POSSIBILITIES OF APPLYING THE CONFIGURATIONAL APPROACH TO BUSINESS MODEL RESEARCH

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Abstract: The issue of business models is a current and more and more deeply analysed field of scientific research. However, despite the requirements of a solid and comprehensive research approach, capable of capturing the multidimensionality of business models, there is a continuous dissatisfaction with the conducted empirical research in this area. The aim of the article is to present the possibility of using the configurational approach and fuzzy set qualitative comparative analysis (fs/QCA) to business models research, which enables to conduct comprehensive, integrated analyses. The research was conducted on the basis of a group of 53 enterprises classified in the high-tech sector. The research provided an insight into the key and auxiliary elements of the selected business models, and the methods of their mutual interaction in the context of the configuration of these elements were monitored, at the same time providing insight into the equifinality of the configuration. The results may form the basis for a deeper discussion on the definition of business models and their core components.

Keywords: business models, configurational approach, equifinality, efficiency, fs/QCA.

1. Introduction

Over the past decade, there has been a growing amount of research on the concept and definition of business models (e.g. Teece, 2018; Dentchev, 2018; Wirtz, et al. 2016; Schaltegger, et al. 2015; Johnson, et al., 2008; Shafer, et al, 2005), their impact on the efficiency of organisation (e.g. Casadesus-Masanell, and Ricart, 2010; Markides, and Charitous, 2004), relations with strategy, issues of configuration of business models or innovative business models (e.g. Olofsson, et al., 2018; Foss, and Saebi, 2018; Amit, and Zott, 2010). However, despite the growing popularity of this subject matter, the view that the concept of business models is multidimensional is becoming increasingly clear, and in order to develop its acceptable definition and operationalisation, further in-depth empirical research as well as theoretical studies are necessary (Foss, and Saebi, 2016; Birkinshaw, and Ansari, 2015; Zott, et al., 2011). Particularly insufficient and not fully mature seem to be the contributions undertaking attempts to analyse the relations between business models and the efficiency of the organisation, focused more on specific features of business models, such as efficiency or novelty (Zott, and Amit 2007; 2008), or specific choices, such as the sale of property rights (Malone, et al., 2006), than on the relationship between multidimensional constructs, such as business models, and the efficiency of the organisation. More specifically, the current research does not sufficiently explain the relationship between the whole set of elements creating business models which together have an impact on the broadly understood efficiency or performance of the organisation. The research of individual elements of business models and their impact on efficiency significantly limits the possibilities of inference. Therefore, the article proposes to use the configurational approach to business model research, which, in the author's opinion, will be better suited to the current stage of development of theory on this subject and will develop the conducted empirical tests.

The business model, according to configuration theory, can therefore be considered as "a multidimensional constellation of conceptually distinct characteristics that usually occur together because their mutual dependence makes them form specific patterns" (Meyer, et al., 1993, p. 1175). A configurational approach makes it possible to highlight the complexity of business models, according to which the impact on the efficiency of an organisation does not depend on a single attribute, but on complex causal relationships such as complementarity, additionality, substitutability or a suppression effect between multiple elements. The aim of the article is to examine whether the configurational approach can be applied to the business models research. This assumption was verified based on a group of fifty-three enterprises, using one of the newer research methods in the scope of configuration theory by C. Ragin (2000; 2008): fuzzy set qualitative comparative analysis (fs/QCA). In the first part of the article the most important assumptions of the adaptation of the configurational approach to the business model research have been presented. The second part presents the adopted conceptualisation of business models, used analysis tools, operationalisation of variables. The research sample has been described. The results of the research have been presented and discussed.

2. The use of the configurational approach in testing the theory of business models

Studies on literature reviews in the area of business models point to the fact that business models are often analysed and examined without clear definitions, and that existing definitions are interpreted and perceived differently by researchers (Birkinshaw, and Ansari, 2015; Zott, et al., 2011). From P. Timmers' ground-breaking work (1998) to the latest publications, numerous proposals for analyses of various aspects of the concept of business models can be observed, starting with attempts to define and perceive them, projects, links with strategy, role in planning and communication, or innovation. However, there are at least four critical aspects that can be identified in considering the concept of business models. First of all, business models are composed of many choices, each of which is related to the method in which the organisation creates and takes over values within the network of its creation. Value creation requires defining a whole set of activities, while taking over value forces the creation of unique resources, assets or positions within a set of activities in which the organisation achieves a competitive advantage (Chesbrough, 2007). Secondly, the choices that make up the business models are interdependent and interlinked, and a change in one element can have an impact on the other ones. Thirdly, the success of a particular business model is closely linked to the degree of mutual coherence of its particular elements. In other words, the elements of the business model must mutually reinforce each other and be consistent with the characteristics of the competitive environment. And fourthly, the business model is characteristic of any organisation, even if certain regularities or determinants may exist and be specific to a given industry.

The above considerations, while emphasising that business models are complex and valuable units of analysis, also show that the researcher's attention should be focused on a certain configuration of elements and determinants creating business models rather than on individual and independent characteristics. This argument, in turn, makes it possible to move the discussion towards a configurational approach that plays a key role both in strategic management and in the domain of organisational theory.

The configurational approach suggests that "it is best to know organisations by treating them more as bundles of interrelated structures and practices than as loosely integrated wholes whose components can be considered separately" (Ketchen, et al., 1993, p. 1278; Fiss, 2007, p. 1180; Bratnicki, 2009, p. 7). This approach assumes that complex causality and non-linearity should be introduced instead of single cause-effect relationships and linear relationships, where causally linked variables in one configuration may be unrelated in another. Moreover, it is suitable for building a theory because it focuses attention on an equifinal concept which refers to a situation where "a system can achieve the same end state under different initial conditions and through a number of different paths" (Katz, and Kahn, 1978, p. 30). Thus, there is no single, optimal configuration and two or more configurations can be equally effective, even in the same circumstances. Attribute patterns, on the other hand, show different properties and lead to different results depending on the method of their arrangement. According to the configurational approach, business models can therefore be understood as sets of properties comprising multiple variables that reflect the estimable dimensions. The assumptions underlying the configurational approach seem to be consistent with the current stage of development of theory concerning business models.

3. Conceptual assumptions, sample selection and research tools

For the analyses conducted in this article, two alternative configurations of business models adopted from the works of L. Schweizer (2005) have been selected. The first business model, Integrator, covers and controls all elements of the value creation process, including resources and capabilities, when launching a product on the market. According to the second business model, called Layer-Player, enterprises are specialised in one (or several) specific stages of the value chain.

The conceptualisation of the business models was carried out on the basis of a scheme developed by M. Johnson, C. Christensen and H. Kagermann (2008), in which three categories were used: customer value proposition, key activities and key processes. The analysis considered three key activities that an enterprise needs to take in order to make its model function effectively: production, R&D and distribution. Due to the empirical analysis carried out on the example of high-tech enterprises, three activities are present in the Integrator model, whereas in the Layer-Player model, only production activities are considered in the research. With regard to the key resources needed for the proper functioning of the model, technological, financial and human resources are considered, while the customer value proposition considers two strategies: differentiation and cost leadership.

Due to the area of scientific interest, the research was limited to the group of enterprises belonging to the high-tech sector, where the selection criterion was Eurostat classification. Empirical research was conducted on the basis of data obtained from fifty-three enterprises. Constructed questionnaire covering both dependent variables – efficiency of the organisation (for the measurement of which subjective indicators borrowed from the efficiency measurement tool by Antoncic and R.D. Hisrich and G.N. Chandler and S.H. Hanks were used), as well as independent variables, was addressed to persons managing enterprises. The independent variables considered enterprise strategy, which was measured using two strategies of M.E. Porter: differentiation and cost leadership, measured using the scheme presented in P.C. Fissa's (2011) work. The next independent variables included in the research were key resources, where on the basis of previous research conducted in a configurational approach, three categories of resources were taken into account for analysis: human resources, technological resources and financial resources (measured on the basis of the research tool developed by A. Heirman and B. Clarysse) and the key processes in the framework of which the degree of vertical integration of enterprises on three levels is considered: R&D integration, production integration and distribution integration (measured using the indicators proposed by D. Campagnolo).

From the fifty-three enterprises included in the sample, 60% were production and service enterprises, 40% were service enterprises. Moreover, in the group of surveyed enterprises there were new enterprises whose average age was about 5, 6 years. The research sample included the following high-tech industries (according to Eurostat classification): Computer programming activities (62.01.Z), Manufacture of instruments and appliances for measuring, testing and navigation (26.51.Z), Manufacture of basic pharmaceutical substances (21.10.Z), Manufacture of medicines and other pharmaceutical products (21.20.Z), Manufacture of other chemical products not elsewhere classified (20.59.Z), Research and experimental development on biotechnology (72.11.Z), Other research and experimental development on natural sciences and engineering (72.19.Z).

In order to achieve the goal of testing the possibility of using a configurational approach to business models research and to explain the multidimensionality of this issue, the fuzzy set Qualitative Comparative Analysis (fs/QCA) was used. Fs/QCA differs from conventional, variable-oriented approaches (such as regression analysis, deviation assessment, cluster analysis) in that it does not separate cases into independent, analytically separate aspects and instead treats configurations as different types of cases. Attribute configuration is examined using Boole's algebra, a recording system that allows for algebraic processing of logical statements, which allows to assess how multiple causes unite to affect a specific result, e.g. the efficiency of an organisation. The combination of verbal statements with logical relationships also contributes to rigorously building an organisation's theory that takes into account complex cause-and-effect relationships, generates new insights into management problems, and allows the researcher to reject elements that are not causally linked to the result. Furthermore, fs/QCA not only allows for the inclusion of configurational patterns, equifinality, and multiple determinants, but also has the additional benefits in the form of the possibility to analyse a sample of small or medium size (Ragin, Fiss, 2008).

It should be emphasised that unlike, for example, regression analysis, the use of fs/QCA is not based on the assumption that the data comes from a specific probability distribution and that the variables are measured by means of set calibration. Calibration reduces dependence on a research sample, as membership of the set is defined on the basis of substantive knowledge and not on the importance of the sample, which affects the decrease in significance of the factor related to the representativeness of the research sample, which does not pose a threat to the validity of the conducted research.

4. Results and discussion

The analysis was conducted using QCA software package supporting fuzzy variables – fsQCA version 2.5. by C. Ragin, and S. Davey (2009). Within the first stage of the analysis, using the direct approach described by C. Ragin (2008, p. 89), the variables were transformed into sets and then calibrated in relation to three substantive thresholds: full membership in a set equal to "1", no membership equal to "0" and transition point equal to "0.5", i.e. a point of maximum ambiguity (blur) in the assessment of whether the variables are "in" a set or “outside" a set. After the transformation and calibration of the analysed variables into fuzzy sets, membership in the defined sets was compared in order to empirically identify causal processes necessary and sufficient, creating configurations of business models which lead to the desired results. On this basis, it was determined whether one of them is a subset of the other. Depending on the pattern or the scheme of belonging to a particular subset, evidence of causal relationships necessary and sufficient for the occurrence of the desired result was provided. Using the membership measures in the defined sets, a data matrix called the truth table was constructed, having 2k of lines, where "k" is the number of the analysed independent variables (in the case of this analysis for 8 variables, the number of logically possible configurations is 28 = 256). It is important that each line of the truth table refers to a specific configuration of attributes, and the full truth table presents all possible configurations. Moreover, empirical cases have been appropriately divided into additional lines of the truth table, based on attribute values. Some lines contained several cases, others contained one or no cases, if there was no empirical occurrence of the specified attribute configuration consistent with the record in the given line. In the next stage, the number of lines was reduced according to the adopted minimum consistency level, using an algorithm based on Boole's algebra (Ragin, 2008). By carrying out the procedure of minimising, i.e. simplifying the combination of variables in a shorter, more cost-saving form, the solution was obtained, leading to the desired result. In the article, referring to the recommendation of the author of the C. Ragin's method (2008, p. 160-175), one of the three available solutions – an intermediate solution, as "...an optimal solution between a comprehensive and a cost-saving solution..." – was used for the development and interpretation of the results. Moreover, the interpretation of the results was also based on a solution that was cost-saving due to the possibility of presenting key configuration variables as those for which the evidence indicates a strong causal link with the desired results (Fiss, 2011).

Using the presentation system described by C. Ragin, P.C. Fiss (2008), in the tables there are summarised results of the qualitative comparative analysis for the configuration of the Intergrator (table 1) and Layer-Player (table 2) business models.

Full circles („●”) in the tables indicate the presence of the analysed variable, while the crossed-out circles („⊖”) present the absence of the variable. In addition, large circles indicate key variables from a cost-saving solution, and small circles refer to peripheral variables occurring only in the intermediate solution. Empty spaces in subsequent configurations indicate a situation in which variables may be present or absent, and therefore are not, as P.C. Fiss (2011) indicates, required for a given solution, i.e. they do not help to explain the result for a particular configuration of variables.

Table 1.
The Integrator business model – configurations leading to high efficiency

Variables	Configurations	
	I-1	I-2
Key processes		
Integration in the R&D sphere	●	●
Integration in the production area	●	●
Integration in the distribution sphere	•	⊖
Key resources		
Human resources		●
Technological resources	●	•
Financial resources	●	•
Value proposition for the customer		
Differentiation strategy	•	•
Cost leadership strategy	•	•
Consistency	0,81	0,89
Raw Coverage	0,10	0,10
Unique Coverage	0,05	0,04

Source: own elaboration.

Table 2.
The Layer-Player business model– configurations leading to high efficiency

Variables	Configurations		
	LP-1a	LP-1b	LP-2
Key processes			
Integration in the R&D sphere	⊖	⊖	•
Integration in the production area	●	●	●
Integration in the distribution sphere	●	●	●
Key resources			
Human resources	•	•	●
Technological resources	•	•	•
Financial resources	•		
Value proposition for the customer			
Differentiation strategy	⊝	•	•
Cost leadership strategy	⊖	⊖	
Consistency	0,82	0,83	0,89
Raw Coverage	0,08	0,10	0,10
Unique Coverage	0,03	0,03	0,06

Source: own elaboration.

Tables 1 and 2 show only those configurations that have consistently led to the result (high efficiency of the surveyed enterprises) and therefore present a consistent pattern, thus reaching the defined consistency threshold (the consistency indicator - one of the statistics used in fs/QCA measuring the degree of proximity of the subset relationship reflected in all alternative configurations leading to the surveyed result), at a level higher than 0.8, as suggested by C.C. Ragin (2008) or P.C. Fiss (2011). Each column in Tables 1 and 2 shows alternative configurations of the analysed variables leading to the desired result. Moreover, the tables also present the coverage factor relating to the size of overlap between the sets depicting the configurations of variables included in the analysis in relation to the examined result, thus this factor is conceptually similar to the R^2 factor in the regression analysis. Moreover, the coverage measure can be divided into the so-called raw coverage, i.e. the percentage of result covered by a particular solution (configuration of the analysed variables) and the unique coverage, i.e. the percentage of result covered only by a particular solution.

Table 1 presents two equifinal configurations of the Integrator business model (I-1 and I-2). Analysing the key variables (large circles), in both configurations, the R&D integration and production integration were distinguished as the variables distinguished in the key processes of business models. In the configuration (I-2), the combination of these variables is connected with the lack of integration in the distribution sphere, while in the configuration (I-1), integration in the distribution sphere is present, although as an auxiliary condition (small circle). Taking into account the next variables in the configuration (I-1), technological and financial resources are key ones, whereas in the configuration (I-2) they are auxiliary conditions. In addition, both configurations include differentiation and cost leadership strategies, which seem to be independent of the presence of strong integration in the distribution or configuration of key resources. Thus, in an integrated business model, the combination of cost leadership and differentiation strategies does not represent a compromise, but rather seems to create value.

Comparison of the two configurations gives important clues concerning the substitution effect that can occur in business model configurations. Moving from configuration (I-1) to (I-2), integration in the distribution sphere becomes an absent condition in key processes, while human resources move from insignificant (empty space in I-1 configuration) to active presence (large circle in I-2 configuration). The lack of control over distribution therefore seems to be replaced by a high level of human resources as a support in contacts with external entities in the value chain. Finally, considering the combination of attributes inside each configuration allows to detect the effects of interactions between the components of the business model. For example, in a (I-1) configuration, a combination of a fully integrated system of R&D, production and distribution activities (Amit, and Zott, 2010) combines with technological and financial resources. These conditions are crucial for the achievement of the analysed result, high efficiency. Alternatively, in the configuration (I-2,) the integration in the field of production and human resources ensures high efficiency for the integration in the field of research and development. This configuration can be described as a partially integrated business model.

Table 2 shows three Layer-Player business model configurations (LP-1a, LP-1b and LP-2), with an acceptable consistency level, showing both the first-order (LP-2 configuration) and second-order (LP-1a and LP-1b configurations) equifinality. According to the assumptions of P.C. Fiss, equifinality is not only perceived at the level of the key variables of the configuration. Taking into account the configurations (LP-1a) and (LP-1b), it can be observed that there are different configurations of auxiliary variables that surround the same key variables. This situation allows different neutral combinations to be taken into account within the key causal paths. Importantly, regardless of the different configuration of the auxiliary variables, they all lead to the same result, high operational efficiency of the surveyed enterprises.

In terms of key variables, all configurations in the Layer-Player business model include both production and distribution integration. For configurations (LP-1a) and (LP-1b), the combination of these variables is associated with a lack of R&D integration and a lack of cost leadership strategy. In contrast, in the configuration (LP-2), the key variables, in addition to production and distribution integration, also include human resources. The combination of differentiation strategies (as a proxy variable) combined with investment in innovation through R&D and technological and human resources is consistent with the evolutionary path of subcontractors (Camuffo, et al., 2007). Such a combination of the attributes of a business model and subcontracting is presented in a configuration (LP-2) showing the highest level of consistency (consistency = 0.89) among the distinguished configurations. Comparing the configurations (LP-1a) and (LP-1b), it can be observed that the lack of a differentiation strategy is compensated for by the fact that the combination of human and technological resources is complemented by high access to financial resources (LP-1a configuration). All three configurations also indicate the importance of a combination of human and technological resources.

5. Conclusion

This article attempts to demonstrate that the configurational approach is well adapted to the current stage of theoretical and empirical development in terms of business models. In particular, this involves a more comprehensive approach that can capture the multi-dimensionality and complexity of the concept. Moreover, while many researchers point out that business models are important units of analysis, and combinations of elements of which they are composed are closely related to the efficiency of enterprises, not many studies attempt to provide empirical evidence. Distinguishing important elements forming business models, and then understanding how their mutual interactions taking place in specific configurations will contribute to the development of discussion on the definition of business models and their basic components.

In this article, the possibility of applying the configurational approach was tested with the use of fuzzy qualitative comparative analysis, the method that allows to analyse the causal relationships between the interaction of elements of business models and their efficiency, considering observations as combinations of different causal conditions. The configurational logic of fs/QCA explains comlpementarity effects in business model components and gives insight on equifinal configurations and substitution effect.

In the paper, the author distinguished between two main types of business model: the integrated business model and the layer player business model. The business model literature was used to identify the key resources and the customer value proportion that characterize the two types of business model (Johnson, et al., 2008). Then, the model on a sample of 53 high technology firms in order was tested to explain the elements of business model casually associated with high performing configuration. The tests carried out on ideal types of business models show that there are many equifinal configurations of business models leading to high efficiency of enterprises, and the use of fs/QCA allows to understand more precisely how different elements interact with each other to achieve similar results. Research also provides a deeper insight into the set of choices and consequences business models face for increasing reliability, imitation difficulties and competitiveness.

References

1. Amit, R., and Zott, C. (2010). Business Model Design: an Activity System Perspective. *Long Range Planning*, *43(2-3),* 216-226 (Special Issue on Business Models). doi: 10.1016/j.lrp.2009.07.004.
2. Antoncic, B., and Hisrich, R.D. (2003). Privatization, corporate entrepreneurship and performance: Testing a normative model. *Journal of Developmental Entrepreneurship*, *8(3),* 197-218.
3. Birkinshaw, J., Ansari, S. (2015). Understanding management models: going beyond "what" and "why" to "how" work gets done in organizations. In N.J. Foss, T. Saebi (Eds.), *Business Model Innovation: the Organizational Dimension* (pp. 85-103). Oxford: Oxford University Press.
4. Bratnicki, M. (2009). Prolegomena do przedsiębiorczego rozwoju organizacji. Próba teoretycznego ustawienia konfiguracji. In J. Pyka (Ed.), *Nowoczesność przemysłu i usług. Kreatywność i innowacyjność w unowocześnianiu przemysłu i usług* (pp. 17-25). Katowice: Wyd. TNOiK Oddział w Katowicach.

5. Camuffo, A., Furlan, A., and Grandinetti, R. (2007). How do Subcontractors evolve? *International Journal of Operations and Production Management*, *27(1),* 69-89. doi: 10.1108/01443570710714547.
6. Casadesus-Masanell, R., and Ricart, J.R. (2010). From strategy to business models and onto tactics. *Long Range Planning*, *43(2-3)*, 195-215 (Special Issue on Business Models). doi: 10.1016/j.lrp.2010.01.004.
7. Chandler, G.N., and Hanks, S.H. (1993). Measuring the performance of emerging businesses: a validation study. *Journal of Business Venturing*, *8(5)*, 391-409. doi: 10.1016/0883-9026(93)90021-V.
8. Chesbrough, H.W. (2007). Why companies should have open business models. *MIT Sloan Management Review*, *48(2)*, 22-28.
9. Dentchev, N., Rauter, R., Jóhannsdóttir, L., Snihur, Y., Rosano, M., Baumgartner, R., Nyberg, T., Xingfu, T., van Hoof, B., Jonker, J. (2018). Embracing the variety of sustainable business models: A prolific field of research and a future research agenda. *Journal of Cleaner Production, 194*, 695-703. doi: 10.1016/j.jclepro.2018.05.156.
10. Fiss, P.C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review, 32(4),* 1180-1198. doi: 10.5465/amr.2007.26586092.
11. Fiss, P.C. (2011). Building better causal theories: a fuzzy set approach to typologies in organization research. *Academy of Management Journal*, *54(2),* 393-420. doi: 10.5465/amj.2011.60263120.
12. Foss, N.J., Saebi, T. (2016). Fifteen years of research on business model innovation: how far have we come, and where should we go? *Journal of Management*, *43(1)*, 200-227. doi: 10.1177/0149206316675927.
13. Foss, N.J., Saebi, T. (2018). Business models and business model innovation: Between wicked and paradigmatic problems. *Long Range Planning*, *51(1),* 9-21. doi: 10.1016/j.lrp.2017.07.006.
14. Heirman, A., and Clarysse, B. (2004). How and why do research-based start-ups differ at founding? A resource-based configurational perspective. *Journal of Technology Transfer*, *29, 3-4*, 247-268. doi: 10.1023/B:JOTT.0000034122.88495.
15. Johnson, M.W., Christensen, C.M., and Kagermann, H. (2008). Reinventing your business model. *Harvard Business Review*, *87(12),* 52-60.
16. Katz, D., and Kahn, R.L. (1978). *The social psychology of organizations*. New York: Wiley.
17. Ketchen, D.J., Thomas, J.B. and Snow, C.C. (1993). Organizational configurations and performance: A comparison of theoretical approaches. *Academy of Management Journal*, *36(6),* 1278-1313. doi: 10.2307/256812.
18. Malone, T.W., Weill, P., Lai, R.K., D'Urso, V.T., Herman, G., Apel, T.G., and Woerner, S.L. (2006). Do some business models perform better than others? *SSRN Electronic Journal, MIT Sloan Working Paper 4615-06*. doi: 10.2139/ssrn.920667.

19. Markides, C., and Charitou, C.D. (2004). Competing with dual business models: A contingency approach. *The Academy of Management Executive*, *18(3)*, 22-36.
20. Meyer, A.D., Tsui, A.S., and Hinings, C.R. (1993). Configurational approaches to organizational analysis. *The Academy of Management Journal*, *36(6)*, 1175-1195. doi: 10.2307/256809.
21. Olofsson, S., Hoveskog, M., Halila, F. (2018). Journey and impact of business model innovation: the case of a social enterprise in the Scandinavian electricity retail market. *Journal of Cleaner Production*, *175*, 70-81. doi: 10.1016/j.jclepro.2017.11.081.
22. Ragin, C.C. (2000). *Fuzzy-set social science.* Chicago: University of Chicago Press.
23. Ragin, C.C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond.* Chicago: University of Chicago Press.
24. Ragin, C.C., and Davey, S. (2009). Fs/QCA, version 2.5 [computer program]. Tucson, AZ: Department of Sociology, University of Arizona.
25. Ragin, C.C., and Fiss, P. (2008). Net effects analysis versus configurational analysis: An empirical demonstration. In C.C. Ragin (Ed.), *Redesigning social inquiry: Fuzzy sets and beyond* (pp. 190-212). Chicago: University of Chicago Press.
26. Schaltegger, S., Hansen, E.G., Lüdeke-Freund, F. (2015). Business models for sustainability: origins, present research, and future avenues. *Organization & Environment*, *29(1),* 3-10. doi: 10.1177/1086026615599806.
27. Schweizer, L. (2005). Concept and evolution of Business Models. *Journal of General Management*, *31(2),* 37-56. doi: 10.1177/030630700503100203.
28. Shafer, S.M., Smith, J.H., and Linder, J.C. (2005). The power of business models. *Business Horizons*, *48(3)*, 199-207. doi: 10.1016/j.bushor.2004.10.014.
29. Teece, J.D. (2018). Business models and dynamic capabilities. *Long Range Planning*, *51(1)*, 40-49. doi: 10.1016/j.lrp.2017.06.007.
30. Timmers, P. (1998). Business models for electronic markets. *Electronic Markets*, *8(2)*, 3-8. doi: 10.1080/10196789800000016.
31. Wirtz, B.W., Pistoia, A., Ullrrich, S., Gottel, V. (2016). Business models: origin, development and future research perspectives. *Long Range Planning*, *49(1),* 36-54. doi: 10.1016/j.lrp.2015.04.001.
32. Zott, C., Amit, R., and Massa, L. (2011). The business model: recent developments and future research. *Journal of Management*, *37(4)*, 1019-1042. doi: 10.1177/0149206311406265.
33. Zott, C., and Amit, R. (2007). Business model design and the performance of entrepreneurial firms. *Organization Science*, *18(2)*, 181-199. doi: 10.1287/orsc.1060.0232.
34. Zott, C., and Amit, R. (2008). The fit between product market strategy and business model: implications for firm performance. *Strategic Management Journal*, *29(1)*, 1-26. doi: 10.1002/smj.642.