# SCIENTIFIC FOUNDATION OF STRATEGIES TOWARDS A MODEL FOR STRATEGIES

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# ABSTRACT

According to the fundamentals of management and strategic management literature, a model for strategies does not exist. The reason for this is simple: strategies are unique ways of managing organisations at different managerial levels and, therefore, there are many distinctive types, and even schools, of strategies. But in-depth research into the subject literature leads to a provocative question: does a model for strategies exist? If so, what components are the building blocks of this model and what logic does it represent? The objective of this paper is to identify the components that constitute any type of strategy, whether these components are specified in the definitions of strategy, and whether these components are the sine qua none of any kind of strategy. A literature review of the definitions of strategy and the various strategic schools is conducted. For the purpose of a statistical analysis, the multiple correlation coefficients is used. In addition, complexity theory paradigms and a mutatis mutandis methodological approach are implemented in order to achieve the main goal. The study results reveal the constitutive components of any type of strategy. These components, which are ordered within a cause-effect hierarchy, compose a new design, with logic based on their cause-effect association, and are concatenated into a complex model for strategies. This newly designed model for strategies is/should be/represents the core of any kind of strategy. It is the simplest and most universal quantum required for strategies, containing only five components that cause the complexity of their entanglement design and logic.

Keywords: Model of Strategies, Strategic Management, Complexity Theory.

# **INTRODUCTION**

Is there a model for strategies? According to the fundamentals of management and strategic management literature from the past six decades, there can only be one answer to this provocative question: a model for strategies does not exist. The reason for this answer is simple: strategies are unique ways of managing organisations at different managerial levels. Strategies consist of unique goals and require different resources in order to perform tasks and achieve goals. Because each enterprise is different due to varying visions, missions, goals, and resources, each strategy is unique. The considerations needed for a model for strategies necessitate scientific justification, both from the perspective of various types and concepts of strategies as well as from the theory of the model, in particular the business model. A strategy is recognised as a unique way of achieving set goals that cannot be achieved otherwise through the organisation's routine activities (Ansoff, 1965). A strategy is also a component of an organisation; it belongs to hard management (Waterman et al., 1980). A strategy is a continuous process that forms the basic building block of strategic management (Weigelt et al., 2007). It is divided into four basic management functions: planning, organising, leadership and control (David & David, 2016; Drucker, 2008; Griffin, 2016; Kim & Mauborgne, 2017; Pearce & Robinson, 2013; Wheelen et al., 2010). There is a copious amount of literature on the definition of strategy and the different types of strategies. Over the past five decades, the types and concepts of strategies have evolved (Chandler, 1962; David & David, 2016; Mintzberg & Quinn, 1998; Mintzberg et al., 2005; CDATA-Porter, 1980). The definitions, types, and schools of strategies emphasise its various components. The question then arises: are there any components that are specified in each strategy regardless of its type? The objective of this paper is to identify such components and their logical connections, which may constitute the framework design of a model for strategies.

Moreover, the literature on the subject gives various definitions of a model. Systematic descriptions of objects or phenomena that share core elements or important characteristics are commonplace in scientific models. Scientific models can be mathematical, visual, computational, or material. They are defined differently in different scientific disciplines. The definition of a scientific model most relevant to the subject of this paper is in social sciences (specifically in management). The debate on business models is actually the most important as far as strategies are concerned. Since the concept of the business model has arisen in the past three decades or so, the distinction between strategies and business models has vanished. The definitions and concepts of a business model proposed in the literature range from approaches that completely distinguish them from strategies to those that position them as completely overlapping with strategies, leading to confusion and a lack of constructive discussion on what a business model is, what a strategy is, and what roles these two elements play in an enterprise.

# LITERATURE REVIEW

#### **Definitions, Types, Concepts, and Evolution of Strategies**

The literature on the subject provides numerous definitions of strategy, each definition having a different component of a strategy as the basis for its formulation. The definition of strategy has evolved over the past seven decades.

Table 1     COMPONENTS AND DESCRIPTIONS OF THE STRATEGY DEFINITION										
Stage (Years)	The Names of Authors	Components and Descriptions								
1950- 1970	Urwick, 1952; Drucker, 1954; Chandler, 1962; Tilles, 1963; Ansoff, 1965	Purpose, intent of strategy, goals, objectives, tasks; set (hierarchy) of goals; strategy process; corporate and functional strategies; allocation of resources; management by objectives; internal strategy focus; strategy operationalisation and control								
1971- 1990	Andrews, 1971; CDATA-Porter, 1980; Koontz et al., 1984; Drucker, 1985; Falsey, 1989	Strategy intent, aims, goals, objectives, tasks; strategy programme, competitive strategy; business strategy; strategy portfolio; internal and external strategy focus; strategy operationalisation and control								
1991- 2010	Rothwell, 1992; Michael et al., 1994; Porter, 1996 & 2001; Hax & Majluf, 1996; Collis, 1998; Davies, 2004; Kaplan & Norton, 2004; Mintzberg et al., 1998 & 2005; Kim & Mauborgne, 2017	Strategy intent, set (hierarchy) of goals, tasks and activities; network strategies; e-commerce strategy; relational strategy; competitive strategy; strategy-focused organisation; cause-effect linkage chain (operationalisation strategy); strategy system and evaluation; innovation strategy; business model strategy								
2011- 2020	Wheelen et al., 2010; Pearce & Robinson, 2013; David & David, 2016; Winston & Albright, 2018; Ravasi et al., 2020; e Cunha et al., 2020; Dadashi, 2020	Strategy intent, set of goals, objectives, targets, tasks and activities; competitive strategies; innovation strategy, knowledge-development strategy; cooperation strategy; evaluation strategy; business model strategy								

Table 1 presents the main stages of this evolution, including the main authors as well as the components and descriptions that were emphasised in their definitions. In the literature on the subject, there is no single universal definition of strategy. The proposed definitions of strategy highlight its various components. The main components of a strategy are shown below; they are based on the definitions of strategy that are commonly regarded as classic examples in management theory. Chandler (1962) and Andrews (1971) point to three fundamental components in all strategies: (i) intent, aims, goals, objectives, and targets; (ii) actions (tasks) and allocation of resource that lead to strategy operationalisation and control. Furthermore, Collis (1998) and Kaplan & Norton (2004) emphasise that intent, goals, objectives, targets, tasks and activities, cause-effect linkage chain, and operationalisation strategy are components of any well-prepared strategy (e Cunha et al., 2020; Ravasi et al., 2020). Results presented in Table 1 support the conclusion that each literature source does not mention all components. The above mentioned components are used to define strategy in the scientific literature.

Table 2     The number of occurrences of components used to strategy definition														
Years/ nponents	efinition	asodin	itention	Season	Aims	Goals	ojectives	argets	Tasks	ctivities 0	erationa-	erational	ontrol	aluation
Col	D S	ł	Ir	I			10	Ĺ	_	A	0p L	0p	)	Ev
1990	15	0	0	0	2	1	0	0	0	1	0	1	3	1
1991	95	9	1	3	4	5	4	7	5	6	2	10	13	12
1992	131	8	1	9	8	10	11	9	10	8	2	15	17	15
1993	158	11	1	5	10	16	17	8	14	14	4	15	27	17
1994	176	5	2	11	10	9	20	9	9	12	2	11	35	18
1995	246	17	3	12	17	28	24	12	15	27	0	16	43	20
1996	267	25	3	17	10	20	25	16	19	22	2	20	48	25
1997	348	21	3	14	29	34	35	17	20	31	2	23	69	34
1998	346	17	3	18	30	24	56	27	17	35	0	42	79	33
1999	348	28	2	16	26	25	47	19	28	30	4	37	66	45
2000	348	23	3	14	40	29	38	23	17	38	6	30	93	40
2001	365	24	4	18	35	24	56	31	21	34	2	29	69	38
2002	387	41	7	13	44	17	42	33	31	44	4	32	80	38
2003	455	36	4	14	48	30	61	48	31	43	2	45	90	52
2004	485	40	7	26	55	41	64	38	25	42	2	34	113	46
2005	575	45	6	19	62	42	75	55	39	56	4	47	114	58
2006	641	58	8	22	62	51	72	56	23	65	2	40	144	69
2007	711	67	10	25	82	67	114	63	38	69	2	67	141	82
2008	842	84	11	30	103	58	116	55	46	74	0	74	167	90
2009	985	103	12	44	135	83	134	89	52	96	8	88	200	108
2010	1057	92	17	37	170	97	131	105	58	105	6	72	198	109
2011	1129	130	15	38	210	100	174	110	75	109	6	81	211	130
2012	1193	128	14	44	211	98	186	128	56	125	4	89	229	122
2013	1294	132	29	33	236	104	219	125	73	157	0	97	258	147
2014	1393	148	20	41	248	119	206	136	86	149	8	118	285	141
2015	1826	215	28	72	426	136	250	159	104	199	16	173	340	183
2016	1983	242	33	97	438	175	314	202	110	212	8	155	380	216
2017	2089	236	34	77	485	153	323	187	120	254	26	191	391	233
2018	2057	236	21	84	506	163	318	170	121	228	14	194	385	240
2019	1909	256	33	66	451	171	323	212	117	207	30	169	322	193
Total	23854	2477	335	919	4193	1930	3455	2149	1380	2492	168	2015	4610	2555

Table 2 presents the number of occurrences of components in publications available in the Web of Science database used to define the strategy.

The scientific literature presented in the Web of Science database consists of all components over the last three decades. Before 1990, "goals" was mentioned twice; "control" was mentioned twice; and "strategy definition" was mentioned 23 times. Table 2 contains 14 components. In the second column, the usage of the term "strategy definition" is presented. The last 13 columns (from 3 to 15) contain the usage of components. The data presented in Table 2 indicates that "strategy definition" is used much more frequently than the 13 other components. This means that sometimes, when the definition of strategy appeared in scientific texts, it was not actually defined. If the 13 components presented in Table 2 were used to define strategy, then there should be statistically significant positive correlation. Thus, the statistical tools were used in the method described in this text.

Urwick (1952) and Ansoff (1965) underline the new rules and guidelines in a strategy, while Kuznets (1971) draws attention to the consistent decisions involved. Kaplan & Norton (2004) point to the need for a cause-and-effect linkage between the hierarchically arranged goals, objectives and targets that create strategic levels. At the same time, they argue that the sense of a strategy is an important component, as it determines both the purpose and the type of strategy. Mintzberg & Quinn (1998) state that a strategy is a plan that brings together the most important tasks and activities of a company. However, Porter (1980, 1996, and 2001) indicates that the fundamental sense of a strategy is to gain a competitive advantage and that it is based on differentiation from competitors, which means that competitive strategies are unique. Michael et al. (1994) argues that,

"The essence of strategy is in the activities-choosing to perform activities differently or to perform different activities than rivals. Otherwise, a strategy is nothing more than a marketing slogan that will not withstand competition".

Thus, one of the important components of any strategy is operationalisation from plans to action, because it is the operations level of an enterprise conducting business. Henry Mintzberg et al. (2005) distinguish between several strategy-forming schools, which emphasise different characteristics, and discusses the different components of strategies. The consequence of there being various approaches to understanding and describing a strategy is a variety of definitions. Kim & Mauborgne (2017) presents a view that is contrary to competition. They argue that competition is not an important factor during the formulation and implementation of strategies. According to them, the most important factors are business concepts, intentions, and organisational goals. These factors play an important role in the preparation and implementation of strategies (Dadashi, 2020; Falsey, 1989; Kim & Mauborgne, 2017). Regardless of whether the strategy is competitive, it is still unique because the enterprise has its own business concepts, which are realised through its own strategy implementation. Strategies can also be differentiated according to the managerial level of implementation. Different strategies are planned and implemented at the levels of corporation and strategy business units (SBOs), as well as at functional and operational levels (Ansoff, 1965; Chandler, 1962; David & David, 2016; de Witt & Meyer, 2010; Kaplan & Norton, 2004; Mintzberg et al., 2005). These levels are different from a managerial point of view in terms of performing business. What is also noteworthy is Arnoldo Hax & Majluf's (1996) proposal that strategy should be perceived as a system that is a combination of the many dimensions of an organisation's activities, including:

- Determining and uncovering an organisation's intentions, including the formation of long-term goals, action programmes, and priorities for resource allocation
- Determining the choice of businesses and the current and desirable way of organising them
- Actions aimed at achieving and maintaining an advantage in each of the conducted businesses from a long-term perspective through proper reaction to opportunities and threats appearing in the company's environment, as well as the strengths and weaknesses of the organisation
- Identifying various management tasks and assigning them to the appropriate level: corporation, business, or functional
- Forming a coherent, unified, and integrative decision-making model
- Defining the nature of the economic and non-economic factors supporting the company's intentions towards its shareholders
- The expression of the organisation's strategic intentions (designs)
- A focus on the development, training, and growth of the company's key competences
- Selective investment in the company's tangible and intangible assets to grow its capabilities in order to maintain its competitive advantage

How strategy is defined is evolving. The literature on the subject presents various descriptions of how the perception of strategy has evolved. One example is the proposal of Rothwell (1992) that, as socio-economic conditions have changed over the past five decades, from a period of reconstruction after the Second World War to a time when new technologies are paving the way forward and are effecting rapid changes, the characteristics of the various components of a strategy have also changed.

In conclusion, it can be said that the literature on the subject does not provide one universal definition of what a strategy is. A strategy is a component of an organisation as well as a unique and unrepeatable tool for managing the specific organisation to achieve its set goals. Hence, it can be concluded that every enterprise has its own unique strategy. This is the basis of the claim that a model for strategies does not exist. However, do the characteristics of a strategy, based on the subject literature, as well as on the practice of managing enterprises, provide information on the components that are common to all strategies? To answer this question, an examination of the scientific theory of the model, including the business model, is required.

# **DEFINITIONS AND CONCEPTS OF A BUSINESS MODEL – LITERATURE REVIEW**

Various concepts of business models (BMs) have been created over the past three decades (Braccini, 2008). The literature on the subject reveals about 22 different BM concepts. Most of these concepts are based on the definition provided by Magretta (2002). This definition is as follows:

"Business models are stories (narratives) that explain how companies operate. A good business model answers the old question of Drucker (2011) who is the customer? What is the value for the customer? It also answers the fundamental questions that every manager needs to ask: how do we make money in this business? What is the basic economic logic (economic justification) that explains how we can deliver value to customers at the right price?" (Magretta, 2002).

The presented definition is confusingly conceivable as being the definition of a strategy. The requirement for planning a strategy is limited to the knowledge of the product proposition, the customer group, and one's own resources. All of these components must be included in a strategy, because they imply the way of doing business. Therefore, it can be said that it is not a business model but rather a strategy. It is an orderly way of performing tasks that leads to the achievement of the set goals, which describe a way of doing business. In conclusion, the presented definition overlaps with the definition of strategy, causing the concept of a business model and the concept of a strategy to be diverging. Since each enterprise prepares and implements a unique strategy, BMs must also be unique. These points to a situation where a BM is different for each enterprise. There is no difference between a strategy and a BM, or, on the other hand, the quoted definition inserts the BM into the strategy. This regularity, where the BM is a part of the strategy, is identified in almost all BM concepts. In particular, Alexander Osterwalder (2004) argues that

"...the business model and strategy talk about similar issues but on a different business layer", adding that, "I understand the business model as the strategy's implementation into a conceptual blueprint of the company's money earning logic. In other words, the vision of the company and its strategy are translated into value propositions, customer relations, and value networks".

As previously stated, in the different strategy definitions, there is strong diversification between different business levels. Accordingly, the quoted definition of BM did not recognise business (managerial) levels of strategies, because this differentiation is fundamental knowledge on strategies. Furthermore, the placement of the concept of BM between the strategy of the organisation as a whole and the operational activities level makes it by definition treatable as a tool for the operationalisation of a strategy, which means that BM constitutes an element of a strategy (Horsti, 2007; Lüdeke-Freund, 2009; Osterwalder & Pigneur, 2010; Osterwalder et al., 2005). In this way, BM was defined in the quoted definition as the tool for the operationalisation of the strategic plan, being defined in strategies as their important component.

An exception to the concepts described above are Applegate et al.'s (2009) and Timmers's (1998) concepts of BM. Applegate et al. (2009) present a BM concept in which strategy plays the most important role. A strategy is seen as one of the three main components of the BM, along with capabilities and values: "a business model defines the linkages among key strategy, capability, and value drivers of business performance" (Applegate et al., 2009). Thus, the content of a business model is a driver of business performance. In this concept, drivers are specified for strategy, capability, and the value generated by the business entity. These drivers are the content of the BM. It can be concluded that the BM is a description of these drivers. But capabilities are allocated in strategies to perform activities and tasks. These activities and tasks are meant to achieve aims, goals, objectives, and targets and, at the same time, generate value. Thus, the implementation of strategy means how enterprise performs a business. Thus, if a BM describes the allocation of capabilities and the value generated through the implementation of strategy, then it is a unique component of the business activities of every enterprise. There are as many types of BMs as there are enterprises. With this background for the presented concepts, different concepts were proposed by Timmers (1998) with a BM being defined as:

- An architecture for the product, service and information flows, including a description of the various business actors and their roles.
- A description of the potential benefits for the various business actors.
- A description of the sources of revenues'.

A marketing model combines a description of business opportunities that the Internet environment offers with the unique marketing strategy of a given company (Timmers, 1998). It can be concluded that, in this concept, a BM is a characteristic of the business environment and is not the way in which a business is run by the particular enterprise. This fact is the main difference between the definition of BM and the previously presented concepts. The presented BM concepts are characterised by a large definitional and conceptual divergence. The opinion of Porter (2001) is very persuasive; whose argument is that,

"The misguided approach to competition that characterises business on the Internet has even been embedded in the language used to discuss it. Instead of talking in terms of strategy and competitive advantage, dotcoms and other Internet players talk about "business models". This seemingly innocuous shift in terminology speaks volumes. The definition of a business model is murky at best. Most often, it seems to refer to a loose conception of how a company does business and generates revenue. Yet simply having a business model is an exceedingly low bar to set for building a company. Generating revenue is a far cry from creating economic value, and no business model can be evaluated independently of industry structure. The business model approach to management becomes an invitation for faulty thinking and self-delusion".

In conclusion, the BM concept should be more explicitly embedded in the complexity theory of management. It should respect the classic definitions and concepts that constitute the achievements of management theory, specifically strategy, and it should also refer to all kinds of strategies. An attempt to formulate such a model for strategies is undertaken in this paper.

#### **METHOD**

The presented literature review supports the conclusion that not all components are mentioned in each literature source when strategy is defined. Thus, an analysis of quantitative data should not evaluate the presence of all components in a single strategy definition. The more appropriate way is to evaluate the presence of each component independently in relation to other components and to the strategy definition. Such relationships are typically verified by the correlation coefficient. Based on the presented literature review and available quantitative data, the method used in this paper consists of two stages. In the first stage (quantitative), the relationships of all 14 components to each other, to each of the 13 components presented in columns 3 to 15 in Table 2 and to the strategy definition presented in column 2 in Table 2 were verified. If these components were used to define strategy, then they should indicate statistically significant and positive correlation. Thus, the following null hypotheses were verified:

- $H_{01}$  There is positive correlation between each pair of all components presented in Table 2.
- $H_{02}$  There is positive correlation between each of 13 components and strategy definition, presented in Table 2.
- $H_{03}$  The correlation coefficient between each pair of all components, presented in Table 2, is not statistically significant.
- $H_{04}$  The correlation coefficient between each of 13 components and strategy definition, presented in Table 2, is not statistically significant.

In order to verify the hypotheses  $H_{01}$  and  $H_{02}$ , the Pearson correlation coefficient was used according to the following equation (Triola, 2014; Doane & Seward, 2011):

$$r_{p} = \frac{\sum_{i=I}^{n} (x_{i} - \overline{x}) \times (y_{i} - \overline{y})}{\sqrt{\sum_{i=I}^{n} (x_{i} - \overline{x})^{2}} \sum_{i=I}^{n} (y_{i} - \overline{y})^{2}}$$
(1)

#### Where:

 $r_p$  – Pearson's correlation coefficient, calculated for each pair of time series (components) presented in Table 3; all correlation coefficients create the correlation coefficients matrix C

- n Number of observations
- i Another observation of time series
- x, y Another time series corresponding to each component presented in Table 2
- $x_i$  Another observation of the first time series in the analysed pair of time series
- $y_i$  Another observation of the second time series in the calculated pair of time series
- $\overline{x}$  Arithmetic mean of the first time series in the calculated pair of time series
- $\overline{y}$  Arithmetic mean of the second time series in the calculated pair of time series

In order to verify the hypotheses  $H_{03}$  and  $H_{04}$ , the p-value test of the significance of the correlation coefficient was used. In the calculations, the typical 1% ( $\alpha$ =0.001) level of probability was used (Mertler & Reinhart, 2016). Thus, if the p-value is less than the significance level ( $\alpha$  = 0.001), then the null hypothesis is rejected.

The second stage was related to a qualitative and conceptual approach. There is no doubt that strategy is a complex process. The traditional scientific approach used to describe new and unrecognised phenomenon was based on reductionist methodologies. Such approaches, which were commonly used in the twentieth century, mainly consisted of searching for the most important components of a complicated phenomenon and then reducing its description down to a few simplified elements, which were considered to be the explanation of the entire phenomenon. The methodology itself was not the issue. It was rather the inadequate methodology that was used to describe the strategy process, which is not only a complicated phenomenon but also a complex one. According to complexity theory, a phenomenon is not only complicated but also complex when each of its elements are complex (Cicmil et al., 2017; Hughes, 1997; French & da Costa, 2000; Richardson, 2008). The strategy process is a complex phenomenon, because people, such as scientists, researchers, engineers, and entrepreneurs, are involved in the process (Espinosa et al., 2017). That is the novel proposal presented in this paper. If the strategy process is complex, then complexity theory paradigms and a mutatis mutandis methodological approach need to be used to describe it more profoundly and comprehensively (Cicmil et al., 2017; Davies, 2004; Espinosa et al., 2017). This approach led to the proposal of a new approach to core strategies. According to the complexity approach, a strategy should be identified by the components that constitute the type of strategy and satisfy the sine qua none of the studied phenomenon. In terms of the theory of complexity, it is clear that a comprehensive description of the complex phenomenon is not possible. However, without reducing the phenomenon to several elements, it is possible to indicate the components that constitute this phenomenon and create a unified spectrum of the strategy process.

#### **RESULTS**

# **Complexity and Conceptual Design of Strategies and Logic**

The quantitative stage of evaluation began with the data presented in Table 2, which was identified in various documents available in the Web of Science (Figure 1). The components

presented in Table 2 are identified as follows: 78% in scientific articles, 19% in conference preceding papers, 2% in book chapters, and 1% in editorial materials.

For each pair of time series (components) presented in Table 3, the value of the Pearson correlation coefficient, which was calculated based on equation 1, allows for the verification of the hypotheses  $H_{01}$  and  $H_{02}$ . Table 3 presents the results of the calculated Pearson coefficient matrix.



« Articles » Proceedings papers " Book chapters Editorial materials

# FIGURE 1 STRATEGY COMPONENTS DISCOVERED IN SCIENTIFIC DOCUMENTS

Table 3   THE CALCULATED CORRELATION COEFFICIENTS OF ALL PAIRS OF STRATEGY DEFINITION COMPONENTS														
Correlation Coefficient/ Components	Strategy Definition	Purpose	Intention	Reason	Aims	Goals	Objectives	Targets	Tasks	Activities	Operationali sation	Operational	Control	Evaluation
Strategy definition	1													
Purpose	0.991	1												
Intention	0.958	0.956	1											
Reason	0.965	0.964	0.903	1										
Aims	0.983	0.989	0.939	0.961	1									
Goals	0.989	0.985	0.953	0.958	0.969	1								
Objectives	0.993	0.99	0.961	0.955	0.981	0.987	1							
Targets	0.986	0.985	0.965	0.944	0.967	0.988	0.988	1						
Tasks	0.989	0.987	0.948	0.947	0.981	0.978	0.986	0.976	1					
Activities	0.995	0.986	0.964	0.953	0.986	0.978	0.991	0.979	0.985	1				
Operational isation	0.764	0.801	0.738	0.729	0.813	0.749	0.764	0.769	0.79	0.777	1			
Operational	0.987	0.982	0.929	0.957	0.984	0.965	0.98	0.961	0.983	0.985	0.802	1		
Control	0.995	0.978	0.951	0.961	0.968	0.983	0.985	0.977	0.978	0.99	0.724	0.978	1	
Evaluation	0.996	0.985	0.947	0.963	0.98	0.983	0.991	0.976	0.986	0.992	0.747	0.984	0.992	1

The results of the calculated correlation coefficients reveal that all values are positive. What is more, the minimum value of the correlation coefficient (0.724) is for the pair of components control and operationalisation, and the maximum value (0.996) is for strategy definition and evaluation. There is no negative correlation between each pair of all components.

All calculated results of the correlation coefficients (Table 3) indicate a strong and positive relationship between each pair of the components covered by the research. There is also a strong and positive relationship between each strategy component and strategy definition presented in column 2 of Table 3. Thus, the hypotheses  $H_{01}$  and  $H_{02}$  were proven. This means that there are 13 components presented in Table 2 in columns 3 to 15 that were used in the scientific literature to define strategy.

The statistical significance of the results obtained in Table 3 was verified by using the p-value test. Table 4 contains the calculation results of the p-value test.

Table 4														
THE CALCULATED P-VALUE TEST FOR CORRELATION COEFFICIENTS FOR ALL PAIRS OF														
						JMPU	NENIS				. <u>.</u>			
Correlation Coefficient/ Components	Strategy Definition	Purpose	Intention	Reason	Aims	Goals	Objectives	Targets	Tasks	Activities	Operationali sation	Operational	Control	Evaluation
Strategy Definition	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purpose	2.9E -26	-	-	-	-	-	-	-	-	-	-	-	-	-
Intention	9.2E -17	1.8E- 16	-	-	-	-	-	-	-	-	-	-	-	-
Reason	6.7E -18	1.3E- 17	9.2E- 12	-	-	-	-	-	-	-	-	-	-	-
Aims	3.5E -22	1.3E- 24	1.6E- 14	3.4E -17	-	-	-	-	-	-	-	-	-	-
Goals	4.8E -25	7.5E- 23	4.4.E -16	1.1E -16	1.8E -18	-	-	-	-	-	-	-	-	-
Objectives	1.6E -17	1.5E- 25	3.2E- 17	3.1E -16	1.7E -21	9.2E -24	-	-	-	-	-	-	-	-
Targets	2.7E -23	4.6E- 23	8.3E- 18	5.4E -15	4.1E -18	1.8E -24	3.5E -24	-	-	-	-	-	-	-
Tasks	6.2E -25	7.1E- 24	1.7E- 15	2.4E -15	2.3E -21	1.2E -20	3.5E -23	4.3E -20	-	-	-	-	-	-
Activities	2.5E -29	3.1E- 23	1.2E- 17	4.2E -16	2.7E -23	1.1E -20	9.4E -26	6.9E -21	9.1E -23	-	-	-	-	-
Operationali sation	8.8E -07	1.1E- 07	3.2E- 06	4.9E -06	4.9E -08	1.9E -06	8.8E -07	6.9E -07	2.1E -07	4.4E -07	-	-	-	-
Operational	1.4E -23	9.2E- 22	1.4E- 13	1.6E -16	2.3E -22	9.8E -18	3.1E -21	4.1E -17	3.9E -22	5.5E -23	9.6E -08	-	-	-
Control	9.6E -30	1.1.E -20	8.6E- 16	4.3E -17	2.3E -18	5.3E -22	8.9E -23	3.1E -20	1.3E -20	2.7E -25	6.1E -06	1.3E -20	-	-
Evaluation	2.1E -30	8.4E- 23	2.6E- 15	1.9E -17	2.9E -21	3.7E -22	4.1E -26	5.4E -20	2.2E -23	5.4E -27	2.1E -06	1.6E -22	6.9E -27	-

The calculated results indicate that the minimum value of the statistical significance test that was obtained  $(9.6*10^{-30})$  is for the pair of components control and strategy definition, and the maximum value  $(1.9*10^{-06})$  is for operationalisation and goals. All calculated p-value tests for correlation coefficients of pairs of components are smaller than the level of probability

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 $\alpha$ =0.001. Thus, the hypotheses H<sub>03</sub> and H<sub>04</sub> were rejected. In conclusion, it can be stated that all calculated correlation coefficients presented in Table 3 are statistically significant. This means that a strong and positive relationship between each pair of components presented in Table 3 is statistically significant.

The quantitative stage of evaluation began with the area of defining strategy and components, which determined the space for discussion. In the individual proposals of definitions and concepts, different components of a strategy are emphasised. An organisation's strategy is a combination of the components specified in these various concepts and definitions (Figure 2).



# FIGURE 2 FRAMEWORK OF STRATEGIES

As everyone knows, there is no strategy within the meaning of the prescription that only needs to be implemented in a given organisation. Hence, during the process of building the strategy of a given organisation, it should be perceived as a three-dimensional space, with a continuous, repeating periodical (but not identical) strategy process, the context of strategy implementation, and strategy levels. The building process should consider all possible components and solutions by selecting those that are necessary for the implementation of the organisation's mission. When defining strategy as process, the definition should feature a set of logical, consecutive actions with goals related to the principle of cause and effect. This principle has foundations in the philosophy of science. According to Kant (2007):

"...the relation of cause and effect forms the condition of the objective validity of our empirical judgements with regard to the series of perceptions, and forms therefore the condition of the empirical truth of this judgement, and so of experience".

It can be stated that a strategy has been built when the specific mission or the main goals of the organisation are not otherwise possible. An organisation's strategy is a complex system that refers to all levels of management and concerns the real sphere of the organisation's activity. A strategy is a practical and unique tool for achieving an organisation's goals and can be characterised as a spiralling process. It is a system that comprises many types of strategies, and the aims, goals, objectives, and targets related to the different levels of the strategy should be linked in a cause-and-effect manner. Strategies are built individually for specific organisations. They constitute a central component of a company's business activities. A strategy, therefore, includes deliberate actions, which means that operational activities are an integral component of a strategy. A strategy is not complete and is only a set of marketing slogans if it is not translated into operational activities (Porter, 1996). A common approach is that a strategy is merely a set of goals and activities that require the development of an implementation plan and, ultimately, its implementation. In light of the quoted subject literature, a strategy can only be called a strategy when it is prepared for implementation, which means that the aims, goals, objectives, targets, and actions have been translated into operational activities. These activities should lead to the achievement of the aims, goals, objectives, and targets. Achieving them requires the usage of a dedicated control and evaluation method suitable to each strategy. This is called strategy control. All these components are the constitutive components of a strategy.

# **DISCUSSION AND CONCLUSION – TOWARDS A MODEL FOR STRATEGIES**

Because a strategy is a practical and unique tool for managing an organisation, there is no single universal strategy model. Nevertheless, based on the literature on the subject as well as business practices, the components that constitute every strategy can be specified. These include (Figure 3):

- The strategy's purpose
- The organisation's aims, goals, objectives, and targets
- Activities and tasks translated into operational activities
- Operationalisation
- Strategic control (with evaluation)

The strategy's purpose is often confused with the main goal of the strategy (Figure 3). The purpose is not related to the main goal but rather concerns the purpose, sense, or justification that results in the need to prepare a strategy. The aims, goals, objectives, and targets that are formulated as part of a strategy have a position within a hierarchy. The most general is the aim. Its achievement may require reaching goals, and each goal may require achieving certain objectives and targets. The hierarchy of aims, goals, objectives, and targets is created in accordance with:

- The cause-and-effect principle, which binds all aims vertically
- The avoidance of overlapping aims, goals, objectives, and targets at each strategy level and between them
- Fulfilling the complementary principle of processes at an operational level (the implementation level where processes are performed)

When it comes to a strategy, the aims, goals, objectives, and targets cannot be random, non-vertical, or recurring. They constitute a hierarchy of aims, goals, objectives, and targets and indicate the trajectory of development (doing business) by performing and achieving actions and

tasks. The hierarchy represents different levels of enterprise, different types of strategies, and different levels of doing business. In order to verify how this structure is achieved by operational activities and tasks, a strategic control needs to be implemented. There is a strategic control that is suitable for each strategy type and enterprise level. Thus, it can be understood as the unique strategic control system. The most common and continuously developed method of strategic control is the management by objectives (MBO) method (Drucker, 1954). Therefore, the hierarchical structure of aims, goals, objectives, and targets and their achievement in time determines the direction of activities and tasks.



FIGURE 3 UNIVERSAL CORE OF STRATEGIES

The hierarchy of aims, goals, objectives, and targets determines the type of strategy on the basis of what is to be achieved, for example competitive advantage or greater market share. On the other hand, the actions and tasks that lead to the achievement of individual goals, objectives, and targets determines the type of strategy, for example offensive, defensive, or acquisitive, and they ensure the implementation of the organisation's mission and operationalisation in the routine business activities of the enterprise. In turn, the implementation of the mission leads from the vision of an ideal future state in which all aims have been achieved and the mission has been accomplished (Drucker, 1985 & 2011; Hax & Majluf, 1996; Winston & Albright, 2018). There can be no activities or tasks if the strategy's plan has not been operationalised. But, according to the common definitions of strategy, activities and tasks are the

sine qua none of strategies. Thus, the operationalisation of a strategy is also the sine qua none of a strategy. Since strategies' aims, goals, objectives, and targets differ, the activities and tasks that must be performed in order to achieve them are also different. Thus, the operationalisation process is unique to each strategy and each enterprise. This process results directly from the definitions and understanding of strategy. If it is a BM, then nothing new is said regarding concepts of BMs, as this is only a different name for the operationalisation of a strategy's plan. From a semiotic point of view, models describe phenomena and data existing in the real world (Bogen & Woodward, 1988; Lloyd, 1984; Woodward, 2003). Gravity is an example of such a phenomenon in physical science, and enterprise is an example in social science. However, there is a significant difference between a model describing gravity and a model describing enterprises. Gravity affects every physical object in the gravitational field. The same model of gravity describes the influence that the gravitational field has on many completely different physical objects. The situation is similar to that of the model for DNA. One DNA model describes an infinite number of combinations of its components (Ankeny, 2009; Schaffner, 1969). Meanwhile, the proposed BM concepts are completely different. They lead to a situation in which a new BM needs to be created for each enterprise. This is where BMs become confusing, because strategy it plays this role. An individual description of an enterprise's operations is not a model, but it is the component of the enterprise's strategy. A model should describe a group of enterprises, not a single enterprise. The concept presented surpasses the reductionist approach because it does not explain all strategies by means of a few simplified components, rights, or dependencies. The content of the five components specified determines the differences between strategies. In a subjective sense, each strategy contains these five constitutive components. Hence, it can be concluded that the presence of these components is the sine qua none of any strategy. These components, in a subjective sense, constitute a strategy. According to the complexity theory of management, in a subjective sense, it is justifiable to call these components a model for strategies, because they do not constitute a reduction of the components of strategies. Therefore, strategies, as the unique tools for managing organisations, have a universal core of strategies, which can be called a model for strategies, because it allows for the creation of unique corporate strategies. Future research related to models for strategies can provide a clearer distinction between definitions of business models and strategy models. Research conducted in this field should be based on the theory of the model proposed by philosophy of science. This theory of the model is widely accepted in other scientific disciplines, such as physics, biology, and sociology. It should also be accepted and used in management science.

## REFERENCES

Andrews, K. (1971). The concept of corporate strategy. Homewood: Dow Jones-Irwin.

- Ankeny, R. (2009). Model organisms as fictions. In M. Suárez (Ed.), Fictions in Science, Philosophical Essays on Modelling and Idealisation. London: Routledge.
- Ansoff, I. (1965). Corporate strategy. New York: McGraw-Hill.
- Applegate, L.M., Austin, R.D., & Soule, D. (2009). Instructor's manual to accompany corporate information strategy and management: Text and cases.
- Bogen, J., & Woodward, J. (1988). Saving the phenomena. The Philosophical Review, 97(3), 303-352.
- Braccini, A.M. (2008). Business model definition methodologies for telecommunication services.

CDATA-Porter, M.E. (1980). Competitive strategy: Techniques for analyzing industries and competitors.

Chandler, A.D. (1962). Strategy and structure: chapters in the history of American industrial enterprises. Cambridge. Hlass: MIT Press, 14, 16.

Cicmil, S., Cooke-Davies, T., Crawford, L., & Richardson, K. (2017). Exploring the complexity of projects: Implications of complexity theory for project management practice. Project Management Institute.

Collis, D. (1998). Montgomery C. corporate strategy: A resource based approach.

- Dadashi, H. (2020). Optimal investment strategy post retirement without ruin possibility: A numerical algorithm. *Journal of Computational and Applied Mathematics*, 363, 325-336.
- David, F., & David, F.R. (2016). *Strategic management: A competitive advantage approach, concepts and cases.* Pearson-Prentice Hall.
- Davies, P.C. (2004). Does quantum mechanics play a non-trivial role in life?. Biosystems, 78(1-3), 69-79.
- Doane, D.P., & Seward, L.W. (2011). Applied statistics in business and economics. New York, NY: McGraw-Hill/Irwin,.
- Drucker, P.F. (1954). The Practice of management-New York: Haper e Row.
- Drucker, P.F. (1985). Innovation and entrepreneurship, NewYork, Harper & Row Published.
- Drucker, P.F. (2008). Managing oneself. Harvard Business Review Press.
- Drucker, P.F. (2011). The five most important questions you will ever ask about your organization. John Wiley & Sons.
- e Cunha, M.P., Gomes, E., Mellahi, K., Miner, A.S., & Rego, A. (2020). Strategic agility through improvisational capabilities: Implications for a paradox-sensitive HRM. *Human Resource Management Review*, *30*(1), 100695.
- Espinosa, A., & Walker, J. (2017). A complexity approach to sustainability. Theory and practice.
- Falsey, T.A. (1989). Corporate philosophies and mission statements: A survey and guide for corporate communicators and management. New York: Quorum Books.
- French, S.R.D., & da Costa, N. (2000). Theories, models and structures: Thirty years on. *Philosophy of Science*, 67(Supple), S116-S127.
- Griffin, R.W. (2016). Management. Boston: Cengage Learning Publishers.
- Hax, A.C., & Majluf, N.S. (1996). *The strategy concept and process: a pragmatic approach*. Upper Saddle River, NJ: Prentice Hall.
- Horsti, A. (2007). Essays on electronic business models and their evaluation. Helsinki: Helsinki School of Economics.
- Hughes, R.I. (1997). Models and representation. Philosophy of Science, 64, S325-S336.
- Kaplan, R.S., & Norton, D.P. (2004). *Focusing your organization on strategy-with the balanced scorecard*. Cambridge: Harvard Business School Publishing.
- Kim, W.C., & Mauborgne, R. (2017). Blue ocean shift: Beyond competing-proven steps to inspire confidence and seize new growth. Hachette UK.
- Koontz, H., O'Donnell, C., & Weihrich, H. (1984). Management 1984. McGraw-Hill.
- Kuznets, S.S. (1971). Economic growth of nations.
- Lloyd, E.A. (1984). A semantic approach to the structure of population genetics. *Philosophy of Science*, 51(2), 242-264.
- Lüdeke-Freund, F. (2009). Business model concepts in corporate sustainability contexts: From rhetoric to a generic template for business models for sustainability'. *Centre for Sustainability Management (CSM), Leuphana Universität Lüneburg.*
- Magretta, J. (2002). Why business models matter.
- Mertler, C.A., & Reinhart, R.V. (2016). Advanced and multivariate statistical methods: Practical application and *interpretation*. Routledge.
- Michael, G., Campbeel, A., & Alexander, M. (1994). Corporate strategy: Creating value in the multibusiness company.
- Mintzberg, H., & Quinn, J.B. (1998). Readings in the strategy process. Upper Saddle River, NJ: Prentice Hall.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (2005). Strategy Safari: A guided tour through the wilds of strategic mangament. Simon and Schuster.
- Osterwalder, A. (2004). *The business model ontology a proposition in a design science approach*. Unpublished doctoral dissertation, University of Lausanne.
- Osterwalder, A., & Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers. John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., & Tucci, C.L. (2005). Clarifying business models: Origins, present, and future of the concept. *Communications of the Association for Information Systems*, *16*(1), 1.
- Pearce, J.A., & Robinson, R.B. (2013). *Strategic management: Planning for domestic & global competition*. McGraw-Hill/Irwin.

Porter, M.E. (1996). What is strategy?. Harvard Business Review, 74(6), 61-78.

- Porter, M.E. (2001). Michael; ilustraciones Gibbs. Strategy and the Internet, 63, 78.
- Ravasi, D., Tripsas, M., & Langley, A. (2020). Exploring the strategy-identity nexus. *Strategic Organization*, *18*(1), 5-19.
- Richardson, K.A. (2008). Managing complex organizations: Complexity thinking and the science and art of management. *Emergence: Complexity & Organization*, 10(2).
- Rothwell, R. (1992). Successful industrial innovation: Critical factors for the 1990s. *R&d Management*, 22(3), 221-240.
- Schaffner, K.F. (1969). The Watson-Crick model and reductionism. The British Journal for the Philosophy of Science, 20(4), 325-348.
- Tilles, S. (1963). The manager's job: A systems approach. Harvard Business Review.
- Timmers, P. (1998). Business models for electronic markets. Electronic Markets, 8(2), 3-8.
- Triola, M.F. (2014). Essentials of statistics. New York: Pearson.
- Urwick, L.F. (1952). Notes on the theory of organization.
- Waterman Jr, R.H., Peters, T.J., & Phillips, J.R. (1980). Structure is not organization. *Business Horizons*, 23(3), 14-26.

Weigelt, M., Muller, F.M., & Kant, I. (2007). Critique of pure reason.

- Wheelen, T.L., Hunger, J.D., Hoffman, A.N., & Bamford, C.E. (2010). *Strategic management and business policy*. Upper Saddle River, NJ: Prentice Hall.
- Winston, W. & Albright. Ch. (2018). Practical management science. Boston: Cengage.
- Woodward, J. (2003). Making things happen: A theory of causal explanation. New York: Oxford University Press.