Using stewardship and agency theory to explore key performance indicators of family businesses

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Abstract

Throughout the life cycle in business, family businesses face significant management challenges, one of which is looking for a successor in the next generation or passing on management to managers. If an entrepreneur decides to hire an external manager, he has two options: stewardship or agency theory. The purpose of this article is to evaluate how the use of stewardship theory and agency theory could improve the use of key performance indicators in a family business. The proposals are based on a field survey of 323 business owners conducted in 2020, when the dominance of the stewardship theory was confirmed. Cluster analysis was used to identify factors, with the basic premise being to reinvest profits and identify common characteristics. In addition, a checklist of seven key performance indicators with weighting score lists was provided for evaluation. The most important areas were revealed to be the logistics system (43.89%), current assets related to liquidity (15.33%), and cost management (9.54%).

Key words

KPI, dashboards, family business, stewardship

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Introduction

Changes in the business environment, notably the ongoing COVID-19 pandemic, are altering the requirements for management solutions in three major areas: business management concepts and methods, systems security, and employees' professional knowledge and skill base (Marjański and Sułkowski, 2021; Krüger and Meyer, 2021; Liu et al., 2021). Consumer, goods, and innovation processes and lack of certainty about future success are all essential factors therein. As a result, both family and non-family businesses are working to improve their metrics and performance management. These may be optimised using a variety of tools and techniques, including economic value added, economic profit, the European Foundation for Quality Management (EFQM) Excellence Model, the Balanced Scorecard (BSC), and key performance indicators (KPI). The emphasis is on both financial and non-financial indicators that are used to evaluate corporate strategy

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(Rylková and Bernatík, 2014; Parnell, 2013; Glaister et al., 2008). In the literature, we can find the concept of corporate governance, which according to the OECD (2015, p. 9) includes a "*set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the company's objectives are set, and the means of attaining those objectives and monitoring performance are determined.*" The issue of separating ownership and control was covered, for example, in *The Modern Corporation and Private Property* (Berle and Means, 1932), which describes differences in corporate governance and owners (Mizruchi, 2004; Smith et al., 2017). Still the most pertinent topic of the book is the separation of control and property in the concept of a modern corporation and its consequences, but it contains a great deal of factual knowledge about the internal organisation of the corporation. Since this early thought, family firm researchers have enlarged the theoretical boundaries by highlighting previously overlooked agency problems and conflicts, because they behave similarly to non-family businesses due to their life cycle and generational transmission (Dana and Ramadani, 2015).

The purpose of this paper is to compare and contrast two major theories (agency and stewardship theory) for establishing key performance indicators in a family business. Both agency and stewardship theories are seen in the literature as the most influential concepts in the understanding of the performance of family businesses (Hadryś – Nowak, 2020). The article is organised as follows. The first section will provide a critical examination of both theories concerning KPI performance indicators. The second section will present the findings of primary research, which indicators are used, and how their structure may differ concerning the use of the theory of stewardship and representation, which could also be applied to non-family businesses in the Czech Republic.

1. Literature review

The transfer of administration and management of family businesses largely depends on the preparation and transparency of the entire process. Although there is still relatively little experience in the Czech Republic when it comes to the transfer of administration and management from the first generation of managers, several corporations can be found abroad that have undergone a similar development (Servus et al., 2018).

According to Machek (2017), the topic of corporate governance in the environment of family businesses offers two fundamental conflict theories; the first is agency theory, and the second is stewardship theory. Both theories are prominent and promising for exploring countless problems in family businesses (Pacheco, 2019). Although considered conflicting, they focus on identical phenomena, such as individual-level behaviour and corporate-level management mechanisms, and their outcomes predict organisational consequences (Madison et al., 2015).

1.1. Background to agency theory

The foundations of agency theory were laid in 1932 by Berle and Means. The theory assumes that managers (called agents) make an effort to increase their benefit at the expense of the benefit of the owners (principals) who hire managers. A conflict (principal-agent problem) occurs due to the behaviour of managers, which harms owners. The problem is made possible by the separation of ownership from management, the asymmetry of information, and people's limited rationality. Concerning the need to eliminate the negative impacts of the separation of management from ownership, owners are subject to control by shareholders through the introduction of control mechanisms associated with additional representation costs (agency costs). One way is to support tailored key performance indicators (KPIs) to enrich the controlling process after this procedure.

Meanwhile, agency problems were not expected to be prevalent in family businesses because said theory assumed cooperative ownership and management. Constant monitoring is unnecessary because of the influence of the family environment and shared interests (Jensen and Meckling, 1976; Fama and Jensen, 1983; Chrisman et al., 2004). Asymmetric altruism and executive entrenchment are two examples of non-traditional agency situations (Schulze et al., 2001, 2003a, 2003b; Nicholson, 2008; Moores, 2009; Block, 2012).

Another issue is the emergence of new principal-agent conflicts, such as those arising from the relationship between a family and a non-family shareholder (Villalonga and Amit, 2006; Ali et al., 2007). Previous studies of family businesses have also contributed to developing agency governance mechanisms such as a board of directors, incentive compensation plans, and monitoring activities within family firms (Anderson and Reeb, 2004; Braun and Sharma, 2007; Chrisman et al., 2007). The remarkable efforts of scholars to push the boundaries and bring agency theory into the family firm, and a context once thought to be irrelevant to agency theory, were fuelled by the results and experiences from research studies. Nonetheless, certain unique aspects of family firms, such as noneconomic goals and family involvement, can lead to behaviour and governance variations that deviate significantly from agency theory (Van den Berghe and Carchon, 2003).

1.2. Background to stewardship theory

Stewardship theory has a lengthy development history. When it comes to studying family firm governance, stewardship theory is a popular alternative to agency theory (Madison et al., 2016). According to Davis et al. (1997), stewardship theory assumes that individuals seek to meet higher-order needs through pro-organisational behaviour and thus naturally align their interests with those of the organisation (and therefore its principals). Those authors argue that "*even where the interests of the steward and the principal are not aligned, the steward places a higher value on cooperation than defection*" (Davis et al., 1997, p. 24). According to stewardship theory, the steward will prioritise the owner's interests over his own, resulting in the same goals and ultimately benefiting both parties (Eddleston and Kellermanns, 2007). Its popularity is exacerbated by the fact that Donaldson (1990a, 1990b) and Barney (1990) state that the difference between principals and managers, referred to here as stewards rather than agents, may be delayed because they have the same or similar motivation in business as the owner. In terms of maximising its benefits, such as obtaining a permanent job, insurance, or pension rights, the administrator will act in the best interests of the owners and the entire organisation, even if there is no shareholding. Scholars turned to stewardship theory to comment on previous aspects of family businesses, such as (1) noneconomic goals and (2) family involvement, which can lead to behaviour and governance variations (based on agency theory) (Donaldson and Davis, 1991; Davis et al., 1997). This change has also contributed to a better understanding of the family business (Corbetta and Salvato, 2004; Eddleston and Kellermanns, 2007; Zahra et al., 2008; Le Breton-Miller and Miller, 2009). During this time, stewardship theory successfully extended into this context and expanded its tenets to include identification with the family firm (Vallejo, 2009), commitment (Davis et al., 2010), and reciprocal stewardship (Pearson and Marler, 2010).

Furthermore, previous research has found that family firm stewardship governance predicts a variety of pro-organisational outcomes, including performance (Eddleston and Kellermanns, 2007), innovativeness (Craig and Dibrell, 2006; Dibrell and Moeller, 2011), and strategic flexibility (Zahra et al., 2008). Because Davis et al. (1997) recognise that opportunism does not always result from conflicts of interest, they propose stewardship theory as an alternative to agency theory in order to overcome its limitations. This study highlights the theoretical contributions and expands our understanding of the behaviours and governance that, in turn, facilitate family firm performance. In contrast, Davis et al. (1997) propose that agency theory assumes individuals are self-interested and will behave opportunistically when their interests diverge from those of the principals.

Chrisman (2019) summarised stewardship theory, where, among other things, he states the need to modify and expand the assumptions of stewardship theory in order to increase its relevance and improve the ability to describe reality. The author of the article mentions several weaknesses of said theory, such as the human model, ignoring certain fundamental truths about individuals or only partial consideration of the limited rationality of the individual. Concerning the application of stewardship theory in family businesses, the author emphasises the need to adjust the assumptions, as family businesses have many characteristics associated with the stewardship theory but do not always behave heedlessly according to it (Table 1).

Table 1. Summary of Agency and Stewardship Theories

	Agency theory	Stewardship theory
Area of evaluation/ Authors	Jensen and Meckling,1976 Van den Berghe and Carchon, 2003	Davis et al., 1997 Christensen, 2019
Interactions	Based on the principal-manager relationship, this section describes the individual-level agent behaviours and firm-level agency governance structures incorporated in response.	Based on the principal-manager relationship: describes the individual-level steward behaviours and the firm-level stewardship governance mechanisms that are implemented in response.
Concept	Economic model	Humanistic model
Attitudes	Individualism	Pro-organisational: collectively and for the benefit of others.
Management	Monitoring and incentive systems: mechanisms for reducing opportunism by aligning the manager's interests with those of the principal.	Trust systems: mechanisms that encourage cooperation and participation in order to facilitate the manager's and principal's natural alignment of interests.
Results	Pro-organisational outcomes; firm performance through cost reduction	Pro-organisational outcomes; company performance through wealth maximisation
Assessments	Economic indicator-oriented	Process-oriented

Source: own elaboration based on: Madison et al., 2016; Jensen and Meckling, 1976; Van den Berghe and Carchon, 2003; Davis et al., 1997; Christensen, 2019.

The separation of ownership and corporate governance may result in a situation where managers not only pursue the goals of the owners but strive to meet their own goals, such as obtaining a high salary, a company car, a contribution to insurance, housing allowance, social status or social prestige. In terms of agency theory, information arises in the separation of ownership from administration and management asymmetry. Promoting owners' interests can be solved by the optimistic stimulation of managers in the form of e.g. a motivational reward programme, or negative incentives, which is a threat release (Azila-Gbettor et al., 2021).

1.3. Setting key performance indicators (KPIs) when separating control from ownership

A company's performance objectives must already be described in its mission to be monitored and evaluated before the process begins (Williams, 2008; King et al., 2010; Bai and Sarkis, 2013). Related to this is the fact that business performance is associated with innovative new products and technology developments (Barczak et al., 2009; Cooper et al., 2004). Thus, strategic adjustment, value maximisation, and product portfolio balance can become critical areas of performance monitoring (Cooper, 2008; O'Reilly and Tushman, 2004; Saaksvuori and Immonen, 2008).

The purpose of the KPI dashboard is to display information on a single screen so that everyone can understand it. A dashboard is an application or user interface that aids in measuring business performance and the comprehension of organisational units and business processes. Because of the development of the web, dashboards began to be used to project financial indicators in a way that everyone involved understands; as such, there are three types of end-user dashboards: operational, tactical, and strategic (Bradea et al., 2014; Tokola, 2016; Marr, 2015). The term "dashboard" derives from a vehicle's dashboard, representing the metrics that the "driver" must be aware of. Similarly, dashboards mean information from which managers and employees can visually identify trends, patterns, and anomalies pertaining to the company. The main idea behind creating dashboards is to find the best combination of performance indicators (Eckerson, 2010), which can be linked to individual dimensions of company performance – for example, as defined by a balanced scorecard (Maltz et al., 2003) – and supplemented indicators such as KPIs (key performance indicators), which represent the possibility of checking for deviations. Because it is assumed that the critical information displayed on dashboards influences company decision-making activities, designing an appropriate dashboard is critical (Maté et al., 2017; Vilarinho et al., 2018; Tokola, 2016). The creation of dashboards involves four primary phases, which are firmly connected to the knowledge of the business economy and the continuous improvement approach (PDCA) and are closely related to the company's life cycle (not related to company types such as family or non-family businesses). This process includes (Tolonen et al., 2015; Vilarinho et al., 2018; Sychrová and Šimberová, 2012) the following essential elements: a) a diagnosis of productive areas, where the goal is to understand the operation of companies, identify actions to improve priorities and collect suggestions for employee indicators on the dashboard; b) an assessment of dashboard requirements – objectively clarify the stated requirements that the dashboard must meet the results of diagnostics, literature and know-how of the project team; c) development of the dashboard layout – translates identified requirements for technical solutions, implementation, and layout improvement to achieve the most satisfactory solutions; and d) dashboard implementation and enhancements – testing the dashboard's design and developing resources for its implementation, performance evaluation, and the implementation of improvements.

The use of dashboards is an innovative element in the business economy, helping to visualise business results for all involved and thus develop the skills needed for entrepreneurs in the Industry 4.0 environment. Key performance indicators (KPIs) and key risk indicators (KRIs) are displayed in related charts, maps, and result sheets in modern dashboards, allowing the company to focus on the most critical performance activities. Thanks to the fact that the element can be used in managing any company (according to the type of focus), the area is extensive, and it is necessary to further generalise it according to the above research.

1.4. Similarity of family and non-family companies in light of ownership change: a Czech case

Given the many definitions of a family business, Chrisman et al., (2005) created a classification dividing the definitions into two groups. The first group contains definitions based on family involvement in various areas of administration and management (involvement criteria), while the second group of definitions is based on the essence of the family business (essence criteria). Machek (2017) states that "*the definitions of family businesses used in the academic literature are inconsistent and do not necessarily lead to the same classifications of family businesses. Thus, the question arises as to what is best practice, i.e. which group is the most used*", and further states that the use of the first group of criteria prevails concerning more straightforward applicability, not for theoretical justification. Sharing the same point of view, Astrachan et al. (2002b) propose a solution to define family businesses, arguing that it is important to define family businesses according to the scope and involvement of the family in the business. According to them, power, experience and culture are the three most important factors of family influence. These elements are part of the F-PEC scale, which assesses the index of family influence. The F-PEC scale allows for the comparison of companies based on the level of family involvement and its effects on performance and other business behaviours. The European Commission also provides a definition by which to distinguish a family business from a non-family business. The standard European definition of a family business (European Commission, 2020) consists of four criteria: 1) natural persons who have created a company, natural persons who have acquired shares in the company, or their spouses, parents, children or the direct heirs of the children have the majority decision-making power; 2) the majority of decision-making power is indirect or direct; 3) at least one family or close relative is officially involved in the management of the business, and 4) listed companies meet the definition of a family business if the person who creates or acquires the business (equity) or his family or his descendants have 25% of the decision-making power authorised by their own funds.

1.5. Family Business in the Czech Republic

The issue of family businesses is currently very topical, even though little attention is paid to this specific topic in the Czech Republic. In part, it is possible to attribute the lack of interest to the fact that business is a relatively young and new industry in the recent history of the Czech Republic. The non-development of family businesses may be viewed in the context of the era of the totalitarian regime, where any private business was suppressed. However, the situation changed for Czechs and Slovaks in 1989 after the so-called Velvet Revolution (Koráb et al., 2008). Therefore, it can be stated that family businesses in the Czech Republic comprise the first generation of such enterprises. Finally, based on the Resolution of the Government of the Czech Republic of 11 May 2020 No. 535, the definition of a family business in the Czech Republic was amended and approved as follows (MPO, 2020b): "*A family business could take the legal form of a family business corporation or a family trade (proprietorship).*" More than half of the unlimited partners in a family business corporation are members of one family. At least one member of this family serves as part of its statutory body, or members of one family have a majority of voting rights, either directly or indirectly.

A family business corporation is also referred to as a business corporation. If at least one family member serves on the statutory body of the family foundation or as a trustee, the majority of voting rights are exercised for the benefit of one family of the foundation or a trust fund. Members of the same family in the context of a family business are understood as direct relatives, siblings, or spouses. As a result, starting at the age of 15, a natural person can be a member of one family in a family business. A family business is one in which at least two members of the same family participate in the operation or ownership of the business, and at least one of the family members holds a trade license or other similar authorisation or is otherwise authorised to conduct business. One should add that sustainability is a key issue for family businesses (Lušňáková et al., 2019).

There are numerous reasons for the unbundling of governance in family businesses; for example, questionnaires (AMSP 2015, 2016) reveal that more than 62% of family business owners consider involving non-family members in the subsequent generation of the business, and 65% of them do not have any succession plan (AMSP, 2018). The consequences are summarised in the theory of representation, which lists the possible negative consequences about which the owner of a family business may often worry. Stewardship theory, according to which significant emphasis is placed on the altruism of the manager with the consequence of aligning goals, does not presuppose the emergence of moral hazard in the scope of agency theory. However, it does not meet other legislative requirements and previous definitions. In line with this, the companies surveyed were not classified into family and non-family types. In such a situation, where the registration of family businesses is voluntary and includes approximately 500 family companies, the majority operate in the first generation of owners as managers and are preparing for the separation of ownership and administration (management). In the first phase of planned research, it is possible to address all available business entities that would be willing to participate in the creation of a KPI summary, because of the same behaviour and business governance of family and non-family businesses. In light of the literature review above and line with the objective of the paper, the key research questions of this paper are:

- *RQ1. Which KPIs do entrepreneurs choose most often within the agency theory model?*
- *RQ2. Which KPIs do entrepreneurs choose most often within the stewardship theory model?*
- *RQ3. Are any differences between these two models?*

2. Methodology and data

In previous national studies (Janeček and Hynek, 2010; Skokan et al., 2013; Šebestová and Nowáková, 2013; Sychrová and Šimberová, 2012; Nowak and Kubíček, 2012; Rylková et al., 2018), only complex methods used by companies in performance management were examined. Secondly, there are no available special sub-indicators or metrics (with the exception of tools for the decision-making problems of smaller or family entrepreneurs) to support the measurement of family company goals. The existing indicators are not suitable for dashboard creation (simplicity of use) (Eckerson, 2011; Yigitbasioglu et al., 2012; Pauwels et al., 2009; Cahyadi, 2015; Vilarinho et al., 2018; Samara and Berbegal-Mirabent, 2018).

The research gap has demonstrated the impossibility of setting up and evaluating performance measurement under different corporate governance models. Current models only describe the process of delegation of powers, rather than a retrospective review and evaluation of this step by the owner. Based on previous theoretical reviews and the identification of the research gap, the intention of this research study is (1) to discern which techniques of performance measurement companies use in the Czech environment, (2) to compile those sub-areas that are duplicated or missing in the measurement – based on a primary survey in primarily family-owned companies to test different situations in the case of a change in ownership.

In the first phase, the structure of indicators was based on the approach of selected authors (Muntean et al., 2010; Anand and Grover, 2015; Malik, 2005), which can be further expanded in the final evaluation and discussion. This set of indicators was divided into four groups in the form of a questionnaire:

1. Non-financial ratios 1: Motivation to behave as an entrepreneur (behaviour 1);
2. Non-financial ratios 2: Preferred business behaviour (behaviour 2);
3. Financial and performance ratios (outcomes 1);
4. Key processes (outcomes 2) according to Machek (2017), whereby only two parts of agency and stewardship theory were evaluated – behaviour and outcomes (see Appendix 1).

In the second phase, the primary pilot research was conducted. The main goal of the pilot research was to find out how business owners evaluate individual performance indicators (KPIs) using the Likert scale (1 – I strongly agree to 5 – I strongly disagree). Thanks to the characteristics of both agency theory and stewardship theory as presented in Table 1, the question of reinvestment was inserted, which divided the owners' attitudes into two groups (reinvesting and non-investing).

From December 2019 to March 2020, quantitatively oriented primary research was conducted by means of a questionnaire among randomly selected business owners in the Czech Republic. The original sample size was comprised of 323 respondents from existing business entities, not including self-employed individuals (while the minimum was 267 respondents); the sample was representative of the original business structure (MPO, 2020a).

Descriptive statistics were used to evaluate the obtained sample. The F-test was used to supplement the cluster analysis, which was performed after important indicators were sorted according to the classification criterion of reinvestment. In the final step, confirmatory factor analysis was performed to confirm the significance or insignificance of the tested elements. When the value of Cronbach's alpha for each construct in the entire sample ranged from 0.625 to 0.833, researchers performed several random checks for internal consistency in responses.

3. Research results

The results of the survey were divided into individual parts. First, the questionnaire survey results were evaluated, using a cluster analysis, which had the task of dividing the owners' preferences in terms of behaviour and performance. The analysis confirmed the dependence of attributes on attitudes to profit reinvestment. Subsequently, these two groups were tested using factor analysis to obtain groups of factors that could be used to create dashboards. In the third step, the consensus among said attributes helped create the final design in subsection 3.2.

3.1. Key results from the Czech case study

The willingness of entrepreneurs (N=323) to take part in research played an important role. The owners of the companies examined were 69.7% men and 30.3% women. The critical indicator is business experience, where 69.4% have more than 20 years of experience, 24% between 10 and 20 years, and 6.6% have 10 years of experience or less. This means that most of the companies in the sample will solve the problem of company governance in the near future.

Cluster analysis

As already mentioned, the filtering question was the opinion on reinvesting profits back into the company. According to the theories presented, it was established that if the successor prefers reinvestment, there is a presumption that the entrepreneur will use stewardship theory (N=274). On the other hand, if this criterion is not essential, then according to previous research there is a presumption that agency theory will be in play (N=49). Based on this assumption, a cluster analysis was performed; Table 2 summarises the results of cluster centres, including test criteria.

Table 2. Cluster analysis – sample evaluation

	Cluster 1	Cluster 2	Cluster		Error			
	N=49	N=274	Mean Square	df	Mean Square	df	F	Sig.
Preferred business behaviour (non-financial factors – behaviour)								
I believe in what I do	2.00	1.00	4.087	1	0.426	331	9.601	0.002
I think through my decisions	2.00	1.00	19.033	1	0.514	331	37.013	0.000
I perform cost calculations	5.00*	1.00	37.522	1	1.193	331	31.440	0.000
I perform market analysis	3.00	1.00	22.624	1	0.779	331	29.036	0.000
I set measurable goals. especially financial ones	4.00	1.00	4.365	1	0.310	331	14.074	0.000
I monitor the company's financial results (especially profit)**	1.00	5.00*	2.755	1	1.202	331	2.292	0.131
I only adapt to changes in the environment	5.00*	5.00*	40.360	1	1.664	331	24.258	0.000
I have set a maximum amount of loss in business	5.00*	1.00	15.635	1	1.119	331	13.974	0.000
I plan investments	5.00*	1.00	6.960	1	1.311	331	5.310	0.022
I actively look to take risks	5.00*	1.00	3.783	1	0.770	331	4.911	0.027
I have an idea of how to deal with the expected risks	4.00	1.00	10.640	1	0.654	331	16.266	0.000
I have a basic knowledge of business economics**	1.00	1.00	0.003	1	2.009	331	0.002	0.967
I finance business mainly from my own resources	4.00	1.00	6.481	1	1.233	331	5.254	0.023
Motivation to behave as an entrepreneur								
Financial stability of the family**	1.00	5.00*	1.069	1	1.942	331	0.550	0.459
Self-employed family members**	2.00	5.00*	0.433	1	1.568	331	0.276	0.600
Friends who have their own business**	5.00*	1.00	2.015	1	1.765	331	1.142	0.286
Education**	4.00	1.00	0.074	1	0.880	331	0.084	0.772
The desire for freedom and success**	2.00	1.00	0.835	1	1.587	331	0.526	0.469
Social background	4.00	1.00	4.118	1	0.903	331	4.560	0.033
Personal attitudes to life (working longer, being reliable…)	4.00	1.00	6.384	1	0.816	331	7.823	0.005
Logical thinking**	5.00*	1.00	0.121	1	0.848	331	0.143	0.705
Financial and performance ratios (outcomes 1)								
Profit	4.00	1.00	19.611	1	0.619	331	31.702	0.000
Costs	4.00	1.00	11.281	1	0.340	331	33.158	0.000

	Cluster 1	Cluster 2	Cluster		Error			
	N=49	N=274	Mean Square	df	Mean Square	df	F	Sig.
Business outcomes	4.00	1.00	33.680	1	0.741	331	45.428	0.000
Cashflow	4.00	1.00	25.259	1	0.654	331	38.637	0.000
Profitability	4.00	1.00	31.765	1	0.560	331	56.771	0.000
Liquidity	4.00	1.00	58.428	1	0.822	331	71.061	0.000
Commitment structure	4.00	1.00	66.328	1	0.634	331	104.574	0.000
Types of claims	4.00	1.00	74.557	1	0.678	331	109.894	0.000
Stock planning	4.00	1.00	85.079	1	0.872	331	97.535	0.000
Sales	4.00	1.00	21.858	1	0.789	331	27.706	0.000
Quality	4.00	1.00	11.935	1	0.442	331	26.996	0.000
Planning working time	4.00	1.00	90.120	1	0.988	331	91.176	0.000
Productivity	4.00	1.00	49.717	1	0.626	331	79.464	0.000
Key Processes (outcomes 2)								
Non-standard forms of employment	5.00*	1.00	82.032	1	1.274	331	64.389	0.000
Outsourcing	5.00*	1.00	27.895	1	1.254	331	22.245	0.000
Personnel processes	5.00*	2.00	69.659	1	0.908	331	76.687	0.000
Internal logistics	5.00*	1.00	95.280	1	0.784	331	121.468	0.000
Reverse logistics	5.00*	1.00	105.617	1	0.886	331	119.259	0.000
Distribution logistics	5.00*	1.00	91.535	1	0.829	331	110.438	0.000
Process management	5.00*	1.00	102.995	1	0.765	331	134.685	0.000
Recovery of machinery	5.00*	1.00	73.320	1	1.121	331	65.413	0.000
Maintenance	5.00*	1.00	68.879	1	1.014	331	67.917	0.000
Business agenda	5.00*	1.00	22.914	1	0.692	331	33.091	0.000
A percentage share of profit reinvestment**	5.00*	1.00	2.287	1	1.495	331	1.530	0.217

Source: own elaboration. Items marked with an asterisk in the table are unimportant for entrepreneurs (mark 5). If the item was also statistically not significant, it is marked with two asterisks in the text.

By comparing these two groups, we see the difference in the perception of the set of indicators. If the entrepreneur envisages stewardship, it is clear that the KPIs will be set in advance to be easily checked, while otherwise, the owner will expect a discussion with the manager and set criteria or invent new criteria.

Factor Analysis

An interesting finding was the statistical insignificance revealed in several factors, namely monitoring financial results, percentage of profit reinvestment and – above all – motivational factors. Because most of the result factors turned out to be irrelevant to the future dashboard, it was necessary to use a more sophisticated method in both cases to obtain the set of indicators.

The extraction of factors was done using the principal component analysis (PCA) method. Varimax factor rotation was used to find the underlying and thus hidden (artificial, non-measurable, latent) variables (hereafter referred to as components) that sufficiently explain the original variability of the variables. Factor analysis (see Table 3) revealed the majority of the critical areas related to KPI, where seven-factor groups were extracted, and the explanatory power of this model was 63.59 percent. The sample was subjected to basic tests to determine its suitability for analysis (Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.836, Bartlett's Test of Sphericity- Approx. Chi-Square 2477.343, df=276, Sig.=000).

Table 3. Factor analysis: Case: I reinvest my profits, N = 274

Rotated Component Matrix							
	Component						
	F1	F2	F3	F4	F5	F6	F7
Variable/factor loading	27.91%	9.75%	6.07%	5.60%	5.11%	4.68%	4.46%
Distribution logistics	0.760						
Internal logistics	0.758						
Process management	0.754						
Reverse logistics	0.655						
Commitment structure		0.866					
Types of claims		0.821					
Liquidity		0.635					
Profit			0.762				
Business outcomes			0.708				
Costs			0.665				
Quality				0.804			
Recovery of machinery					0.863		
Maintenance					0.861		
Outsourcing						0.809	
Non-standard forms of employment						0.716	
A percentage share of profit reinvestment							0.854
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation.							

Source: own elaboration

As can be seen from the results laid out in Table 3, the most critical performance measures were complex logistics processes in the company (F1), with a weight of 27%, followed by a group of factors F2 (9.75%) focused on the liquidity of current assets, and the third factor group F3 (6.07%) focused on economic performance. Within the checklist, all those factors are classified as outcome type indicators, defined as significant for company wealth and development, but the critical processes are the most important (to support RQ2).

The results of the second group were analysed in the same manner. The same tests were carried out to assess the suitability of the sample for analysis (Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.620, Bartlett's Test of Sphericity- Approx. Chi-Square 664.610, df=276, Sig.=000). Seven factors were also extracted, and the model's explanatory power is 74.65% (Table 4).

Table 4. Factor analysis: Case: I do not reinvest my profit, N = 49

Rotated Component Matrix							
	Component						
	F1	F2	F3	F4	F5	F6	F7
Variable/factor loading	29.45%	12.17%	9.09%	8.09%	6.14%	5.14%	4.58%
Liquidity	0.804						
Stock planning	0.783						
Commitment structure	0.726						
Non-standard forms of employment	0.673						
Types of claims	0.613						
Quality		0.765					
Productivity		0.761					
Business agenda		0.734					
Sales		0.731					
Planning working time		0.602					
Internal logistics			0.787				
Reverse logistics			0.782				
Distribution logistics			0.758				
Profit				0.800			
Costs				0.753			
Business outcomes				0.737			
Process management					0.829		
Recovery of machinery						0.769	
Maintenance						0.750	
Cashflow							0.887
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation.							

Source: own elaboration

As can be seen from the dominant groups of factors F1 to F3, the behaviour of managers in terms of "agency theory" is focused on profit generation, economic indicators, the optimisation of the production process and quality, which formulates an answer to RQ 1. The weight of only these three factors is 50.17%, which shows the dominant behaviour and settings in the company's management. Finally, we can compare the differences of items in individual models (Table 5). Most of them remained the same, which shows the middle column, the different items in the left and right columns.

Table 5. A comparison of KPI variables

Extra variables (not reinvesting cases, N=49), agency approach	Similar variables	Extra variables (not reinvesting cases, N=274), stewardship approach
Cashflow	Business outcomes	A percentage share of profit reinvestment
Sales	Quality	Outsourcing
Productivity	Liquidity	
Planning working time	Costs	
Stock planning	Types of claims	
Business agenda	Commitment structure	
	Profit	
	Distribution logistics	
	Non-standard forms of employment	
	Recovery of machinery	
	Process management	
	Reverse logistics	
	Maintenance	
	Internal logistics	

Source: own elaboration

From this comparison, we can see the main differences between the agency and stewardship approaches, where the agency approach emphasises the use of economic indicators, the optimisation of the compensation process, and adds growth in labour productivity (to answer RQ 3). In contrast, the stewardship approach reflects the importance of reinvesting and caring for a company's wealth by outsourcing disadvantageous processes.

3.2. Proposal of KPI outcomes based on primary research

In practice, Table 5 may represent a form of consensus, where both groups represent those that run family businesses, where the first group is comprised of owners (who directly decide on the reinvestment of profits) and the second is managers (who do not currently participate in the reinvestment of profits). Table 6 shows measurability and suggests a consensus on how to set initial management rules. In both situations, we plan to evaluate these areas using a mix of quantitative and qualitative data research. As a result, factor group loadings may assist in creating "weights" in each factor section (the evaluation from Table 3 is presented in Table 6). Since the factor loading was a total of 63.59%, it was necessary to normalise the weights so that the sum of the weights of all factors was 100% (factor weight/total).

Table 6. Possible evaluation table for KPI

Group of variables	Indicator topic	Importance <1;5>	Weight in evaluation	Recalculated weight (100% in total)
F1	Logistics system	↗→↘	27.91%	43.89%
F2	Current assets	↗→↘	9.75%	15.33%
F3	Cost management	↗→↘	6.07%	9.54%
F4	Quality	↗→↘	5.60%	8.8%
F5	Technical improvements/ Innovations	↗→↘	5.11%	8.03%
F6	Outsourcing	↗→↘	4.68%	7.36%
F7	Reinvestment value	↗→↘	4.46%	7.05%

Source: own elaboration

Importance is based on a Likert scale evaluation (1 to 5). The content of each part can copy the given template, but we assume that the separate parts may change according to the owners' preferences. However, to achieve optimal evaluation, it is necessary to offer such a dashboard structure to cover the basics of the company's KPI according to the chosen approach to management.

Discussion and Conclusions

The KPI system outlined here can be used as inspiration by business owners looking to address succession and controllability issues in their organisations. The need for appropriate key performance indicators that can be used to identify problematic processes and control the operation of the business is what unites agency theory and stewardship theory in practice.

Top management needs to have a real insight into the management processes in the organisation to avoid information asymmetry. Building and setting up an organisation's management system, including control mechanisms, will give top management and owners a better overview of the organisation's management processes. For the system to work correctly, assigning specific responsibilities and accountability for results to management and control staff is necessary. Assigned competencies and responsibilities should be balanced by appropriate motivation to achieve objectives. The management system must be balanced in all its phases, which are planning, implementation and control phases, because only in this way can the effectiveness of the organisation's management – and its success – be ensured (Kislingerová et al., 2005).

The handover of management and administration should not occur before the organisation's management and administration system is built and set up. Otherwise, there will be ineffectiveness in the management and governance of the organisation. Another problem will be the transfer of information without predetermined key performance indicators, making communication between top management and owners more difficult. This situation may intensify the conflict between managers and owners as described in the theory.

Our study also offers some options for deciding the shape of the organisation's management system and possible implications for managerial decision making. As a result, developing and integrating innovative strategies and capabilities in line with innovations and ecological investments would aid in the expansion of the company's wealth and corporate responsibility (CSR) activities in accordance with stewardship theory (Vveinhardt and Sroka, 2020; Popescu, 2017). Second, this study strongly supported the use of stewardship theory in Czech business practice (Le Breton-Miller and Miller, 2009; Moores, 2009). The difference in both models was confirmed, according to the formulation of RQ3, whereby in the case of agency theory economic indicators and savings in production are most prevalent (preference in factor and cluster analysis, tables 2 and 4, RQ 1); while in the case of stewardship theory indicators, primarily the orientation to facilitate critical processes of logistics and outsourcing is apparent (factor analysis, cluster analysis, tables 2, 3 and 6, RQ2).

The study showed a preference for stewardship theory in the Czech Republic, which was confirmed by previous foreign studies (Smith et al., 2017; Chrisman, 2019). However, the use of dashboards composed of KPIs for this type of management transfer has been linked, which the study so far greatly expands in linking management, performance, and business economics (Sychrová and Šimberová, 2012; Vilarinho et al., 2018; Machek and Kubíček, 2018).

Considering paper results and the size of the sample of entrepreneurs, we should point out the limitations of the study. Firstly, the sample size consists of only 323 entrepreneurs; secondly, an analysis of the sample composition pointed to business experience and reinvestments as important factors. The opportunity for further research can be seen in the testing of indicators and areas, especially the relationships that the owner wishes to set up with the future manager and how he will evaluate them, because this study focused only on outcomes and behaviour. Future research will concentrate on understanding how to delegate family business administration and management to non-family members. The main idea is to create a dashboard that, concerning the environment of the Czech Republic in a comprehensible and substantiated way, suggests a control procedure before handing over the administration and management of family businesses to non-family members, which could be profiled as a family-owned business in the future.

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APPENDIX 1.

A CHECKLIST OF KEY PERFORMANCE INDICATORS

Evaluate how important the following indicators for business processes and economics are for a future successor. Please use the scale from 1 to 5 (1 – I strongly agree to 5 – I strongly disagree). Feel free to add your own suggestions to each group.

Non-financial ratios 1: Motivation to behave as an entrepreneur (behaviour 1)

Factor	Your score
Financial stability of the family	
Self-employed family members	
Friends who have their own business	
Education	
The desire for freedom and success	
Social background	
Personal attitudes to life (working longer, being reliable,…)	
Practical skills related to business	

Non-financial ratios 2: Preferred business behaviour (behaviour 2)

Factor	Your score
I believe in what I do	
I think through business decisions	
. I perform cost calculations	
. I perform market analysis	
I set measurable goals, especially financial ones	
I monitor the company's financial results (especially profit)	
I only adapt to changes in the environment	
I have set a maximum amount of loss in business	
I plan investments	
I actively look to take risks	
I have an idea of how to deal with the expected risks	
I have a basic knowledge of business economics	
I finance business mainly from my own resources	

Financial and performance ratios (outcomes 1)

Factor	Your score
Profit	
Costs	
Business outcomes	
Cashflow	
Profitability	
Liquidity	
Commitment structure	
Types of claims	
Stock planning	
Sales	
Quality	
Planning working time	
Productivity	

Key Processes (outcomes 2)

Factor	Your score
Non-standard forms of employment	
Outsourcing	
Personnel processes	
Internal logistics	
Reverse logistics	
Distribution logistics	
Process management	
Recovery of machinery (investments to machinery, technology)	
Maintenance	
Business agenda	