THESIS

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THE FINANCIAL INSTRUMENTS OF BUSINESS PLANS: A MINDFUL INTERNATIONAL PERSPECTIVE

PhD dissertation

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1. Motivation for subject selection

The main motivation behind the dissertation is the arrival of genetics, nanotechnology, the robotics revolution, and artificial intelligence, which represents the greatest transformation of the century. Kurzweil describes a world in which human and machine consciousness meld into one. He sees the beginning of this revolution in the field of data mining. Companies in every industry are using artificial intelligence for intelligent data mining. This makes it possible for the companies using these systems to make remarkable predictions regarding the size of market, and which products will be required in what quantities.

At the moment there is only a superficial amount of data and information available about the fundamental financial systems that define international business, their structure and business plans, and about the associated networks. The solution to this problem is given by corporate mindfulness. This is because the modern international business world is expressly data-driven. The data strategy tools and objective measures give rise to the possibility to make objective decisions. Mapping corporate mindfulness is the easiest way to map the financial data analysis that drives business decisions.

Corporate mindfulness is defined as how companies perceive and react to the world, how they make strategic plans within their planning scheme, and in the financial instruments they use. Corporate mindfulness means that the companies are open to the world that can be perceived around them, while also being mindful of the processes that occur within the companies. Complete mindfulness is achieved when companies strategic and financial planning processes reach the level that they are able to react to their environment while taking into account their needs, values, and goals. Mindful companies support peace, respect for the community and solidarity, and achieving their deepest goals.

The theoretical basis of the dissertation is the technical literature on mindful corporate management, while in support of the methodology, basic statistics are employed. In our conclusions, we develop a business model of mindful businesses, with respect to the relationship among the financial instruments used by international businesses in defining their business plans.

2. Stated goals of the dissertation

The goal of the dissertation is to sample the mindfulness used in the technical literature regarding the financial instruments used in the planning processes of international companies, thereby showing the basic relationship between companies' mindfulness and their financial instruments, and to possibly develop a closed logical system for modeling corporate mindfulness. This model of corporate mindfulness and closed logical system can allow us to understand corporate mindfulness at a deeper level. The model and closed logical system can be used to make companies that are not currently mindfully driven, more mindful. With this model, logical systems can be tested and may can be separated from business decisions and movement. The indicators and quality metrics can be specified and brought into the analysis as parts of mindfulness, and listed as the final output of business decisions, along with financial instruments. With this the dissertation succeeds in deriving a selective and weighted system and methodology which can allow companies to be filtered by their levels of mindfulness.

3. Structure of the dissertation

The dissertation is divided into four large logical parts, which are expressed in seven chapters. The first two large parts are introduction of mindfulness as a system, and to sample mindfulness and support the idea.

The first large logical division (chapter 4.1) looks at the mindfulness system used in the dissertation, the most important concepts in mindfulness, the relationship between mindfulness and corporate planning, and a sample of what makes companies mindful. Since the dissertation makes use of several categories whose contents are not precisely defined, choosing definitions is integral to this section. Besides choosing these definitions, it is important show the indicators which are the models for the empirical analysis on which the corporate mindfulness model is based.

The second large logical division (chapter 4.2) looks at the technical literature published internationally and in Hungary for the theoretical basis for the datamining used during analysis. In chapter 4.3 I examine the most important general and special datamining approaches, the goal of which is to find and choose the most appropriate method. The third large logical section (chapter 5 and chapter 6) is the "soul" of the work. Chapter 5 contains a general description of mindfulness. Chapter 6 shows the results of analyzing the correlation between various financial instruments.

The fourth large logical division (chapters 7 and 8) serve to decide the dissertation's hypothesis in view of the results found in chapter 4.6. Justifying a set of concepts of corporate mindfulness and developing a corporate model clearly simplifies the task of mapping and understanding the corporate mindfulness landscape in view of financial instruments. The goal of this dissertation is to do what it can to help lay the foundation for and to encourage future research in this area.

4. Methods used

The database used for the research is the broad corporate database by Orbis Bureau van Dijk published in July of 2017 (hereinafter: Orbis). The sample is the first 1,000 companies (largest by revenue) generated by the Orbis system. Two kinds of samples were taken from Orbis, which serve as the basis for the analysis.

The selection of methods was based on the goal of the research, and the wide amount of data that could be used for it. As a result, the dissertation uses correlation analysis and factor analysis. The basic tools used for the research are SPSS v.25, or SPSS modeler v.18, which are available to everyone. In order to analyze and show the large number of data used for the corporate mindfulness model, macro scripts were written in Visual Basic for Applications (hereinafter: VBA).

5. New and novel results

Corporate mindfulness can be mapped and analyzed as a system. Mindful companies have access to certain samples and structures, which can be analyzed and measured using hybrid datamining tools.

The basic tools used to research corporate mindfulness are hybrid datamining, techniques and methodologies. The relationship among the data from international companies' financial instruments, their structure and correlations are also shown using the Pearson correlation coefficient. The factoring shows the most important elements, which can be considered the "inner core" of the data.

Mindful corporations contain data that are independent of time and of the type of company that is being examined, and which can be used on a continuous basis for descriptive analysis. By unraveling these factors, we can find a plethora of correlations within corporate

structure and planning processes.

In examining the corporate functions, many correlations can be seen among financial instruments and the factors leading to innovation. Even in itself, innovation includes factors that can be easily analyzed separately, and which show correlations and relationships.

The most important measure that can be evaluated in a sample of mindfulness is that of innovation as an indicator, since it is key to evaluating the functioning of companies irrespective of time.

Mindfulness can be a basic tool used to analyze the relationship among corporate planning by international companies and their financial instruments.

Corporate mindfulness is key to the survival of companies. Mindfulness and corporate planning give companies many benefits.

THESIS 1
Corporate mindfulness, as a concept, can be defined, and its indicators can be modeled and measured.

In the course of examining corporate mindfulness, I have found that Singer was the researcher who showed a comprehensive vision, when he drew parallels between the level of mindfulness shown by companies as currently understood and the nature of corporate planning. The concept of corporate planning and its indicators are always shifting. While in the beginning, critics denied the very concept itself, or questioned whether it could be measured in any way, by the middle of the 2000s decade, the technical literature started to describe it definitively, and, using the current scientific understanding, began to draw parallels between corporate mindfulness and performance indicators.

The various samples used to measure corporate mindfulness show both the method used to sample corporate mindfulness and its indicators, and so together are used to clearly show the concept of mindfulness.

In view of all of the above, I have accepted my hypothesis, with the caveat that the concept itself and the indicators are rather novel, and so the results might continue to change based on changes in the scientific consensus.

THESIS 2
The elements of corporate mindfulness can be found in the financial data of international corporations.

The elements of corporate mindfulness can be found within the technical literature. These elements can be found within corporate databases and accounting information, as I show in Figure 3. For one thing, I show the most important corporate mindfulness indicators and their relationships on the left side, while at the same time I show the most important Orbis system.

Given that I was able to make these correlations, I accept this hypothesis.

THESIS 3
The information that can be found in the financial data of international corporations can help explain the behavior of these companies.

Using correlation and factor analysis of the financial data of international companies, the basic indicator of corporate mindfulness can be identified. It is possible to identify which companies are mindful and operate using a model that is less mindful or not

mindful. Thus the behavior of international companies can be categorized and measured.

Using the mindfulness model, successfully applying correlation and factor analysis, I find that this hypothesis is true.

THESIS 4
The information that can be derived from the financial data of corporations can be made easily useful to corporate specialists using familiar tools, and they can use these results in their business planning processes.

In my dissertation I used hybrid datamining tools and methods. The basis for this process is the fact that there are many types of statistical methods that can be applied to analyze the data. Among them, I used basic statistical methods, which are widely known and applicable, and so easily available to corporate specialists.

The data analysis shows the development of the indicators used in modeling mindful companies. If the company's behavior is not mindful as shown by the mindfulness model, then the model shows the company's less mindful or not at all mindful behavior. For example, if the liquidity indicator is low, then by raising the liquidity indicator, the company could become more mindful. I accept my hypothesis.

THESIS 5
The financial indicators of international companies are suitable for modeling corporate mindfulness, which in turn is suitable for modeling the corporate functions and improving operations.

The goal of my analysis was to show the information and correlations that can be taken from the financial data of international companies, using the most basic statistical methods. The financial data which I derived from Orbis are suitable for use in a model of

corporate mindfulness, and meet the requirements set out in the technical literature.

I accept this hypothesis, given that the international financial data are able to be modeled, the corporate mindfulness model can be tested, as long as sufficient data are available. If there is not enough data available, I consider that the missing data could be derived using other methods than basic statistics, for example using the 7:3 rule and neural nets. Since my dissertation uses only the most basic statistical methods, I only partially accept this hypothesis. A great number of the data in the Orbis system are unknown, so a totally comprehensive operational model cannot be derived; a successful analysis requires manually selecting data.

THESIS 6
The information found in financial data (both derived and not derived) can be used to find a company's targets.

According to the technical literature, the goal of a mindful company is continuous learning and innovation, to give a company self-consciousness on a corporate level, to allow it to innovate and adapt, make it amenable to change, and in sum to continue to grow, and as the company's operations strength, to become even more mindful. These indicators can be shown and explained using financial data. Using the data that can be derived, we show and explain the functioning of the company. The information that can be derived from the data show a company's operations and the direction of basic trends. For example as a company's revenues from products and services fall, it will reduce its headcount and spend less on innovation, and use credit to increase its level of debt. This is characteristic of the operations of a company that is not mindful. In becoming more mindful, one of the goals of a company is to set the level of mindfulness it can achieve, or if its operations dive into a negative mindfulness model, to change the indicators and raise them

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to the level of a mindful company. Thus insofar as a company is able to change its earlier operations and spend more on innovation, it can keep or raise the number of its employees without raising its level of debt, and remaining liquid, thereby striving toward positive corporate behavior and values, adapting to the local and global economy and the fabric of society, and becoming more mindful. I accept my hypothesis.

THESIS 7
Corporate mindfulness is not specific to a sector. Corporate mindfulness is not only typical of industries with large value added.

Corporate mindfulness is not sector-specific. My research and results (see: mindfulness model, results) contradict this. Indeed, information technology companies are less mindful, and for the most part in this sector companies were identified that do not fit the mindfulness model.

This I reject this hypothesis. Mindfulness can be identified in every sector.

THESIS 8
In an international company, use of mindfulness is essential. Companies that do not expend sufficient resources on raising mindfulness or do not integrate it into their planning process are at a competitive disadvantage.

Based on the concepts in the technical literature, and the samples taken from financial data, a company's adherence to the mindfulness model ensure that companies are on a track that ensures sustainable and successful operations.

I accept my hypothesis.

6. Publications

6.1. Scientific articles published in 2019

Articles published in English:

Dr. András Laskai: *Consciousness and the International Business Planning*. In.: **International Journal of Science and Business**. January 2019. *3*(1), ISSN 2520-4750. pp. 1-6.

Dr. András Laskai: *Consciousness system approaches and the financial instruments*. In.: **International Journal of Science and Business**. January 2019. *3*(1), ISSN 2520-4750. pp. 7-16.

Dr. András Laskai: *AI foundations of the international business planning and the AI consciousness model.* In.: **International Journal of Science and Business**. January 2019. *3*(1), ISSN 2520-4750. pp. 16-28.

Dr. András Laskai: *Mapping the Unified Field: Artificial intelligence foundations for the financial instruments of business planning: hybrid data mining and the consciousness model.* In**.: International Journal of Science and Research**. January 2019. Vol. 8. Issue. 1. ISSN 2319-7064 pp. 907-913.

Scientific articles published in Hungarian:

Dr. András Laskai: *Vállalatok tudatos működési elemei adatbányászati módszerek tükrében*. In.: **Prosperitas**. Budapesti Gazdasági Egyetem. Vol. V. 2019/2. ISSN 2064-759X. pp.54–86.

6.2. Articles published before 2019

Articles published in English:

2015

Dr. András Laskai: *Financial management as a strategic-tactical guideline* In.: **International Journal of Economics Finance and Management**. January 2015. Vol. 4 No.1. ISSN 2307-2466. pp. 1-7.

2014

Dr. András Laskai*: Financial performance of the international business planning: Localization and trade in theory of Krugman's "New Economic Geography" (NEG*) In.: **International Journal of Economics Finance and Management**. January 2014. Vol. 3 No.1. ISSN 2307-2466. pp.1-7.

Articles published in Hungarian:

2013

András Laskai: *Pénzügy menedzsment, mint stratégiai-taktikai útvonalvezető* **CONTROLLER INFO** 1. évf.: 2013. (9). ISSN 2063-9309. pp.14-19.

2012

András Laskai: *Az üzleti terv, mint pénzügyi controlling instrumentum a nemzetközi összehasonlításban*, **CONTROLLER INFO** 1. évf.: (1) 2012. ISSN 2063-9309. pp.16-22.

6.3. Talks given at scientific conferences and published as conference proceedings

In English
2013

Dr. András Laskai: *Financial performance of the international business planning: in theory of Krugman's NEG and in theory of the applied-economics (business-management) schools*. 12th International Scientific Conference: "Management Horizons in Changing Economic Environment: Visions and Challenges" Organized by European Management Association, Baltic Management Foundation and Vytautas Magnus University that will take place at the Faculty of Economics and Management, Vytautas Magnus University, Kaunas, Lithuania on September 26 - 28, 2013. ISSN 2029-8072. pp. 469-475.

Dr. András Laskai: *OUTSIDE THE SWEDISH-AMERICAN SCHOOL: FINANCIAL INSTRUMENTS OF THE BUSINESS PLAN*. ALLANA INSTITUTE OF MANAGEMENT SCIENCES, PUNE. "CHECKMATE 2013". 4TH ANNUAL INTERNATIONAL CONFERENCE. THEME "ARTHA-SATYA: DEMYSTIFYING STRATEGIC FINANCE IN VOLATILE TIMES". (15th - 16th February, 2013, Pune, India) Maharashtra Cosmopolitan Education Society's. 2390-B, K. B. Hidayatullah Road, Azam Campus, Camp, Pune- 411001, Maharashtra, India. www.aimspune.org. Date: 15th - 16th February, 2013. Venue: Azam Campus, Pune - 411 001. Time: 9 am to 5 pm. http://www.aimspune.org/web-journals/Compilation 20of 20Abstracts 20CHECKMATE 202013 204th 20Annual 20International 20Conference 20ARTHA 20- 20SATYA.pdf COMPILATION OF ABSTRACTS CHECKMATE 2013 4th ANNUAL INTERNATIONAL CONFERENCE p. 6.

2012

András Laskai: *Way to create well-functioning international business: Financial instruments of the business plan* In: X Міжнародна науково-практична конференція студентів, аспірантів та молодих вчених «Шевченківська весна: Економіка» Економічний Факультет Київського національного університету імені Тараса Шевченка. 2012. Том II. Київ. ISBN 78-966-1555-47-09. pp.61-63 сторона.

Dr. András Laskai: *Key elements of the economics growth of the companies in the globalisation: Financial instruments of the business plan in international perspective.* In ACADEMIA DE ŞTIINŢE A MOLDOVEI, MINISTERUL ECONOMIEI AL REPUBLICII MOLDOVA: INSTITUTUL DE ECONOMIE, FINANŢE ŞI STATISTICĂ, CREŞTEREA ECONOMICĂ ÎN CONDIŢIILE GLOBALIZĂRII Conferinţa Internaţională Ştiinţifico-Practică Ediţia a VII-a Volumul II Organizată de Institutul de Economie, Finanţe şi Statistică. Secţiunea III SUPORTUL FINANCIAR PENTRU CREŞTERE DURABILĂ. 18-19 octombrie 2012. Chişinău, 2012. ISBN 978-9975-4381-1-7. pp.361-365.

In Hungarian
2012

Dr. András Laskai: *Financial instruments of the business plan in an international perspective* In.: A jövő gazdasága, a jövő befektetése. Treasury Club Konferencia. Az MTA Pénzügyi Albizottságának kihelyezett ülésével. 2012. november 22. Szent István Egyetem, Gödöllő Gazdaság és Társadalomtudományi Kar, Pénzügyi és Számviteli Intézet. Treasury Club tagja az európai (EACT) és a nemzetközi (IGTA) szervezeteknek. Konferencia CD kiadvány. 2012. november 22. Gödöllő, Szent István Egyetem ISBN 978-963-269-326-2. pp.112-117.