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BUSINESS IMPACTS AS RISK FACTORS FOR SUSTAINABLE BUSINESS OPERATIONS

Doctoral (PhD) dissertation

THESIS BOOK

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Veszprém

2022

CONTENT

1. BACKGROUND

1.1. CHOICE OF TOPIC

The eternal questions of economic associations as to why and how to manage an economic association in such a way as to ensure satisfaction in the long run on the part of all participants? In other words, along what factors can an evolving economic association with a vision for growth survive so that nothing around it is permanent? How can you ensure that you deliver at least around constant performance, even under extreme conditions, to secure your current present and future? This topic identifies a problem that can be formulated from two directions, which is why I started to deal with it. Nowadays, the two directions are strongly present in our everyday lives separately, however, at the level of practice in Hungary we are treated even more independently of each other, and the management sciences have not integrated them emphatically either. One direction is unexpected and dangerous outcomes for the business flows of an economic association that it cannot, under any circumstances, influence, avoid, or identify as a potential risk. Their main feature is that they come from the global operating environment of the economic association, for the occurrence of which the economic association cannot identify samples from its direct operating environment. As a result, and especially because of their unexpectedness, they can cause serious losses in the lives of economic associations that are otherwise destined for growth and sustainable development. As a consequence, it can be stated that unexpected losses divert the economic association from its planned development curve. The Covid19 epidemic period is a perfect example of unforeseen situations for which business associations as micro-level operational units could not prepare in advance. Thus, the internal structure and stability resulted in how to manage the changing threats to business flows. From this line of thought, the other direction emerges, which is the interpretation of economic associations from a holistic point of view. According to the current interpretation of economic associations, they are systems that operate under-regulated, controlled control, divided into subsystems and functions. According to a holistic interpretation, they can be understood as a multidimensional space, in which the individual systems, subsystems, and functions together and independently form a functional unit. In multidimensional space, positions together form a chain of events, some of which are known and managed, some of which are unknown. Known co-positions are generated by different management systems and requirements or regulated operations, and unknown co-positions are attempted to be covered by different company management approaches, such as risk management. A very high level of management awareness is when, on the one hand, the individual and combined effects of all systems, subsystems, and functions are known, both on their own and towards each other, and artificial and even lasting relationships can be made to deal with external business threats. created. The rearrangement to artificial coexistence means the resilience of the economic association to unexpected threats, the primary aim of which is to support sustainable, continuous development even when leaving the planned and normal operating environment. In my research, focusing on the intersection of these two directions, I searched for the systems, subsystems, and functions of economic associations that are sensitive to unexpected threats to business flows[1].

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[1] Together, I have named these systems, subsystems, and functions as business-critical areas.

1.1. RESEARCH PROBLEM

The research problem tries to grasp the part of the topic that can be identified in the cross-section of the two directions. That is the aspect of the systems approach that allows the state of operation of subsystems, functions, or constituents to determine the resilience of an economic association itself in the event of unexpected threats, based on the assumption that structural stability determines the degree of resilience. Accordingly, I also defined the research problem at the intersection of two facts as follows:

1. In 2015, ISO issued a standard (ISO/TS 22317: 2015 Societal Security – Business Continuity Management Systems – Guidelines for Business Impact Analysis (BIA)) that specifically supports the identification and analysis of business impacts. This standard provides users with guidelines and methodologies with an emphasis on strategic management approaches and tools (such as SWOT analysis). Many turnkey methods are already available online to analyze the impact on business (https://www.sample.net/business/business-impact-analysis/), but neither policies nor turnkey solutions achieve the expected efficiencies. In particular, the 2020 period for Covid19 highlighted the need for and presence of business continuity management (including the need to withstand unexpected threats through more effective business impact analysis). At the same time, the review of the literature and the lack of professional events revealed that Hungary is not flowing with this trend.

2. Trends that can be interpreted today affect economic, social, and technological developments around the world. It can be said that the common result of all these is the 17 Sustainability Objectives formulated by the United Nations, or Industry 4.0.

These two facts create a dissonant situation for the economic association, as the international directions and aspirations are uniform, yet the factors and effects that possibly influence the business of the economic association are individual and can only be identified through individual analysis. Business associations are unified through certain management approaches, such as strategy management, the corporate context as defined by the Porter diamond, or uniform legal obligations based on the international level, such as financial reporting or disclosure. According to an analogous interpretation of this uniformity, it is also necessary for the uniformity of the factors influencing business relations and flows, which would support one-way, i.e., sustainable development without remediation, reconstruction, and loss. In analogical thinking, the prolongation of Covid19 is uniformly present on Earth, thus uniformly affecting the business and economic flows of the world. It may be a reasonable expectation to be able to identify and interpret the effects on potential business operations that can be interpreted uniformly, but this uniformity does not exist. The epidemic required immediate solutions, so knowledge of the business implications of change was urgent for business associations. As the identification and analysis of business impacts are still in an initial, practice phase, critical areas for uniformly identifiable critical business operations cannot be found even at the national level. As a result of this shortcoming, the analysis of the effects on business continued to take longer, the uncertain effectiveness of which hampered the response required by the change. As a research problem, I identified a global gap that can be traced back to the disturbances surrounding the analysis of business impacts and which resulted in an artificial rearrangement of the internal structure in an unprepared and reactive manner to unexpected changes that threaten business flows. Identifying critical areas for uniformly identifiable business operations contributes to a faster response by the business impact analysis itself giving primary and

greater emphasis to these critical areas so that the range of potential business impacts can be more accurately targeted and detected more quickly.

1.2. RESEARCH ISSUES

I built my research and my research questions on one main question.

NOWADAYS, WHAT ARE THE FACTORS WHICH MAKE THE MOST IMPACT ON THE BUSINESS CONTINUITY OF ECONOMIC ASSOCIATIONS?

In other words, *I am looking for corporate values, segments, attributes, functions, resources, or focal points (collectively, factors) that are most likely and possibly concentrated to have an impact on business continuity that paralyzes business continuity.*

In an inverse approach: *I look for corporate values, segments, attributes, functions, resources, or focal points (collectively, factors) to which the business association can interpret long-term sustainable operations and increase resilience to unexpected threats, or even gain a competitive advantage.*

I formulated my research questions by building on the following aspects.

1. **After reviewing the literature, I am looking for answers to the following questions about the path to sustainable operation:**

Q1. What are the characteristics of business continuity management nowadays in the international space?

Q2. How to possible, and how have to interpret the business impact operations?

2. **From a methodological point of view, I am looking for the answer to the following question:**

Q3. Can the management literature be examined using quantitative text analysis to give coherent results with trends in practical life?

3. **Regarding the empirical study, I formulated the following questions:**

Q4. How can the critical areas of the effects on business operations be interpreted in the daily operation of economic associations operating in Hungary?

Q5. Overall, for Hungary, does business continuity management bring potential benefits for the future?

1.3. HYPOTHESES

The present research is based on the hypotheses shown in Figure 1. The arrows between the hypotheses indicate conditional dependencies.

H1 Critical areas of business impact can be identified using a Topic model procedure.

H2 In Hungary, the business continuity approach differs from the international interpretation and practice based on the critical areas of business impact.

H3 According to the economic associations operating in Hungary, there is a need for business continuity management.
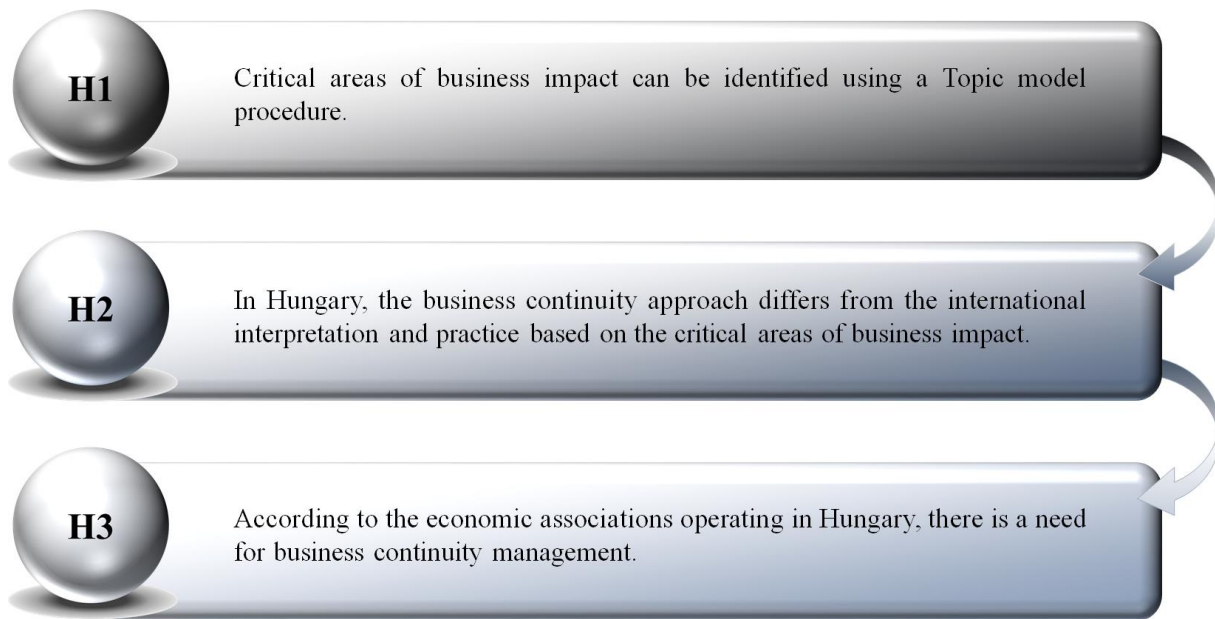
1. Figure: Model of hypotheses

2. OBJECTIVES

According to experts, the analysis of the effects on business operations is a method that is approachable from several points of view and has not yet been stabilized, and no specific literature background can be found. Impacts on business operations are critical contexts whose disclosure constitutes a serious competitive disadvantage, i.e. they are treated as confidential information. However, the first wave of the Covid19 epidemic period required preparedness and responsiveness on the part of all economic associations, so the demand for business impact analysis jumped abruptly. Immediate and rapid responses were needed to identify the most vulnerable combinations, which hindered the stabilization and practice of the method of analysis itself. Sudden and quick solutions came primarily from risk management experts, taking the primary essence of analyzing the impact on business operations in an already known and practiced but different direction. Thus, on the basis of the presentation of the theoretical background, it becomes clear and justified to define a unit, on the basis of which the analysis becomes faster and more accurate.

On the other hand, business continuity is not a widespread management approach in Hungary itself, nor is it a well-practiced corporate governance system among economic associations or university-level education. The theoretical background covers the details that can be used to get a comprehensive picture of which support functions (certifiers, available literature in Hungarian, legal background, etc.) contribute to the spread of sediment continuity management in Hungary. In my research, starting from these two guiding ideas, I set the following goals:

1. The primary goal of the present research, the analysis of the literature, can be used to determine the effects of the business practices analyzed at the individual level[2], to provide a uniform basis

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[2] The individual-level means the economic association as an independent and independent entity with its own authority and judgment.

at the international level, by which the analysis becomes more effective. Expected benefits are more:

1.1. the areas of management, functions, factors influencing the economic association obtained as a result of the text analysis can be interpreted as the key areas of the resilience of the economic association (against the threats affecting the business flows), ie the continuity of the business itself;

1.2. to provide support for the analysis of the effects on business operations, which can increase the efficiency of the work of the circle of experts;

1.3. identification of factors that can characterize the majority of economic associations, and thus;

1.4. to provide a starting point for corporate developments that allow for a more effective response to current trends;

2. Examining the management areas, functions, and factors affecting economic association obtained as a result of the text analysis, among my economic associations operating in Hungary, my further goal is to determine a current situation that shows the differences between the international business and Hungary in terms of business continuity;

3. Finally, my goal is to establish that there is a place for business continuity management in Hungary as well, and it is worth opening up to this with the help of a conscious and university-level education and even a more serious investment.

3. STRUCTURE OF THE DISSERTATION

Following the logical structure applied by the social sciences, I divided the dissertation into the following parts:

1. *Theoretical background of the topic (Chapter 2)* – In this section, I summarize the body of knowledge that can be interpreted around the effects on business. I will start the presentation with a short historical overview, which contains the origins of business continuity management, the motivators of its development, and then I will present in more detail the comprehensive support in both methodological and networking terms that can be interpreted around business continuity management today. After that, focusing on the network of contacts, I present the relationship with international standard-setting and the standardized support of business continuity management, and I also cover the reputation in Hungary. Approaching the focus of the research, I first present the range of issues related to the effects on business from a systems and company theory approach and present the relationship with certain elements of the management sciences. Finally, I highlight the problems that inspire the present research and the theoretical background by highlighting the shortcomings that can be formulated in terms of the methodology defined for the analysis of the effects on business.

2. *The research model and the methodology used for the research (Chapter 3)* – This chapter contains a research model that fits the research problems, objectives, research questions, and hypotheses formulated in the Introduction chapter. The methodology of the analyzes used for the research, the boundary conditions necessary for the interpretation of the results, and the methodology of data collection are described.

3. *Research results, their evaluation, and interpretation (Chapter 4)* – In this chapter of the dissertation I present the research results, their interpretation, and at the end, I formulate the conclusions and the research theses. I provide answers to the research questions and present the independent, new, and novel results obtained during the research. Concerning all these, further possibilities of the research are also described.

4. *Appendices* – Contains additional information deemed necessary for the transparency of the research, which contributes to the research framework or to the research itself.

4. TEST METHODS USED

4.1. SAMPLE

The processed literature

I searched for the composition of the corpus with allusive terms/keywords. Using keywords, the search returned 374 possible articles on Sciencedirect.com, which were reviewed and 178 articles were selected. During the screening, articles were included in the corpus that primarily presented research findings and possibly included in the research parameters and/or results model. The processed literature is broken down by year in Table 2.

The range of respondents

The pre-declared screening conditions for the research were formulated around profit-oriented market behavior and the date of foundation. After the exact definition of the filtering conditions shown in Table 1, the database of Opten Kft. Published the range of respondents.

1. Table: Filtering conditions according to the Opten Kft. database

Company form	Limited Liability Company, Limited Company, Limited Partnership, Company			
Number of employees	Over 50 people			
Settlement	Over 10.000 people			
Date of foundation	Until 12/31/2019			
The main activity		-	Export earnings (2018)	-
Regions, Counties, Districts		-	Export relations	-
Net sales revenue (2018)		-	Other activity	-
Registered capital		-	Date of entry	-
Profit before tax (2018)		-	Owner country	-
Profit after tax (2018)		-		

The screening criteria show that the SME sector has dropped out in terms of headcount. Opten screening resulted in **4837** hits, which I ordered on 07/10/2020. As an alternative source of response, the questionnaire was shared on LinkedIn.com.

Régebbi	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018
Gibb and Buchanan; (2006)	Brad; (2010)	Besler and Sezer; (2011)	Asgary at al.; (2012)	Bingöl at al.; (2013)	Alexandrov, (2014)	Bchini; (2015)	Amara at al.; (2016)	Ali at al.; (2017)	Adeleke at al.; (2018)	Liu at al; (2018)
Goldberg, (2008)	Feng and Mu; (2010)	Khayami; (2011)	Ji; (2012)	Ehret at al.; (2013)	Apăvăloaie; (2014)	Berzakova at al.; (2015)	Bagheri; (2016)	Arditi at al.; (2017)	Barkemeyer at al.; (2018)	MacDiarmid at al; (2018)
Hafeez at al.; (2007)	Filho at al; (2010)	Scruggs and Ortolano; (2011)	Mappigau and Hastan; (2012)	Grau; (2013)	Berzkalnea and Zelkalve; (2014)	Blos at al.; (2015)	Bernus at al.; (2016)	Arena at al.; (2017)	Bevilacqua and Ciarapica; (2018)	Makdiss at al.; (2018)
Major at al.; (2001)		Williams; (2011)	Mazman at al.; (2012)	Hsu; (2013)	Cozmei and Serban; (2014)	Dirican; (2015)	Çelik at al.; (2016)	Babaa at al.; (2017)	Bogdan at al.; (2018)	Maldorado at al; (2018)
Petts; (1997)			Rajnoha at al.; (2012)	Liang at al.; (2013)	Hohenthal at al.; (2014)	Dodson at al.; (2015)	Fan at al.; (2016)	Bohloull at al.; (2017)	Bulte at al.; (2018)	Masa at al; (2018)
Vining and Meredith; (2000)			Shakibaei at al.; (2012)	Macedo and Camacho-Matos; (2013)	Ives and Kendal; (2014)	Edmonds at al.; (2015)	Fleacă and Fleacă; (2016)	Bui and de Villiers; (2017)	Caldera at al.; (2018)	Masip-Bruin at al.; (2018)
				Zwetsbot at al.; (2013)	Kuna; (2014)	Faertes; (2015)	Fraser and Simkins; (2016)	Callahan and Soileau; (2017)	Conboy at al.; (2018)	Maté-Sanchez-Val at al.; (2018)
					Schrödl and Turowski; (2014)	Gibacasi; (2015)	Giannakis and Papadopoulos; (2016)	Chavarria-Barrientos at al.; (2017)	Cristaria at al.; (2018)	Mikulić at al.; (2018)
					Torabi at al.; (2014)	Gjerald and Lyngstad; (2015)	Greeven and Williams; (2016)	Chen at al.; (2017)	Dehmer and Niemann; (2018)	Nieuwenhuis at al.; (2018)
						Grabowska; (2015)	Ibrahim at al.; (2016)	Côrte-Real at al.; (2017)	Delen and Zolbanin; (2018)	Nußholz; (2018)
						Guadix at al.; (2015)	Igliński at al.; (2016)	de Oliveira at al.; (2017)	Demek at al.; (2018)	Obrand at al.; (2018)
						Hennart; (2015)	Jamal; (2016)	Ehrenhard at al.; (2017)	Dermol and Širca; (2018)	Oh at al.; (2018)
						Kot and Dragon; (2015)	Johansson at al.; (2016)	Ershova; (2017)	Diling and Harris; (2018)	Olofsson at al.; (2018)
						Kvorning at al.; (2015)	Karakaya at al.; (2016)	Grizane and Jurgelane; (2017)	Duan at al.; (2018)	Ortiz-Villajosa and Sotoca; (2018)
						Myšková and Doupalová; (2015)	Li and Yip; (2016)	Khza and Nalepa; (2017)	Eckert and Gatzert; (2018)	Pacelli; (2018)
						Sahebjamnia at al.; (2015)	Li Jingyea, Tanaka Takehiro; (2016)	Koc and Bozdag; (2017)	Eggert at al.; (2018)	Pereira at al.; (2018)
						Sparrow and Makram; (2015)	Min and Joo; (2016)	Kratzer at al.; (2017)	Geissdoerfer at al.; (2018)	Poorani and Thiyagarajan; (2018)
						Wood at al.; (2015)	Mohammed and Knapkova; (2016)	Laurichkat and Viertelhausen; (2017)	Gerlak at al.; (2018)	Raguseo; (2018)
						Zhu at al.; (2015)	Nararjo-Valencia at al.; (2016)	Liu and Zhang; (2017)	Graafland and Noorderhaven; (2018)	Rahman at al.; (2018)
							Papulova and Gazova; (2016)	Liu at al.; (2017)	Green and Cheng; (2018)	Ralston at al.; (2018)
							Soler and Gémar; (2016)	Lodsgård and Aagaard; (2017)	Grilli at al.; (2018)	Ravichandran; (2018)
							Thekdi and Aven; (2016)	Miles and Van Clieaf; (2017)	Hacklin at al.; (2018)	Risza at al.; (2018)
							Weichhart at al.; (2016)	Potkanova and Durisova; (2017)	Härtinga at al.; (2018)	Rossignoli and Lionzo; (2018)
								Saebi at al.; (2017)	Hovesking at al.; (2018)	Scholz at al.; (2018)
								Sakhe; (2017)	Kira and Yasuda; (2018)	Shanks at al.; (2018)
								Schworm at al.; (2017)	Klasa at al.; (2018)	Slagmulder and Devoldere; (2018)
								Shrivastava and Rathod; (2017)	Krishnamoorthi and Mathew; (2018)	Sousa-Zomer at al.; (2018)
								Tommasini at al.; (2017)	Kristjansdottir at al.; (2018)	Spieth at al.; (2018)
								Vidgen at al.; (2017)	Kritzinger at al.; (2018)	Ulubeyli and Kazanci; (2018)
								Warrick; (2017)	Kurilova-Palisaitiene at al.; (2018)	Upadhaya at al.; (2018)
								Zeng and Zio; (2017)	Lee and Chung; (2018)	Valinejad and Rahmani; (2018)
								Zwetsloot at al.; (2017)	Li at al.; (2018)	Verdu-Jover at al.; (2018)
									Lia at al.; (2018)	Yarosh at al.; (2018)
									Liao at al.; (2018)	Zefeng at al.; (2018)
										Zhang at al.; (2018)

4.2. QUANTITATIVE TEXT ANALYSIS

The popularity of quantitative text analysis is constantly growing, both in terms of striving for statistical accuracy and in terms of broadening the fields of application. The popularity of text analysis is also supported by the growing repository of software solutions, which primarily helps researchers for whom statistical knowledge is less important. Among the quantitative text analysis methods, I chose the Latent Dirichlet Allocation (LDA) method from the topical model procedures, for which I used the R Studio textmineR package. The basic concept of the topic model procedure is a Bayesian hierarchical, circles graph designed to show the distribution of probability variables. The topic model interprets the full text on three levels:

- corpus – which is a bulk set of documents and words in a bag
- documents – whose common meaning we are looking for
- words – which, put together in sentences, together form the document itself.

Topic model procedures treat the corpus as a word bag, by which the word loses its place in the sentence, and in which the order of the documents no longer matters. The advantage of a word bag is that handling words and documents in a set helps you better understand the semantics of the topics. Although the majority of grouping procedures, i.e. the topic model, and within that the LDA method, are not among the supervised machine learning processes, due to the relevant development directions, solutions already exist for which the need for machine learning is also met. A critical consideration in the application of topic model procedures is the appropriate text refinement as well as the systematic determination of the selection of the appropriate model. There is no exact recommendation for these two critical points, but some improvements based on statistics are working to reduce these uncertainties and subjective factors. To eliminate the subjective and uncertainty factors of these two critical points in my research, I solved the text purification by hyperparameter optimization, with the help of mathematical conditions centering on the selection of the appropriate model.

Although the number of options in quantitative text analysis, as well as the number of relevant user needs and software developed for the purpose, is constantly increasing, I chose R Studio as the best solution. All the steps and results of the process recorded with the programming language can be reviewed, so I was able to further increase my safety concern, with which I was able to exclude the subjective properties of the topic model procedure itself.

4.3. METHODS OF EMPIRICAL INVESTIGATION

In the empirical study, I asked a question questionnaire along the dimensions of importance, feasibility/viability, and success/maturity with the help of a questionnaire on the critical areas of business conducted by text analysis. Each question had to be answered on a scale of 1-10. The structural model of the questionnaire is shown in Figure 2. Empirical studies were performed in SPSS.
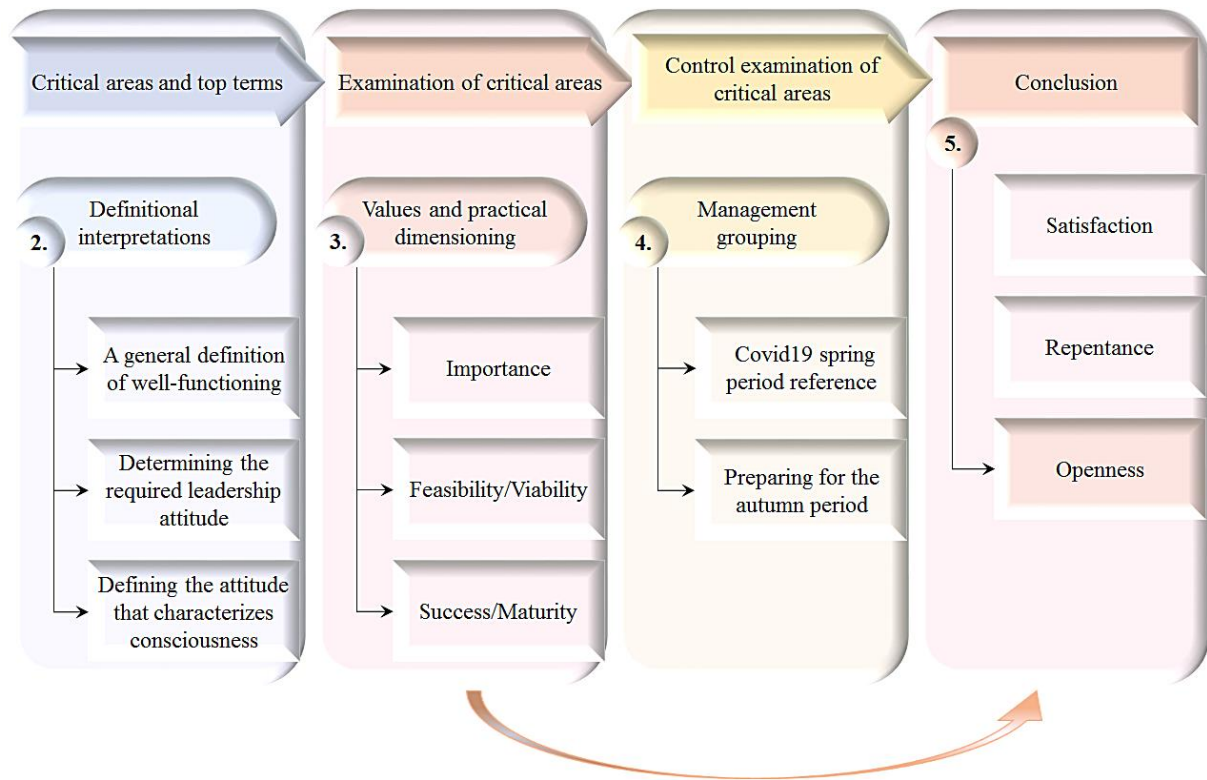
2. Figure: The structural thought sheet of the questionnaire

Based on the answers to the questionnaire, and taking into account the low level of awareness of business continuity management as a topic, approach, and methodology in Hungary, I further examined the answers to success and maturity in the research, because my goal was to determine a realistic state. I examined the answers by frequency and correlation analysis, and finally, due to the small difference in the answers, I performed the following steps to group the economic associations according to the subjective self-assessment maturity established along with the critical areas:

1. To reduce the 17 variables, the 17 critical areas were grouped by principal component analysis based on the answers to the success/maturity question. Thus, with maximum preservation of information, the 17 variables were reduced to 2 main components, i.e. 2 variables.
2. The clusterability of the main components was examined with the SPSS silhouette index, and to confirm this, a cluster analysis was performed with a hierarchical procedure and ward distance, because the hierarchical cluster visually helps to determine the cluster number;
3. Using SPSS's own 2-step cluster procedure, 3 groups could be created from the respondents.
4. Finally, the relationship between the 3 clusters and the 19 critical areas was examined by one-way analysis of variance, as a result of which it can be stated that the relationship between the critical areas and the clusters is significant. Thus, with the help of a cross-tabulation, finally, by the purpose of the research, the general characteristics could be established for the critical areas of the 19 business operations.

5. RESULTS

5.1. CORRECTNESS OF HYPOTHESES – THESES

H1: Critical areas of business impact can be identified using a Topic model procedure: TRUE

The topic model procedure holds many possibilities, which are still being explored today, but there is a stronger tendency to seek statistical refinement rather than behavioral and operational mechanisms. The topic model procedure continues to carry the subjective, decision-making possibilities of researcher freedom. Therefore, the preparation of the examined text, as well as the methodology of model selection, to reduce subjectivity, is a serious help to the user. The broadening of application areas is also continuous, and the present research contributes to the development of the topic model by proving its applicability in management areas as well. The result of the topic model procedure is 19 critical areas that together can release a contemporary corporate operating framework based on Figure 3.

Risks	Networks	Human factors	Business environment
risk management	big data	human resources	market pozitioning
risk factors	supply chain	intellectual capital	business model
business risk	international business	organization culture	business aptness
enterprise risk	business network	core competence	business continuity
	social media		business education

3. Figure: A summary model of critical areas of business

T1: From the literature of the disciplines classified under management, the critical areas of the effects on business operations can be identified using the topic model procedure. Reliability is confirmed on the one hand by a partial agreement with the Business Continuity Institute Horizon Scan Report. On the other hand, the topics with a high prevalence value, which can be considered as the key to business continuity based on the evaluation of the economic associations operating in Hungary, such as *core competence* (t14) or *intellectual capital* (t12).

H2: In Hungary, the business continuity approach differs from the international interpretation and practice based on the critical areas of business impact: TRUE

With the help of the critical areas of the business resulting from the text analysis, the success and maturity of the economic associations operating in Hungary, ie the extent of their exposure to current threats, became known. Based on the respondents, the economic associations operating in Hungary can be divided into three groups. Well-performing systems with a stable management background (conscious aspirants), less well-performing but also stable management-conscious organizations (conscious developers), and economic associations with varying performances with unique management awareness (unbalanced exposures). It also became visible which critical areas were prioritized by these groups, and in which areas they experienced challenges by the spring period of Covid19. The three groups are characterized by a business continuity management that differs from the expert recommendations and has also become identifiable through critical areas. Based on the critical areas, the Hungarian business continuity management is implemented in the joint presence of business continuity, market positioning, business risks, business training, basic competence, business capabilities, and the supply chain. At the same time, in terms of international trends, areas have emerged in which to develop, ie to adapt to the direction of expert business continuity management. These areas are risk management, related corporate risks, social media communication, and information security, which are broadly in line with the main point of the Horizon Scan Report. Based on the results of the text analysis, the difference between the expert and Hungarian business continuity management can be determined.

T2: With the help of the results published by the text analysis, it is possible to establish the similarities and differences between the expert and the Hungarian business continuity interpretation. As the empirical research was carried out along the areas most focused by international experts with the help of questions on success and maturity, T1 can be said to have empirically examined critical areas of operation (systems, subsystems, functions) influencing business flows that comparable. The results of the comparison can be said to be forward-looking, informative, and with an emphasis on differences, further development directions can be established to support the sustainability of economic associations.

H3: According to the economic associations operating in Hungary, there is a need for business continuity management: TRUE

The economic associations operating in Hungary have become part of an unexpected situation that disrupts the continuity of business on a global scale. Despite the general expert opinion that Covid19 can be interpreted as a maximum gray swan phenomenon, in reality, no international forecast predicted a pandemic, so purely based on business continuity definitions, an unexpected, non-normal operating environment threatening business flows phenomenon. The epidemic period thus highlighted the main meaning of business continuity management, i.e., mitigating exposure to unexpected threats. In addition, economic associations, both by group and as a whole, along with different motivations, but are open to increasing their resilience. Based on the results, it can be determined where, with which industries, with what type of corporate participants it is worth introducing business continuity management.

T3: According to the economic associations operating in Hungary, there is a need for business continuity management. Because the empirical study was conducted at a resting point after the first wave of Covid19, the business associations had the opportunity to re-evaluate their 2020 targets, the unexpectedness of the epidemic situation, all their reactions, and their results as a function of all these.

The responses show that respondents responded well compared to themselves, but faced challenges to business flows (business continuity) as a result of unexpectedness and action.

5.2. SUMMARY OF RESEARCH RESULTS

From the theoretical background, as a summary of the present research, I formulated a possible definition of the effects on business:

"The business impacts are the combination of factors in space and time that impede the flow between the parties, or the business continuity."

Its unit can be expressed in units of time, currency, and units of output. This definition alone raises questions. Yet it is good that with the answers to each question, the interpretation of the effects on business is becoming more and more outlined for all experts and laypeople alike. At the same time, it was found that the effects on business cannot be standardized in the same way as the risks, ie the economic association, together with all its features and shortcomings, publishes the effects on exact business. These effects are the bottlenecks of so much that is known to block business flows to an analyzed extent. The probability of occurrence or frequency of occurrence cannot be disclosed from the analysis, therefore in some textbooks, the experts exchange the analysis of the effects on business operations and the risk analysis. This sequential swap can only be interpreted in terms of business continuity, ie it does not make sense for other cross-sections (such as ISO, according to the requirements of the management system linked to sustainability criteria). The estimated interpretation of the effects on business as an occurrence as a risk does not cover the potential risk that can be interpreted in all areas of the business association. In the course of risk analysis, it is common practice to examine the similarities that exist in the capabilities and shortcomings of an economic association, the end of which is to see the difference between critical and non-critical risks. By definition, the occurrence of an effect can also be a risk (WHO, 2005), so effects as risks can also be analyzed using known risk analysis methods. In terms of business continuity, critical risks are likely to be located where the effects on business can be concentrated, ie in the 19 critical areas of business.

Regarding the applicability of the topic model, I consider it a significant surprise that it is also able to provide the management with a realistic summary, which has already been proven in other application areas. Expected benefits of scientific summaries using the topic model may include:

- helps to identify the most critical, most problematic areas, together with this summary
- contributes to the identification of focus areas that indicate the direction of development of the discipline itself,
- helps to explore similarities, differences, and possibly common intersections between several disciplines, for example creates synergies and interoperability as a further move towards a holistic approach to operation.

The topic model procedure can, with due care, show directions that can be forward-looking in a given field of science.

Business continuity as interpreted in Hungary is an unexpected result that allows us to form a comprehensive picture of the similarities and differences compared to the trends in the international

space. The similarities showed the timeless values, the differences showed the directions of development. The similarities indicate the active presence of proven and known management support solutions in the normal operating environment in the operation of business associations, the differences indicate a partial lack of resilience to unexpected threats, where the need for business continuity management enters.

It can be stated by the respondents that conscious aspiring companies are those for whom long-term consciously sustainable operation is a continuous goal, presumably also interpreted for the time horizon from which there is no strategy or operational plan yet. If business continuity management were to be consciously introduced in Hungary, primarily in the practical circle of business associations, then:

- it would be worth opening the first two offices in the Southern Transdanubia region and in Budapest,
- the target industries would be trade, mechanical engineering, machinery and equipment, automotive, and electronics,
- trainings, workshops, presentations, and conferences could be designed primarily for those with 6-20 years of work experience, representing approximately the 30-50 age group.

I explored the range of experts and competencies that can be interpreted as a base, which is built around business continuity management. There is a significant difference in terms of international and Hungarian support. At the same time, this research has also shown that the business continuity management approach fits perfectly with the management approaches known so far. Based on its elaboration and pace of development, it may be recommended to include it in the education system as a curriculum.

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