

If Development, Then Sustainability

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Abstract. The aim of this study is to explore how the effects of components belonging to the concept of strategic management system influence outstanding achievement and success in the processing industry in Hungary as well as the sustainability success component within that. In order to do that, the study defines the factors having an influence. Thereafter, it explains the successful operation of companies with the help of factors emerging via path analysis using regression models. It uses the balanced scorecard as a tool for success criteria describing success. This is a non-market aspect that has an impact on the whole system, making it of crucial importance. Via the exploration of effects, it can be shown the deliberate use of those factors that generate outstanding results and success from the point of view of sustainability, and thus internal development, customer appreciation, and financial success. By taking the results of the research into consideration, it will also be revealed that success factors in the processing industry in Hungary have the most direct and the largest impact on outstanding sustainability performance.

Keywords: balanced scorecard, strategy, success, sustainability

JEL-codes: M10, M12, M14

1. Introduction

Numerous research projects have already aimed at finding out what makes a company successful. Is it enough, however, to consider only financial, customer, and internal aspects when determining success? The answer is clearly no. Currently, in the 21st century, sustainability is playing a prominent role. Companies prepare sustainability reports annually and the inclusion of social and environmental aspects in the creation of their strategy is a main priority. Now it is impossible to evade the issue of sustainability as a success factor – to find out the environmental, health, security, employment, and community performance of companies. Therefore, it is at least as important as the earlier

identified aspects. It has become an important part of strategy; hence, it may be looked upon as one of the factors of success. This means that the promotion of sustainability does not decrease the chances of success, but, on the contrary, it may help achieving it. If properly handled, it may also function as the source of new possibilities, innovation, and competitive advantage. It is important because companies have to focus not only on a single objective, that is, the interests of the owner, but they must also provide value to everyone involved (Porter & Kramer, 2007). That is why sustainability has been playing a more and more significant role, which was recognized by organizations as well.

Therefore, sustainability has become just as equally important nowadays as financial, customer, internal processes, learning and growth perspectives. Companies prepare sustainability reports annually and the inclusion of social and environmental aspects in the creation of their strategy is a main priority. Hence, it is necessary to handle sustainability as a highly crucial issue. The study tackles the issue of sustainability with a high priority in this system as a success component, using it in an empirical research – as one of the pioneers –, as the fifth perspective among the other four classic ones. It makes an attempt to explore how a company may become more successful from the sustainability perspective, how its corresponding performance may improve. The aim is to work out a model showing how tools generating success correlate with sustainability performance.

The analysis of how to achieve success already began in the mid-20th century, and research is being conducted currently as well so as to identify the tools which may put a company ahead of its competitors. T. J. Peters and R. H. Waterman took the first remarkable step when their book was published on the subject in 1982 (Peters & Waterman, 1982). It was followed by research projects such as Kotter and Heskett (1992) analysing the impact of organizational culture on success. Collins and Porras (2000) were seeking the answer to the question as to what permanently successful companies do in order to last. Several researchers inspected time-pacing as a central factor, among which the analysis of Eisenhardt and Brown (1998) related to transitions and time-pacing proved to be the most important one. Foster and Kaplan (2001) focused on the significance of transformation, whereas Collins (2001) examined what makes a good company an excellent one. It is indispensable to mention *The Evergreen Project* carried out by Joyce et al. during the early 2000s in order to explore what organizations assessed by them as successful exactly do (Joyce et al., 2003). Spitzer (2007) put the emphasis on the measurement system. Beer (2009) correlates excellent performance with outstanding commitment. The study of Breene and Nunes (2011) calls attention to market relevance, differentiating capabilities, and talent care. According to Rumelt (2011), the effective strategy is often unexpected, but the chances of success remarkably increase if general mistakes are filtered out and if characteristic activities of successful companies are followed.

After the introduction, the study first presents the model employed, and then describes the research process and the characteristics of companies included in it. Following that, it carries out the categorization of success factors via factor analysis. When reaching the results of the research, one may clearly see the inspection of success factors on sustainability via linear regression, path analysis, and logistic regression. It is also shown how sustainability results influence the performance of a company as compared to the others involved. Finally, the study summarizes the emerging results in the conclusion.

2. Material and Methods

The research analyses those companies operating in the processing industry that have more than 50 employees. The reasons for that are that these organizations set the pace for the market, they are the largest employers, thus the scanning of these companies may offer useful results for the largest number of people. The ambition for sustainability is very remarkable in the case of these types of organizations. Preparation of sustainability reports is a must with them, so impacts related to that presumably reveal themselves to the highest extent in their cases.

Success factors will be the independent variables of the research, whereas the success of sustainability perspective will be the dependent variable. The model will be built up this way (*Figure 1*). The results of research projects on success concluded in the past years will formulate the basis for identifying success factor variables, whereas in the case of success the starting point will be the sustainability balanced scorecard, and the study will focus on the sustainability aspect. Based on the research of specialized literature, the key issue is what kind of correlations can be revealed between particular success factors and the performance related to the sustainability perspective. The hypothesis will be formulated stemming from this question, assuming that strategic success factors have the highest impact because with companies it is primarily strategic plans and solutions which target the improvement of sustainability performance.

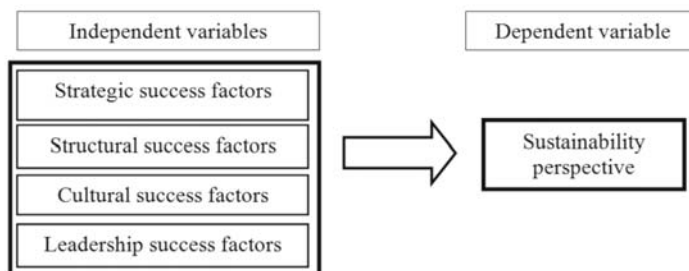


Figure 1. *The model of the research*

Collection of data necessary for the analysis has been conducted via a query of questionnaires. The data collection took place between July and November 2014. The questionnaire of the research consisted of three main parts. The first one contained questions – 47 altogether – related to success factors, the measurement of which was carried out on a Likert scale. The query of the performance data forming the basis of the measurement of success took place in accordance with five aspects and with 4-5 questions related to each aspect. The questionnaire inquired value quotients in order to ensure equality for the companies and so as to strive for maximum objectivity.

After the tests have been concluded, the leaders of companies put in the focus of research filled in the final questionnaire. Upon handing in the forms, a sample of 230 pieces was disposable for statistical analyses. This number of samples fully satisfies the requirements of the applied statistical methods.

Companies having more than 50 employees and operating in Hungary have been brought into the focus of the research. 90 per cent of them were under private ownership, half of which had Hungarian owners and half of which were owned by foreigners. 79 per cent of the management was Hungarian and only 17% was of a mixed composition (Hungarian and foreign). The annual net turnover has exceeded 10 million EUR in case of 68 per cent of the companies, which was true for 59 per cent of them as far as their balance sheet total was concerned.

Success factors have been recorded – as already mentioned above – based on earlier research projects on success. Only those identified tools remained in the research which were measurable and scannable. Identification and grouping of remaining tools was conducted by factor analysis. The analysis of impacts has been carried out via linear regression models and logistic regression.

3. Success Factors

The research focuses on four areas concerning success factors: strategy – which is the tool of companies for their future – challenges, attitude to the environment, and solutions originating from cultural peculiarities influencing the activities and mindset of a given community. It also concentrates on the developed structure, which determines the formal and informal exchange of information and the actions, and, finally, on leadership solutions, with the help of which those entitled to lead co-ordinate their co-workers and try to bring out their best. Following the study of specialized literature, factor analysis resulted in five success factors as follows:

External Strategic Success Factors

– Fine-tuning: slight modification of ongoing strategy due to changes in the environment as a result of new technology, social trends, state regulations, or pioneer products of competitors (Joyce, Nohria, and Robertson, 2003).

– Time-pacing: The company has performance indicators related to time, clear-cut, choreographed procedures for changes, and the company's pacing for changes follows a well-definable rhythm (Grove, 1997; Eisenhardt & Brown, 1999).

Internal Strategic Success Factors

– Long-term plans: The company has set up objectives for a longer period of time – at least for a decade – and their realization is set out step by step (Collins and Porras, 2000).

– Internal communication of strategy: Clear and unambiguous communication of strategy for everyone involved (Kotter 1999; Joyce, Nohria, and Robertson, 2003; Ligeti, 2007).

Structural Success Factors

– Relationship with customers: Endeavour to build up a relationship with the customers, which goes deeper than transactions. Setting up an internal system following a service provider – customer attitude, in which the next process is the buyer of the previous one. As if everyone were in direct contact with the end user (Peters & Waterman, 1982).

– Proposal handling: The company has an organizational unit, a pre-created solution for considering and implementing ideas, modifications intended for betterment, proposals and developments improving the efficiency, and profits submitted by co-workers (Kotter & Heskett, 1992; Kotter, 1999; Katzenbach, 2000).

Cultural Success Factors

– Teamwork: Cohesion, teamwork based on mutual help. People are happy to go to work because they appreciate and respect one another (Kotter, 1999).

– Multi-skill labour force: The company makes an effort to employ co-workers deployable in several areas.

– Intuitivity: Leadership is conducted not only with systematic methods and well-established practices but also intuitively based on inner instinct (Joyce, Nohria, and Robertson 2003).

Leadership Success Factors

– Talent care: Senior management takes part in selecting and breeding talent (Christiansen & Overdorf, 2000; Joyce, Nohria, and Robertson 2003; Breene & Nunes 2011).

– Delegation: Involving employees in decision-making and preparation as well as the development of operational mechanisms (Dinya, 1999).

Following the identification and exploration of factors to be analysed, the impacts on performance have been determined via path analysis and logistic regression. As an element of the sustainability balanced scorecard, the sustainability perspective has been scanned by several indicators:

– the rate of charity donations, financial support, or payment in kind compared to net turnover;

– graduate starting salary compared to minimum wage;

- fines related to environmental or legal non-compliance compared to net turnover;
- environmental investments compared to total net turnover;
- total waste recycled earlier emitted by the company;
- the percentage of renewable energy source (solar, wind, biomass, hydro and geothermal) compared to the total energy used by the company;
- ratio of women in the management.

4. Results and Discussion

4.1. Path Analysis

For the analysis of impacts related to the sustainability perspective, the first statistical method used was path analysis. The sustainability balanced scorecard perspectives are interrelated and they are not independent from each other (Kaplan & Norton, 2000, 2002). The non-market factors, such as sustainability, have an effect on all the other perspectives (Figge, Hahn, Shaltegger, and Wagner, 2002), whereas during their analysis only independent factors, i.e. independent variables, have an impact on them. According to the significance test related to the validity of regression models, each model is significant. The examination of conditions concerning variables and error terms has been conducted, and it showed conformity in each and every case. The heteroscedasticity of error terms was tested with the White-test. First, relationships have been determined based on the correlations among factors, with the help of which linear regression models used for the path analysis could be outlined, thus defining the internal effects. With the results, identified paths having an impact on success related to the sustainability perspective can be laid down (*Figure 2*). No effects of soft factors, such as culture and leadership, have been revealed. Only strategic and structural success factors improve the success of the analysed aspect related to companies included in the research.

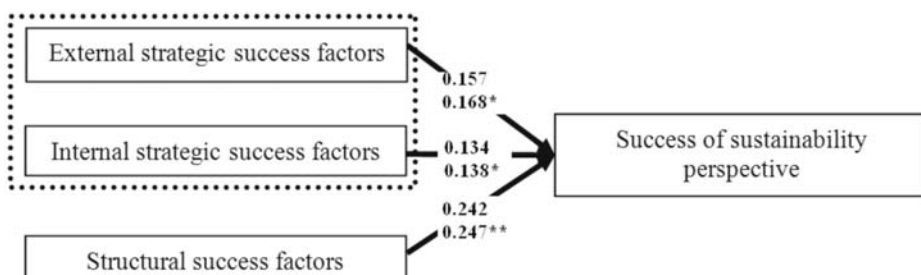


Figure 2. *Path analysis*

The numbers in the higher position on the arrows in the figure show the β value indicating the slope of the regression line, whereas the numbers below them are the values of the Pearson product–moment correlation coefficient related to the strength of correlation. In the case of correlation, the double asterisk following the numbers indicates 1 per cent significance level, while the single asterisk denotes a 5 per cent significance level.

The figure shows that external strategic success factors have a direct impact on sustainability performance in a positive way. Accordingly, the fine-tuning and pre-planned time-pacing of strategy leads to higher sustainability results. Internal strategic success factors have a slightly lower effect, thus long-term plans and clear communication to everyone involved have a positive impact. However, the highest influence occurs with structural success factors. This means that organizational solutions, which help to achieve better service and promote proposals intended for improvement, increase sustainability performance to the highest extent.

Following the analysis of the impact of success factors on sustainability, the study deals with the issue – via path analysis – of how sustainability results affect the other perspectives based on the balanced scorecard (*Figure 3*). Thus, correlations between the elements of the balanced scorecard become visible, and it is revealed that generally assumed correlations between the four “classical” elements really exist. The sustainability perspective has, however, a direct effect only on customer perspective and, via that, an indirect impact on financial perspective (tables 1-2). This shows that sustainability in Hungary is rather a marketing aspect for the time being and they do not have a demonstrable impact on operation, learning, and growth. Sustainability has a value-generating effect for customers; it increases their satisfaction, and thus they prefer to choose services and products of the company, which has a positive impact on the financial aspect as well.

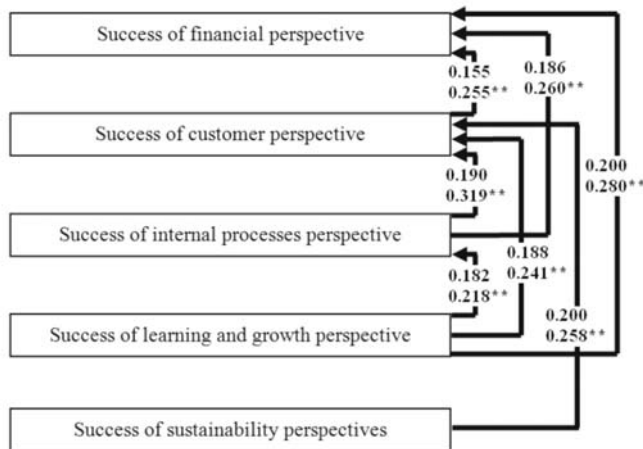


Figure 3. Sustainability balanced scorecard path analysis

Table 1. *The effect of sustainability balanced scorecard on the financial and customer perspectives*

Independent variables	Success of financial perspective			Success of customer perspective		
	Direct	Indirect	Total	Direct	Indirect	Total
Success of financial perspective	-	-	-	-	-	-
Success of customer perspective	0.155	-	0.155	-	-	-
Success of internal processes perspective	0.186	0.029	0.215	0.190	-	0.190
Success of learning and growth perspective	0.200	0.068	0.268	0.188	0.035	0.223
Success of sustainability perspectives	-	0.031	0.031	0.200	-	0.200

Table 2. *The effect of sustainability balanced scorecard on the internal process, learning and growth perspectives*

Independent variables	Success of internal processes perspective			Success of learning and growth perspective		
	Direct	Indirect	Total	Direct	Indirect	Total
Success of financial perspective	-	-	-	-	-	-
Success of customer perspective	-	-	-	-	-	-
Success of internal processes perspective	-	-	-	-	-	-
Success of learning and growth perspective	0.182	-	0.182	-	-	-
Success of sustainability perspectives	-	-	-	-	-	-

4.2. Logistic Regression

The analysis of sustainability was carried out from another aspect as well through a logistic regression. Here, outstanding, successful sustainability performance has been the dependent variable. It is this variable on which the effect of factors and their degree of influence must be determined. The study thus examines whether the success of sustainability depends on the identified success factors as well as which instruments with what probability improve it. It analyses the impacts of success factors identified via factor analysis in the case of this method too. First, it inspects the improvement of odds ratios generated by these success factors. Afterwards, it analyses the partial effects of factors, i.e. how many times the influence increases the chances that the sustainability performance of a given company goes above the average, that it becomes outstanding. In order to do that, it was necessary to decide what kind of result may be called successful or outstanding. So as to make this decision, data related to companies operating in the processing industry provided a benchmark. Based on the analysis and the assessment of results related to companies included, the research determined that a company may be called successful and has an outstanding performance

if its performance related to the analysed aspect and success criterion exceeds the average results of the companies present on the market concerning the same aspect by 10 per cent. This applies to sustainability indicators too. Personal consultations with members of senior management have confirmed this categorization as well. Accordingly, two groups have been defined based on the standardized performance indicator described by sustainability performance indicators. These two groups are: companies with outstanding performance and those with average or poor performance.

During the analysis of the individual impacts of factors, the Wald statistics shows significance (*Table 3*). It is also shown that the impact of external and internal strategic and structural success factors is significant in this case (*Table 4*).

Table 3. *Model significance*

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-0.726	0.141	26.636	1	0.000	0.484

Table 4. *Variables in the equation (Step 0)*

Step 0	Score	df	Sig.
External Strategic Success Factors	11.427	1	0.001
Internal Strategic Success Factors	11.299	1	0.001
Structural Success Factors	6.011	1	0.014
Cultural Success Factors	1.222	1	0.269
Leadership Success Factors	1.302	1	0.254
Constant	29.309	5	0.000

It can be stated in the first phase that if we know nothing about the sample it can be determined randomly with a 67.4 per cent certainty, whether a company is successful from the sustainability aspect or not. Knowing the variables involved in the research, in the second phase, this certainty, however, increases to 74.8 per cent. In this phase already, partial impacts emerge. The model developed via the inclusion of these factors is significant (*Table 5*). The value of the Nagelkerke R square shows that the combination of the five independent variables explains 18 per cent of the variance of the dependent variable (*Table 6*). The 7.4 per cent increase of probability shows that the analysed success factors have an impact on the success of the sustainability perspective and in the case of their deliberate use chances of success increase by 7.4 per cent (*Table 7*). Since the real business environment is complex and success is thereby the resultant of many internal and external impacts, this change is remarkable. This may be stated also because the analysed success factors are related to subtle details, and thus the objective, real-life situation cannot be completely covered with them.

Table 5. *Omnibus tests of model coefficients*

	Chi-square	df	Sig.
<i>Step</i>	31.793	5	0.000
<i>Block</i>	31.793	5	0.000
<i>Model</i>	31.793	5	0.000

Table 6. *Model summary*

Model Summary	-2 Log likelihood	Cox and Snell R Square	Nagelkerke R Square
<i>Step 1</i>	258.638	0.129	0.180

Table 7. *Classification table difference*

Overall Percentage Correct		
Block 0: Beginning Block	Block 1: Method = Enter	Difference
67.4%	74.8%	7.4%

The study in the second phase reveals which success factors and to what extent they influence the success of sustainability, and what provides a 7.4 per cent increase. They are the external strategic and structural success factors whose impacts are significant in the case of partial analysis too. These factors have an impact on the success of sustainability. The odds ratios (Exp (B)) denote what the chances of success are if the effect of the other variables is kept under control. Results provided that way (*Table 8*) prove that those companies included in the research which fine-tune their strategy due to changes in social trends timepace their activity and move with the market – these will belong to successful organizations from the point of view of sustainability perspective by a 77.1 per cent larger chance. A customer-oriented organizational structure encouraging proposals for improvement increases this chance by 81.7 per cent. Those companies which prepare long-term plans and communicate strategic intentions internally to everyone involved belong to successful companies from the aspect of sustainability perspective with a 48.6 per cent higher chance.

Table 8. *Variables in the equation (Step 1)*

Step 1	B	S.E.	Wald	df	Sig.	Exp (B)
External Strategic Success Factors	0.572	0.178	10.256	1	0.001	1.771
Internal Strategic Success Factors	0.597	0.182	10.778	1	0.001	1.817
Structural Success Factors	0.396	0.167	5.654	1	0.017	1.486
Cultural Success Factors	0.222	0.167	1.760	1	0.185	1.248
Leadership Success Factors	0.132	0.176	0.562	1	0.453	1.141
Constant	-0.856	0.158	29.203	1	0.000	0.425

5. Conclusion

The results confirm the opinion of former Intel CEO, András Gróf (Andrew Grove), namely that focusing on changes is of primary importance. According to him, inflection points determine success because it depends on them how a company is able to manage transitions. Grove believes that the pacing of these points and transitions is the key to a company's success and sustainability (Grove, 1997). This idea is supported by Eisenhardt and Brown too, who found out during their research that companies having a simple, clear, and choreographed procedure for transitions and harmonizing their own pace with the rhythm of the market will be successful (Eisenhardt & Brown, 1999). Correlations revealed by this study initiate concordance with the statement of the *Evergreen Project*, according to which constant monitoring of the market is essential as well as the fine-tuning of strategy in the case of changes. The results of Collins and Porras have been also verified: they declare that in order to achieve success a long-term goal must be set up, the method of implementation of which needs to be pre-created. One needs to know the answer to the question what the company wishes to achieve, where it imagines its position within 20–30 years, and how it wishes to get there (Collins & Porras, 2000). And this needs to be made clear internally to each and every co-worker (Kotter, 1999). The results, however, do not share the views related to the study of Kotter and Heskett, which states that cultural tools have a significant impact on performance (Kotter & Heskett, 1992). Nevertheless, it is important to mention the remarkable effect of structural instruments. The strong success-generating impact of organizational structures promoting proposals intended for improvement shows that the consideration of the sustainability perspective is of primary importance with developments. This may be explained by new generations entering the labour market. As Braun concludes, the principal factor of the next generation following the Y generation will be sustainability. This way of thinking permeates every single action carried out by them, and if companies support such ambitions the sustainability performance will improve notably (Braun, 2013).

By assessing the results, it may be stated that companies having more than 50 employees and operating in the processing industry in Hungary prefer using strategic and structural elements in order to achieve a successful sustainability. Accordingly, if a company immediately takes new social trends into account, prepares itself for transitions, moves with the market, makes its plans for a longer term, and clearly communicates the strategy, then the sustainable development of that company will improve. This will also improve the results of the customer perspective as well as the financial indicators in the long run.

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