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Financial Management Attitude Profiles in Hungarian SMEs: a Matched-Sample Comparison of Family and Non-Family Firms

Summary

Financial decisions in family-owned small and medium-sized enterprises (SMEs) are often shaped by a preference for stability, strong owner control, and caution toward external financing. This study aims to identify the underlying structure of financial management attitudes and to compare family firms with non-family competitors. Drawing on a questionnaire-based survey using an industry- and size-matched control sample, we conducted factor analysis on item responses covering the 2016-2023 period, followed by cluster analysis. The results reveal two interpretable dimensions: financial prudence and owner control, and strategic financial flexibility and growth orientation. Our findings further indicate that firms can be classified into distinct groups, with cluster classification being associated with family involvement. Overall, the study concludes that family firms are characterised by a distinctive financial management logic.

Keywords: Hungarian SMEs, family firms, financial management attitudes, financial decision-making

JEL-codes: D23, G32, L20

Introduction

Hungarian small and medium-sized enterprises (SMEs) play a prominent role in the domestic economy, however, their financial decision-making and financial reporting practices exhibit substantial variation. A key driver of this heterogeneity lies in ownership-governance structures. Building on the empirical and theoretical literature on the managerial specificities of family firms, prior research frequently highlights a long-term, stability-oriented mindset, a strong concern for preserving reputation and family control, and a cautious approach to exposure to external financing.

Accordingly, the present study pursues a twofold objective. First, it seeks to uncover the latent dimensions underlying financial management-related attitudes among Hungarian family-owned SMEs (sample) and their direct, industry- and size-matched non-family competitors (control sample), using questionnaire data covering the 2016-2023 period. Second, based on these dimensions, it aims to identify homogeneous clusters and to examine the extent to which cluster membership is associated with firm type. Methodologically, the study is grounded in a pre-specified family firm typology and a control sample comparative design. Data were collected via an online questionnaire (CAWI), and after data screening, industry-matched, balanced samples were retained for analysis.

The research questions are formulated as follows:

Q1. Which primary latent dimensions characterise SMEs' financial management-related attitudes over the period under study?

Q2. Based on the identified dimensions, what substantively distinct financial management profiles can be delineated among Hungarian SMEs?

Q3. Is firms' cluster affiliation statistically associated with whether the firm is family-owned or non-family (control) in type?

Q4. What patterns emerge in terms of stability and owner control versus strategic flexibility and growth orientation when comparing family and non-family SMEs?

Literature Review

1. Prominent characteristics of family firms

Family firms are shaped by a set of characteristics that, at least in part, distinguish them from non-family firms and that influence their operations, strategy, and governance (Carney, 2005). In this context, a nepotism-based mindset and leadership practice may emerge, in which family members play a central role in corporate control and day-to-day management. A further common feature is centralized organisational functioning, whereby decision-making is largely – or entirely – concentrated in the hands of the family.

Another defining characteristic of family firms is their longer-term orientation: decisions tend to be future-oriented and may simultaneously reflect sustainability aspirations as well as the intention to ensure continuity across generations (Le Breton-Miller and Miller, 2006). Consistent with this, studies document risk-averse and cautious growth behaviour, as families often prioritise stability and the maintenance of control.

A paternalistic leadership pattern also frequently appears, in which the family head assumes a managerial role that is more attentive to the interests and needs of family members. As a result, the firm's objectives often extend beyond purely financial performance, incorporating emotional and socioemotion-

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al considerations that serve to preserve family values, relationships, and family control (Berrone et al., 2012; Gómez-Mejía et al., 2007).

The pursuit of financial independence is another typical trait. Family firms often seek to limit external financing and reliance on debt, instead drawing primarily on internal funds (Hansen and Block, 2021). Maintaining reputation is likewise of particular importance, as evaluations of the business and the family's standing are frequently closely intertwined (Rondi et al., 2023). Moreover, the boundaries between the family and business spheres may at times become blurred, complicating the clear separation of family and corporate assets and resources. Finally, resistance to the involvement of external, non-family managers has been observed in several cases, as families may prefer to maintain governance within the family; this tendency can be explained by the interplay of emotional, trust-based, and economic considerations (Waldkirch, 2020).

2. Financial management practices in family firms

The financial management of family firms – relative to that of non-family-owned enterprises -often rests on a distinctive goal hierarchy and governance logic (Gómez-Mejía et al., 2007; Michiels and Molly, 2017). Interpreting these specificities is closely linked to the operating characteristics of family firms discussed above, as well as to those distinguishing features that support the identification and classification of this organisational form.

Distinctive patterns of financial decision-making and control materially affect capital structure and its dynamics, the extent of operating and investment risk-taking, liquidity planning practices, the establishment and maturity of financial control processes, and, ultimately, the trajectory of financial performance (Romano et al., 2001; Duréndez et al., 2016).

Because family firms are key actors in many industries, the aggregate consequences of their financial decisions extend beyond the firm level. Collectively, such decisions may influence the timing and amplitude of investment cycles (Pindado et al., 2011), the functioning of credit channels (D'Aurizio et al., 2015), and the evolution of productivity dynamics. Accordingly, the characteristics of financial management in family firms are not only relevant from a microeconomic perspective but also constitute a meaningful field of inquiry from the standpoint of economic policy and financial stability.

Family firms' financial decisions can be conceptualized as reflecting a multidimensional objective function in which financial goals (return, risk, liquidity) and non-financial aspirations (prestige, identity, traditions, family control) are simultaneously salient (Berrone et al., 2012; Gómez-Mejía et al., 2007). As a practical implication of this multi-goal orientation, family firms frequently exhibit conservative debt policies, cautious and limited use of external capital, a strong emphasis on maintaining a target liquidity position, and a tendency to attenuate financial investment and capital expenditure risks (Mishra and McConaughy, 1999; González et al., 2013). In governance structures, centralized financial control is common; in parallel, higher levels of professionalization may mitigate classic principal-agent problems and information asymmetry (Stewart and Hitt, 2012). At the same time, excessive dependence on specific individuals and underdeveloped financial systems and procedures may pose risks to the quality and effectiveness of controlling. Consistent with this, the use and sophistication of management control systems can be linked to firm performance and may display distinct patterns in family firms (Duréndez et al., 2016).

Methods

The sampling frame comprised Hungarian-registered incorporated firms for which sufficiently complete and retrievable firm-level data were available for the study period (2016-2023). The frame was constructed at the time of data extraction and sample screening (July 2025) and was restricted to firms with a registered office, operating establishment, and tax residence in Hungary.

The empirical analysis focuses on the domestic SME segment. To ensure comparability and transparency, we applied the European Union's standard definition of micro, small and medium-sized enterprises (SMEs) (Commission Recommendation 2003/361/EC). Accordingly, only firms classified as small or medium-sized were eligible for inclusion. To avoid size-related composition effects, we additionally required that firms did not transition into either the micro or large size categories at any point during the 2016-2023 observation window.

In constructing the sample of family firms, we drew on typological approaches prevalent in the literature, which are typically management-centred. The study identifies family firms based on a pre-specified set of criteria and an underlying conceptual model. Classification is contingent on the fulfilment of two core conditions: the firm's majority ownership stake is held by a single family (ownership dimension), and the firm is identified as a family business by its management and/or ownership group (identity dimension). Beyond these baseline conditions, an additional requirement is that family presence or influence can be demonstrated in at least one relevant dimension of the firm's operations.

Accordingly, a firm is classified as a family business if, in the case of multiple related owners, at least one family member holds a formal role in management or day-to-day operations (as an executive, officer, or employee), or if at least one family member without an ownership stake holds a formal role in managerial processes and/or operational activities. Finally, the existence of family influence is also indicated when informal family labour appears in the firm's long-term governance and daily management, including planning, organising, monitoring, and corrective processes, and when the family can be identified as a primary or substantively involved provider of financial and non-financial resources.

The construction of the samples followed considerations directly aligned with answering the research questions. The sample comprised Hungarian family-owned small and medium-sized enterprises, classified as such according to the sampling and classification model presented earlier. In parallel, the control sample consisted of Hungarian non-family SMEs that could be identified as direct competitors of the family firms, operating in the same market and industry environment, located in the same registered-headquarters region, and matched with respect to SME size categories.

Based on the typological framework and the control sample comparative research design, OPTEN Informatikai Kft. com-

Table 1. Questionnaire items used in the study, by thematic domain

To what extent do you agree with the following statements with respect to the firm over the period 2016-2023? (1 = Strongly disagree, 4 = Strongly agree)	
Financing sources and preferences	
Financing Sources_item_1	The firm primarily finances its operations from internal funds (i.e., retained earnings) rather than external funding.
Financing Sources_item_2	Raising external financing entails excessive risk for the firm.
Financing Sources_item_3	The financial stability of the owner(s) affects the firm's financial flexibility.
Liquidity management	
Liquidity Management_item_1	The firm prioritises maintaining adequate liquidity rather than solely maximising profits.
Liquidity Management_item_2	The firm regularly maintains financial reserves to cover unforeseen expenditures.
Liquidity Management_item_3	The firm also holds reserves in cash to address unexpected situations.
Investment activity and growth	
Investment Activity_item_1	The firm finances its investments partly or entirely through external funding sources.
Investment Activity_item_2	In investment decisions, promoting market growth is a primary objective, even if this results in lower financial stability and sustainability.
Investment Activity_item_3	The firm is willing to assume investment-related financial risk in pursuit of long-term growth.
Financial planning and control	
Financial Planning_item_1	Financial decision-making is subject to the direct oversight of the owner(s).
Financial Planning_item_2	Financial planning is conducted mainly informally, rather than according to a structured system.
Financial Planning_item_3	Financial planning typically relies on the owner(s)' personal experience and long-term vision.

Source: authors' editing (2026)

Table 2. Comparison of the average TEÁOR'08 industry distribution of firms responding to the questionnaire survey and operating Hungarian corporate SMEs, based on TEÁOR'08 (2016-2023)

TEÁOR'08 category	Average share (HCSO)	Average share (survey)	Deviation from HCSO benchmark
A = Agriculture, forestry and fishing	4.56%	4.82%	+0.26%
B = Mining and quarrying	0.24%	0.00%	-0.24%
C = Manufacturing	19.98%	19.28%	-0.70%
D = Electricity, gas, steam and air conditioning supply	0.28%	0.00%	-0.28%
E = Water supply; sewerage	0.72%	1.20%	+0.48%
F = Construction	12.66%	13.25%	+0.59%
G = Wholesale and retail trade; repair of motor vehicles and motorcycles	22.26%	24.10%	+1.84%
H = Transportation and storage	6.24%	6.03%	-0.21%
I = Accommodation and food service activities	7.89%	7.23%	-0.66%
J = Information and communication	3.79%	3.61%	-0.18%
K = Financial and insurance activities	0.94%	1.20%	+0.26%
L = Real estate activities	2.23%	2.41%	+0.18%
M = Professional, scientific and technical activities	7.10%	6.03%	-1.07%
N = Administrative and support service activities	6.90%	6.03%	-0.87%
O = Public administration and defence	0.46%	0.00%	-0.46%
P = Education	0.45%	1.20%	+0.75%
Q = Human health and social work activities	1.40%	1.20%	-0.20%
R = Arts, entertainment and recreation	0.89%	1.20%	+0.31%
S = Other service activities	1.01%	1.20%	+0.19%
T = Activities of households as employers	0.00%	0.00%	0.00%
U = Activities of extraterritorial organisations	0.00%	0.00%	0.00%
Total	**100%**	**100%**	**–**

Source: authors' editing based on the HCSO Register of Economic Organisations (2026)

piled the underlying database, including family firms (n = 513) and non-family firms (n = 513).

To empirically address questions related to financial management practices, we employed a survey-based research design using four-point scale items. Data collection took place in July 2025 via an online questionnaire administered through Google Forms, following a CAWI procedure, while maintaining sample separation and targeted distribution by group.

Table 3. Descriptive statistics of the questionnaire items for the filtered survey respondent firms, grouped by sample, 2016-2023

	Financing Sources_item_1		Financing Sources_item_2		Financing Sources_item_3		Liquidity Management _item_1		Liquidity Management _item_2		Liquidity Management _item_3	
	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample
Frequency	83	83	83	83	83	83	83	83	83	83	83	83
Median	3.000	3.000	3.000	2.000	4.000	3.000	3.000	2.000	3.000	4.000	3.000	3.000
Mean	3.325	2.952	3.060	2.265	3.361	2.892	2.783	2.361	3.337	3.398	3.012	2.892
Std. Deviation	0.718	0.561	0.722	0.664	0.835	0.644	0.626	0.742	0.785	0.764	0.804	0.733
	Investment Activity_item_1		Investment Activity_item_2		Investment Activity_item_3		Financial Planning_item_1		Financial Planning_item_2		Financial Planning_item_3	
	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample	Sample	Control sample
Frequency	83	83	83	83	83	83	83	83	83	83	83	83
Median	2.000	3.000	3.000	3.000	3.000	3.000	4.000	3.000	3.000	2.000	3.000	2.000
Mean	2.265	2.964	2.880	2.988	2.964	3.096	3.386	3.072	2.880	2.373	2.554	2.482
Std. Deviation	0.700	0.652	0.651	0.672	0.633	0.555	0.794	0.580	0.651	0.693	0.685	0.722

Source: authors' editing based on SPSS software results (2026)

We received 94 valid completed questionnaires from family firms and 107 from non-family firms, corresponding to response rates of 17.70% and 20.15%, respectively. The questionnaire design enabled cross-group comparisons and, additionally, filtering by average firm size category over the period and by industry, aligned with the Hungarian Central Statistical Office (HCSO) annual national aggregate indicators. The methodological objective was to construct samples that are well aligned both with the period-specific reference values and with each other; therefore, data screening was performed, taking potential data loss into account. The final analytical sample comprised 83 observations in each group (83-83), ensuring an industry-matched composition and statistically independent group formation.

Results

Table 3 shows the descriptive statistics of the questionnaire items for the screened respondent firms over the 2016-2023 study period, presented separately for the sample and the control sample.

The results indicate that, across items in the financing dimension, the sample reports consistently higher mean values. This pattern is reflected, first, in stronger support for financing operations through internal funds (Financing Sources_item_1) and, second, in a more risk-averse assessment of external financing (Financing Sources_item_2). In addition, the sample assigns greater importance to the financial stability of the ownership background (Financing Sources_item_3). In the domain of liquidity management, the sample places a stronger emphasis on maintaining liquidity relative to profit maximisation (Liquidity Management_item_1). Regular reserve accumulation is high in both groups (Liquidity Management_item_2), however, the control sample shows a slight advantage on this item. With respect to investment activity, the most salient difference is that the sample is less supportive of financing investments through external sources (Investment Activity_item_1). By contrast, for items capturing growth orientation and risk-taking, the two groups' values are largely similar, with the control sample exhibiting marginally higher means (Investment Activity_item_2-3). In the financial planning and control dimension, the sample indicates stronger owner control (Financial Planning_item_1), and a somewhat more informal, experience-based approach to planning practices becomes apparent (Financial Planning_item_2-3). Overall, the sample reflects a more conservative financial profile characterised by reliance on internal financing and owner control, whereas the control sample appears more open to the use of external funding in financing investments.

To support a deeper interpretation of the filtered survey results and to uncover relationships that substantiate the distinctive features of financial management in family firms, we applied exploratory statistical procedures to the questionnaire item sets. Factor analysis – specifically, principal component analysis (PCA) – enables the identification of latent dimensions underlying financial management–related attitudes. The procedure also contributes to reducing the number of variables and attenuating measurement-related "noise." Based on the extracted factors, we subsequently performed cluster analysis, with the aim of classifying SMEs into homogeneous groups along the factor scores. This step facilitates the delineation of characteristic financial management profiles and a structured examination of between-sample differences.

However, the use of PCA is warranted only if the included variables exhibit a meaningful correlational structure. This assumption is assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. For the KMO statistic, values above 0.60 are typically considered acceptable, while a significant Bartlett test indicates that the correlation matrix differs from an identity matrix and is therefore suitable for factor analysis. The fit indices clearly support the adequacy of the data for factor analysis: KMO = 0.864 indicates very good sampling adequacy for factor extraction (Table 4). Consistent with this, Bartlett's test of sphericity confirms the presence of statistically meaningful interrelationships among the variables, thereby justifying the exploration of the factor structure.

Table 4. Measures of sampling adequacy for factor analysis

Statistical indicator	Value
Kaiser-Meyer-Olkin sampling adequacy index (KMO)	0.864
Bartlett's Test of Sphericity	**Value**
Chi-square (χ^2)	1036.543
df	66
p-value	< 0.001

Source: authors' editing based on SPSS software results (2026)

Based on the principal component analysis (PCA) results, both the components' eigenvalues and the shape of the scree plot indicate a clearly identifiable break after the second component. Based on the elbow criterion, two principal components should be retained, which aligns with the Kaiser criterion (eigenvalues > 1).

The explanatory power of the retained components is substantial. The first component has an eigenvalue of 5.594 and accounts for 46.616% of the total variance, while the second component has an eigenvalue of 1.650 and explains an additional 13.749% of the variance (Table 5). As shown in Figure 1, following the initial steep decline, the curve flattens from the third component onward, suggesting that the incremental contribution of subsequent components to explaining total variance is no longer materially meaningful.

The Varimax-rotated factor matrix reported in Table 6 indicates an overall near-simple structure. Along Factor 1, several items exhibit high and relatively homogeneous loadings: the loadings of variables related to financing sources range from 0.760 to 0.822, while items capturing liquidity management and financial planning fall within the 0.688-0.822 interval. In parallel, cross-loadings are low (≤ 0.349), which further supports the stability of the factor interpretation. Substantively, the pattern of loadings suggests that the first factor primarily reflects financial prudence, careful resource use, and a control-oriented mode of operation.

Factor 2 is dominated by items related to investment activity, with loadings between 0.700 and 0.772, however, liquidity management and financial planning items also contribute to a lesser extent (0.580-0.591). Accordingly, based on the set of observed variables, the second component characterises a more strategic, longer-term, and flexibility-oriented approach to financial management, combined with a growth orientation.

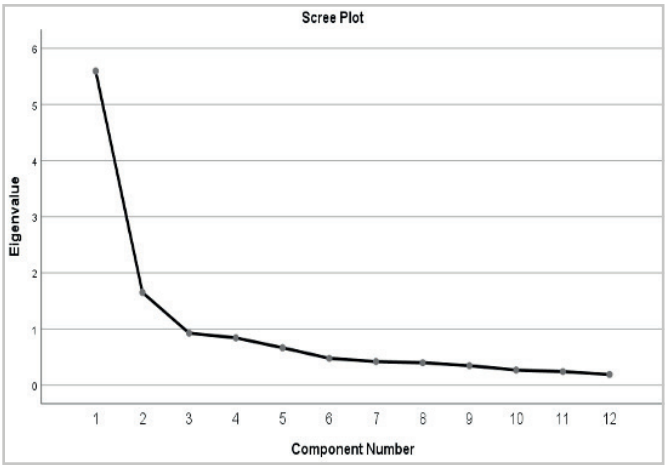

Figure 1. Scree plot from principal component analysis for determining the number of components

Source: authors' editing based on SPSS software results (2026)

Several results jointly support both the separability and interpretability of the two-factor solution. First, the high primary loadings and moderate-to-low cross-loadings characterising the factor structure suggest that individual items relate clearly to their respective dimensions, while the factors remain sufficiently distinct from one another. Second, the acceptable magnitude of the communalities reported in Table 7 (0.417-0.726) indicates that the factors capture a substantive share of the items' variance.

Taken together, these findings imply that the computed factor scores provide sufficiently reliable input variables for the subsequent cluster analysis. In the additional analyses, the factor-derived variables were used in standardised, metric form.

The optimal number of clusters was determined by jointly considering the Schwarz Bayesian Information Criterion (BIC) and an index capturing the distances between cluster centroids. The results indicate that a four-cluster solution is the most justifiable (BIC = 153.961; BIC Change = -9.031; Distance

Table 5. Explained variance in principal component analysis

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	5.594	46.616	46.616	5.594	46.616	46.616	4.562	38.021	38.021
2	1.650	13.749	60.365	1.650	13.749	60.365	2.681	22.344	60.365
3	0.924	7.696	68.061	–	–	–	–	–	–
4	0.841	7.008	75.069	–	–	–	–	–	–
5	0.664	5.532	80.601	–	–	–	–	–	–
6	0.475	3.962	84.564	–	–	–	–	–	–
7	0.418	3.479	88.043	–	–	–	–	–	–
8	0.397	3.306	91.349	–	–	–	–	–	–
9	0.345	2.871	94.22	–	–	–	–	–	–
10	0.267	2.222	96.442	–	–	–	–	–	–
11	0.239	1.991	98.433	–	–	–	–	–	–
12	0.188	1.567	100.000	–	–	–	–	–	–

Source: authors' editing based on SPSS software results (2026)

Table 6. Factor structure of questionnaire items following principal component analysis and labels of the derived variables

Original variable (item) name	Factor 1	Factor 2	New variable
Financing Sources_item_3	**0.822**	0.201	Financial prudence and control
Liquidity Management_item_1	**0.795**	0.222	
Financing Sources_item_1	**0.789**	0.321	
Financial Planning_item_2	**0.767**	0.114	
Financing Sources_item_2	**0.760**	0.117	
Liquidity Management_item_3	**0.707**	0.140	
Financial Planning_item_1	**0.688**	0.349	
Investment Activity_item_3	0.430	**0.772**	Strategic financial flexibility and growth orientation
Investment Activity_item_1	-0.298	**0.740**	
Investment Activity_item_2	0.320	**0.700**	
Liquidity Management_item_2	0.325	**0.591**	
Financial Planning_item_3	0.284	**0.580**	

Source: authors' editing based on SPSS software results (2026)

Table 7. Item communalities derived from principal component extraction

Variable	Initial value	Extraction
Financing Sources_item_1	1	0.726
Financing Sources_item_2	1	0.592
Financing Sources_item_3	1	0.716
Liquidity Management_item_1	1	0.682
Liquidity Management_item_2	1	0.455
Liquidity Management_item_3	1	0.519
Investment Activity_item_1	1	0.637
Investment Activity_item_2	1	0.592
Investment Activity_item_3	1	0.712
Financial Planning_item_1	1	0.595
Financial Planning_item_2	1	0.601
Financial Planning_item_3	1	0.417

Source: authors' editing based on SPSS software results (2026)

Table 8. Frequencies and percentage distribution of the filtered respondent firms across the identified clusters

Cluster	Count	Distribution (%)
1	64	38.554%
2	22	13.253%
3	70	42.169%
4	10	6.024%
Total	166	100.000 %

Source: authors' editing based on SPSS software results (2026)

Table 9. Cluster means and standard deviations of factor scores

Cluster	Financial prudence and control		Strategic financial flexibility and growth orientation	
	Mean	Standard deviation	Mean	Standard deviation
1	0.975	0.393	–0.371	0.438
2	–0.594	1.191	1.619	0.572
3	–0.471	0.346	0.191	0.277
4	–1.634	0.842	–2.521	0.951

Source: authors' editing based on SPSS software results (2026)

Ratio = 1.804). The size and distribution of the resulting clusters in the filtered respondent sample are reported in Table 8. Based on the frequency statistics, a substantial share of the firms in the sample were assigned to Clusters 1 and 3.

Based on Table 9, Cluster 1 exhibits high financial prudence (+0.975), while scoring slightly below the mean on the strategic flexibility/growth orientation dimension (-0.371). Cluster 2 combines moderately low prudence (-0.594) with an outstandingly high level of strategic financial management (+1.619), indicating a proactive, development-oriented financial strategy. Cluster 3 is located close to the mean on both dimensions (-0.471; +0.191), reflecting a balanced but non-salient pattern of behaviour. Cluster 4 displays strongly negative scores on both dimensions (-1.634; -2.521), signalling low prudence and minimal strategic activity; overall, this profile is indicative of a lower level of financial management sophistication.

Based on Table 10, the vast majority of the surveyed family-owned SMEs fall into Cluster 1 (71.1%; within-cluster share: 92.19%). This group is characterised by high financial prudence and strong owner control, while strategic financial flexibility and growth-oriented management are less pronounced.

By contrast, most firms in the control sample are concentrated in Cluster 3 (71.1%; within-cluster share: 84.29%). This cluster exhibits a more balanced profile across the two dimensions: alongside financial prudence and internal control, strategic flexibility and growth orientation also play a substantive role.

According to the results reported in Table 11, the chi-square test indicates a significant association between firm type and cluster assignment ($\chi^2 = 84.622$; $p < 0.001$). This implies that the distribution of clusters differs significantly between the two groups; thus, a statistically verifiable relationship can be identified between whether a firm belongs to the family-firm sample or the control sample. The Cramér's V value of 0.714 indicates a strong effect size, suggesting that firm type is closely related to cluster membership.

Table 10. Cluster distribution of the filtered respondent firms based on cross-tabulation results

Sample group	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Total
Sample	59 (71.1%)	6 (7.2%)	11 (13.3%)	7 (8.4%)	83 (100%)
Control sample	5 (6.0%)	16 (19.3%)	59 (71.1%)	3 (3.6%)	83 (100%)
Total	64 (38.6%)	22 (13.3%)	70 (42.2%)	10 (6.0%)	166 (100%)

Source: authors' editing based on SPSS software results (2026)

Table 11. Chi-square test and Cramér's V effect size for the cluster distribution of the respondent firms

Statistic	Value	df	p-value
Chi-square (χ^2)	84.622	3	**<0.001**
Cramér's V	0.714	–	–

Source: authors' editing based on SPSS software results (2026)

Table 12. One-way ANOVA results for differences in mean factor scores among clusters

Variable	Source	SS	df	MS	F-value	p-value
Financial prudence and control	Between groups	110.845	3	36.948	110.528	**<0.001**
	Within groups	54.155	162	0.334		
	Total	165.000	165			
Strategic financial flexibility and growth orientation	Between groups	132.591	3	44.197	220.923	**<0.001**
	Within groups	32.409	162	0.200		
	Total	165.000	165			

Source: authors' editing based on SPSS software results (2026)

Table 13. Results of Scheffé post hoc comparisons of factor mean differences between clusters of filtered companies responding to the questionnaire survey

Variable	Cluster pair	Mean difference	p-value
Financial prudence and control	1 – 2	1.569	**<0.001**
	1 – 3	1.446	**<0.001**
	1 – 4	2.609	**<0.001**
	2 – 4	1.040	**<0.001**
	3 – 4	1.162	**<0.001**
Strategic financial flexibility and growth orientation	1 – 2	–1.990	**<0.001**
	1 – 3	–0.562	**<0.001**
	1 – 4	2.150	**<0.001**
	2 – 3	1.428	**<0.001**
	2 – 4	4.140	**<0.001**
	3 – 4	2.712	**<0.001**

Source: authors' editing based on SPSS software results (2026)

Based on the one-way analysis of variance (ANOVA) reported in Table 12, statistically significant mean differences can be identified across clusters along both dimensions, financial prudence and control as well as strategic financial flexibility and growth orientation.

The Scheffé post hoc test reported in Table 13 provides a more fine-grained delineation of between-cluster differences. Cluster 1 exhibits significantly higher financial prudence than all other clusters, however, it underperforms Cluster 2 on the growth orientation dimension. By contrast, Cluster 2 demonstrates outstanding strategic flexibility and a strong growth focus and differs significantly from all other clusters on this dimension, while displaying more moderate levels of prudence. Cluster 3 represents an intermediate, balanced profile across both factors, whereas Cluster 4 consistently yields the lowest means for both financial prudence and strategic, growth-oriented financial management.

In summary, the factor and cluster analyses yield a consistent and coherent account of structural differences in financial management-related attitudes between family and non-family small and medium-sized enterprises. The extracted dimensions and the clusters derived from them suggest that the financial behaviour of the two firm types differs not merely at the level of individual items, but follows clearly distinguishable, profile-like patterns. Family firms typically display a financial management profile in which conservative financing preferences, liquidity prudence, and tight owner control play a prominent role. By contrast, in the control sample representing industry competitors, a more balanced financial behaviour reflecting more flexible strategic functioning is more prevalent, indicating greater adaptability and openness in financially supporting strategic objectives.

Conclusions

Our findings indicate that the financial management of Hungarian family and non-family SMEs can be captured along two well-defined underlying dimensions: financial prudence and owner control, and strategic financial flexibility and growth orientation. The firm profiles emerging along these dimensions reveal a statistically supported and substantively meaningful association between cluster membership and firm type, suggesting that family involvement is accompanied by distinctive features in financial decision logic and control practices.

The core message of the study is that, within the analysed sample, a stability- and control-oriented financial behaviour is more prevalent among family-owned SMEs, whereas a more balanced and flexible strategic financial approach is more common among non-family competitors. This difference is consistent with the long-term, reputation- and autonomy-centred orientation typically attributed to family firms, while also indicating that the financing basis of growth and investment decisions, as well as the degree of formalisation in planning, may constitute a salient dividing line between the two firm types. Methodologically, the study contributes by organising survey-based attitudinal items into a coherent factor structure and, building on this, offering an interpretable and practically relevant segmentation of SMEs' financial management profiles. Thus, the approach is not merely descriptive; it also provides a framework for future research to link cluster membership to financial indicators and to examine the channels through which financial management patterns contribute to firm competitiveness, sustainable growth, and resilience.

The study's limitations include the relatively low response rates compared with the initial sampling frame and the limited size of the final analytical sample, both of which may constrain generalisability. In addition, the study identifies cross-sectional attitudinal profiles, therefore, causal interpretation of the observed relationships is limited. Future research should link cluster membership to financial metrics and investigate temporal dynamics to better assess directionality and potential causal mechanisms.

The study's primary conclusion asserts that discrepancies between family and non-family SMEs are evident not only in discrete financial decisions, but also in a structured and discrete financial management logic that is closely associated with firm type. This renders them pertinent for both scholarly interpretation and managerial development and financing practice.

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