factor analysis show that there is a strong correlation between the value of familiness and this factor.

Tab. 9 – Factor loadings obtained in confirmatory factor analysis for the Objectives Area.
Source: Authors' own elaboration

Objectives area		
Factor	<i>B</i>	<i>p</i>
Strengthening the company's competitiveness on the market	0,93	0,001

In order to build the profile of a family business, considering the factor of organisational effectiveness characterising competitiveness, a statistical analysis was carried out by comparing this factor with the detailed features of a family business. For this purpose, a non-parametric Mann-Whitney U test was performed. It has been shown that, for this factor, there are statistically significant differences in the average values of family member engagement.

These findings became the basis for designing the profile of a family business, considering those features (independent variables) that have the greatest impact on familiness, and thus on building a competitive family business on the market (Table 10).

Tab. 10 – Objectives area – a set of statistically significant factors of average engagement values. Source: Authors' own elaboration

Factor	Territorial scope									
	Local – precincts of one province					Domestic				
	N	M	SD	Average Rank	N	M	SD	Average Rank	<i>U</i>	<i>p</i>
Strengthening the company's competitiveness on the market	88	3,11	2,020	75,65	88	4,10	1,845	101,35	2741,500	0,001
Factor	Age of the family member involved in the business									
	36 to 45 years					46 years and above				
	N	M	SD	Average Rank	N	M	SD	Average Rank	<i>U</i>	<i>p</i>

Strengthening the company's competitiveness on the market	119	3,83	1,824	107,07	81	3,31	2,095	90,85	4037,500	0,048
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Factor	Company size									
	Micro				Small & Medium				U	p
	N	M	SD	Average Rank	N	M	SD	Average Rank		
Strengthening the company's competitiveness on the market	88	3,09	2,015	77,56	88	3,90	1,870	99,44	2909,000	0,004

N – group size; *M* – the average value of the level of engagement; *SD* – standard deviation; *U* – the value of the Mann-Whitney U test; *p* – statistical significance

For the first three features of the ranking (Table 8) – territorial extent, age of the family member, and size of the company – there are statistically significant differences in the level of engagement of the family member (Table 10).

In order to determine the detailed characteristics of a family business necessary to build a family business profile, higher values of average rank were adopted (Mann-Whitney U test). A higher average rank suggests that one of the traits had higher values or had more observations at the upper end of the data range, meaning that family members indicated higher levels of engagement for that trait.

The ranking of the characteristics of a family business also made it possible to develop a profile of a family business, in which family members are most involved in running a family business. This profile considers the three key characteristics that have the greatest impact on the engagement of a family member in the management of the family business in all seven areas of organisational effectiveness, and at the same time, have the greatest impact on strengthening the competitiveness of the family business in the market. These are:

- territorial scope: national;
- company size: small and medium-sized family business;
- age of the family member: 36-45 years.

4.2. Discussion

The study demonstrates the authors' approach to measuring and assessing familiness in seven designated areas of organisational effectiveness of family businesses and in relation to a separate factor responsible for competitiveness. In the study, the authors attempt to solve the problem of measuring familiness in conditions where it is not possible to conduct research on a representative sample. In order to measure familiness, it was necessary to build a measure that would synthetically present the studied phenomenon. It is the function of the engagement measure. The formula developed by the authors concerning the measure of engagement can also be used in the assessment of other non-measurable, qualitative elements, such as altruism, trust, or collectivism in family businesses. The method of measuring the value of familiness used by the authors (Formula 1) allowed to capture the different level of familiness in individual areas of organisational effectiveness. Such an approach resulted from the earlier analysis of methodologies for conducting similar measurements, e.g., the use of the grey cluster analysis method in measuring the level of competence of successors, where the researchers shortened the list of competencies (Więcek-Janka et al., 2016). On the other hand, the GST has a unique advantage in that it does not require such a restrictive approach to data collection to obtain reliable test results (Huang et al., 2011; Xin, 2015). The GST was previously mainly used in economics, engineering, and finance (Tabor, 2021). The authors' GST-based research

methodology (Figure 1) confirms the applicability of this theory to solve problems in the area of assessing the organisational effectiveness of family businesses.

The use of the GST demonstrated in the paper showed that when there are many relationships, the impact and relationship between different variables is complex and blurred and referred to as grey, indicating weak and uncertain information. The GST verifies this complex uncertainty of the occurrence of multiple reactions in a given system and optimises it using a relational grey grade. Therefore, the problem of optimising multiple dependencies is reduced to a single optimisation problem called a single relational grade. The GST makes it possible to consider the variety of factors influencing the operations of family businesses, which is especially important when it is difficult to obtain full information about the studied system. The authors believe that using the GST in social research is effective when we are dealing with incomplete data.

The study results indicate that the highest level of familiness occurs in the area responsible for the business model, and the lowest in the area related to the environment. At the same time, in all the examined areas of organisational effectiveness, a statistically significant impact of familiness on the achieved results was demonstrated. It is a valuable cognitive conclusion, as there have been no previous studies linking familiness with organisational effectiveness.

Considering the statistically significant impact of familiness on strengthening the company's competitiveness, which is also shown in this paper, there is no doubt that the highest engagement was recorded in the area of the company's business model, which is closely related to the company's development and the achievement of its business and family goals. Many previous studies by, e.g., Barroso and Martin-Cruz (2017), have proven that the engagement of family members in the management of a family business has a positive impact on the functioning of such businesses. These studies have also shown that family engagement has a major impact on the achievement of non-financial goals of the company, which the literature refers to as social-emotional well-being (SEW). According to the authors, it is not surprising because it is a unique resource, i.e., familiness, that distinguishes family businesses and is closely linked to the achievement of the company's goals (Chrisman et al., 2013). It justifies the inclusion of a factor responsible for competitiveness in the study in the area of organisational effectiveness linked to objectives.

At the same time, the environmental area, the importance of which is currently increasing in enterprises, for instance, due to the non-financial reporting obligations in the field of SDGs (Pizzi et al., 2022), was considered by the respondents the least important from the perspective of organisational effectiveness. It is due to the still low awareness of enterprises regarding the implementation of environmental goals (Pacana & Ulewicz, 2017) and their relationship with organisational effectiveness and competitiveness (Rahman et al., 2022).

Through the use of GST, it was possible to identify the characteristics of a family business that provide the highest value of familiness in a family business. Among the eight characteristics of a family business studied, the greatest impact on the engagement of family members in the family business is found in the case of such characteristics as the territorial scope of the family business, the company's size, and the age of the family member. Other features play a decidedly smaller role. Similar criteria for assessing the engagement of family members in family businesses have been adopted, for example, in Mexico (Ramírez-Solís et al., 2019), Colombia (Moreno-Gómez & Lafuente, 2020), and Spain (Sánchez et al., 2015). The way in which the company was established was indicated as the feature that had the least impact on the level of

family members' engagement. This fact may be of interest to researchers concerned with understanding the impact of succession on the way family businesses function, which is the subject of many studies (Cavicchioli et al., 2015; Chiswell, 2018; Liu et al., 2015). This is all the more surprising because in Poland, there is an ongoing discussion about succession processes in family businesses, which is perceived as a socially important element of the development of this group of enterprises. The literature also points out that succession processes in family businesses are important for long-term stability and economic development, but they are not the only factors influencing the family's engagement in running family businesses (Chrisman et al., 2012).

The result of the study is to build the profile of a family business ensuring the greatest family engagement in the conducted business activity in the area of organisational effectiveness related to the company's objectives and in relation to the factor related to strengthening the company's competitiveness on the market. It has been established that such characteristics are possessed by family SMEs operating on the domestic market, managed by a member of the owner family aged between 36 and 45. This profile is shown in Figure 3.

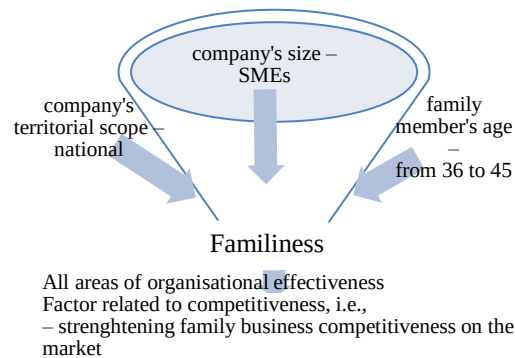


Fig. 3 – Key features of a family business determining the highest level of familiness for the competitiveness factor in the area of organisational effectiveness responsible for the objectives of family businesses

It is difficult to find similar studies in the literature to compare the identified features, but many studies have been conducted confirming the impact of human resource management and competence management practices, including those related to modern technologies (Wang et al., 2023), on the success and survival of a family business (Astrakhan & Kolenko, 1994). Another example of the impact of family relationships quantifying the role of factors in the increase (or decrease) of the financial performance of family businesses is a study related to the increase in employment and value added in family businesses, as well as ten non-financial factors (Benáček & Michalíková, 2016).

The relationship between the characteristics of a family business, the level of familiness and the areas of organisational effectiveness and competitiveness is discussed. The study is one of the few studies (Craig et al., 2008; Schulze et al., 2002) in which these issues are analysed together, albeit in different contexts.

5 CONCLUSION

The paper determined the profile of a family business that ensures the greatest engagement of family members in running a family business and has the greatest impact on the competitiveness of such an enterprise and its organisational effectiveness in achieving goals. The highest level of familiness, which strengthens the market competitiveness and organisational effectiveness of a family business, can be achieved when it is a SME operating on the domestic market, in which a family member aged 36-45 is involved. In the authors' opinion, these three features correspond logically with each other. Striving to strengthen the market competitiveness of a company requires providing the company with an ambitious arena of operation, which can be the national market, and much less often the local or regional market, as well as the scale of operations, manifested for example in the level of employment. In the case of the indicated company profile, it will be from 10 to 249 employees. At the same time, the management of a family business is related to the life cycle of the family and the life cycle of the company, which makes it credible for a representative of the family in the age range of 36 to 45 to take up a managerial function.

The added value was the presentation of the authors' method of measuring the value of familiness in selected areas of organisational effectiveness of family businesses, which the authors realised using the formula developed by concerning the measure of engagement. Moreover, in order to determine the profile of a family business presenting the greatest engagement of family members in running the business, the authors used the GST, developing their own methodology for generating a relational degree considering the value of familiness. In the authors' opinion, the methodological approach used in the study can also be used to solve other research problems, such as change management in family businesses, succession, adaptation, or restructuration. The unique nature of the research also results from the unparalleled study of the relationship between familiness and the organisational effectiveness of family businesses and competitiveness through the use of the GST.

The authors modelled the complex systems of family businesses and their unique resource in the form of family member engagement. Familiness refers to an idiosyncratic package of resources and opportunities that family businesses use to achieve competitive advantage and above-average financial results. The GST is important for the study of family businesses because of its effectiveness in dealing with the complexity, uncertainty, and limited data common features of family business systems (Delcea, 2014; Tabor, 2018).

Using the GST to conduct research on family businesses is important because, in practice, it is not possible to examine the full set of such enterprises, and it does not seem appropriate to do so. The limitations on the collected data allow the use of GST, which is particularly useful for decision-making and analysis in situations where complete information is lacking. Therefore, it can be concluded that decision-making based on studies using the GST is less risky than relying on the results of quantitative studies carried out on incomplete data.

Currently, there are no separate methodologies for assessing the organisational effectiveness of family businesses in the literature on the subject, but rankings of the characteristics of family businesses in correlation with the financial and unfinanced results obtained by these companies can be used as a tool supporting the rating assessment of family businesses.

The practical implications of the study are related to the possibility of building a ranking of freely configured independent variables referring to the features of the system and determining

their impact on the dependent variable, which may be a set of organisational effectiveness factors or other factors tailored to the researcher's needs. The described procedure is easy for researchers to apply and will result in specific output values being generated. In business practice, this tool may be of interest to consulting companies and financial institutions in order to build a potential profile of a family business and adapt the received information sets to the needs of the market, e.g., by including the results in the scoring or rating assessments of family businesses. It is possible, for example, to use the GST in a risk assessment model for future investments.

The main limitations related to the conducted research include the size of the research sample in the context of the characteristics of family businesses and the limitation of the research to the sector of small and medium-sized enterprises. In the future, such research can be continued on the assumption that the number of family businesses in relation to each characteristic (independent variable) will be the same. Such an approach will allow for making a comparative analysis of companies in terms of characteristics.

Another research limitation concerns the coding process. In the study of the level of engagement, it was assumed that for values from 1 to 5 there is a lack of engagement, and for values from 6 to 7, this engagement occurs. It is the authors' subjective assumption. In order to make a more precise determination of engagement, a closed-ended question should be used. The study also did not identify specific business models of the family business that could be another element of the study, which has not been verified. Thus, we indicate this area for further exploration in the field of theoretical and empirical research.

The GST-based methodological approach presented in the paper is a poorly studied issue, as GST is not widely used in the social sciences. The disadvantage of its use can be considered the subjectivity of the choice of features that will be analysed. Another area that may affect the reliability of the results obtained with the use of this method is its complexity and time-consuming analysis. The authors also consider the sensitivity to the quality of the input data as a disadvantage of GST, which in the case of an incorrect approach to measurement, can lead to erroneous conclusions.

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