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BUSINESS AND TECHNOLOGICAL PERSPECTIVES OF INDUSTRY 4.0

– A FRAMEWORK FOR THINKING WITH CASE ILLUSTRATION

AZ IPAR 4.0 ÜZLETI ÉS TECHNOLÓGIAI VETÜLETEI

– GONDOLKODÁSI KERET ESETTANULMÁNNYAL ILLUSZTRÁLVA

In the last couple of years, we have witnessed an exponentially increasing interest of academia and professionals towards Industry 4.0 (I4.0). By focusing on the firm level of I4.0, the authors propose a framework highlighting several technical (technologies and applications, design principles) and business (vision, impact on competitiveness, integration, types of innovation, maturity) perspectives of the phenomenon. Their goal is to clarify the most frequent perspectives and by using them build a thinking framework, making readers understand what I4.0 is about. While frameworks are usually elaborated on a conceptual basis, this paper illustrates the selected perspectives and their links by an in-depth case study. A factory's digital transformation interpreted in the framework emphasizes the importance of research design and context.

Keywords: Industry 4.0, technology, framework, digitalization

Az elmúlt néhány évben a tudományos élet és a vállalati szakemberek exponenciálisan növekvő érdeklődését tapasztaljuk az Ipar 4.0 (I4.0) iránt. Az I4.0 vállalati szintjére összpontosítva olyan keretrendszert javasolnak a szerzők, amely kiemeli a jelenség számos technikai (technológiák és alkalmazások, tervezési alapelvek) és üzleti (vízió, versenyképesség, integráció, innováció típusai, érettség) vetületét. Céljuk, hogy a szakmai diskurzusban leggyakrabban előkerülő vetületek tartalmának tisztázása után azokból egy gondolkodási keretet építsenek. Míg a keretrendszerek általában elvi megfontolások alapján születnek, a cikk egy feldolgozóipari cég I4.0 transzformációját bemutató esettanulmány segítségével szemlélteti az egyes vetületeket és azok összekapcsolódását. A vizsgált gyár gondolkodási keretben értelmezett digitális átalakulása rámutat a kutatások tervezésének és kontextusának fontosságára.

Kulcsszavak: Ipar 4.0, technológia, keretrendszer, digitalizáció

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A kutatást támogatta "Az intelligens, fenntartható és inkluzív társadalom fejlesztésének aspektusai: társadalmi, technológiai, innovációs hálózatok a foglalkoztatásban és a digitális gazdaságban (EFOP-3.6.2-16-2017-00007)" projekt. A projekt az Európai Unió, az Európai Szociális Alap és Magyarország költségvetésének társfinanszírozásában valósul meg.

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An exponentially increasing number of articles in the international literature discusses Industry 4.0 (I4.0) (Gilchrist, 2016; Hermann, Pentek & Otto, 2015; McKinsey & Company, 2017; Viharos, Soós, Nick, Várgedő, & Beregi, 2017). By today, there are more than 100 definitions of the phenomenon (Culot, Nassimbeni, Orzes, & Sartor, 2020). In our view Industry 4.0 is the adoption of

new and innovative technologies of the Fourth Industrial Revolution by manufacturing firms. The term I4.0 itself highlights that manufacturing firms are forced to explore and then exploit the novel technologies. Nevertheless, even in its German origin (Die neue Hightech-Strategie Innovationen für Deutschland, 2014; Kagermann, Wahlster, Helbig, & Acatech, 2013) the I4.0 transformation

goes beyond simple process innovation relying heavily on the digitalization of products (and services embedded in products), and on building digitally-enabled new business models. Although the physically dominated technologies (e.g. 3D printing, advanced robotics) have a crucial role in the production, the digital solutions and the intangible capital (knowledge) are the main drivers of the progress.

The complexity of I4.0 is best grasped by review papers (Xu, Xu, & Li, 2018; Liao, Deschamps, Loures, & Ramos, 2017) and frameworks (Nosalska, Piątek, Mazurek, & Rządca, 2019; Fatorachian & Kazemi, 2018). Our paper presents a framework that integrates eight related perspectives. The selected perspectives cover the most frequently analysed business (e.g., type of innovation, vision, competitive measures etc.) and technical aspects (e.g., technologies and applications, design principles) of I4.0 at the organizational level (Nosalska et al., 2019). As this list of perspectives shows, very similar topics are usually examined and constantly on agenda in the case of new business initiatives.

While the frameworks are usually conceptual or review-based, our framework is illustrated by a case study from the manufacturing sector, as the most frequent sector (Liao et al., 2017; Nagy, 2019). We analyse a factory of a leading multinational automotive supplier that is ahead in the digital transformation in its internal network.

Altogether, our main contributions are to 1) clarify different perspectives and 2) examine a single case study illustrating each perspective and their interconnectedness.

In our framework, we highlight the key role of new technologies and show how I4.0 pervades other perspectives and their links. We want to make the readers aware that these perspectives are rarely made explicit in the I4.0 research papers. We ourselves were many times confused and had difficulties to understand the key – usually implicitly emerging – perspectives, especially because they have also been frequently blurred and mixed (e.g. technologies and integration principles, types of innovation feasible). We emphasize that a better understanding of these perspectives could result in a more reliable research design of empirical works. Our illustrated framework combining scientific and professional experience could help these efforts.

The paper is organized as follows. First, we embed the phenomenon of I4.0 into a historical context. Then the different perspectives are introduced one by one based on state-of-the-art knowledge. After describing the perspectives independently, the links among them are elaborated. The empirical part of the study is developed around a case study. The concluding remarks are complemented by promising future research directions.

The industrial revolutions

From a technological evolution perspective Industry 4.0 belongs to the Fourth Industrial Revolution (Cséfalvay, 2017; Gilchrist, 2016; Liao et al., 2017; Kagermann et al., 2013). The term ‘revolution’ refers to the radical changes in the structure of economies and societies due to the adoption of technology. These changes took

decades or even longer (see a Kondratiev cycle), as time was needed for new technologies to spread. Each era has also transformed the microsphere of the economy. The production system has evolved in the context of supply-demand relationships. Companies have developed a production system that matches the changing dimensions of customer demand (e.g., volume, variety, delivery time, individual requirements) (Yin, Stecke, & Li, 2018). In the following, we describe the industrial revolution from the manufacturing sector point of view.

The first revolution powered by steam engines had completely changed the way of work organization. It was the time when factories (instead of guilds) and the working class appeared. The second industrial revolution was powered by electricity. In the manufacturing sector firms started to produce standardized products in high volumes by mass production. The appearance of machines based on the innovations of the first two revolutions have also changed the weights of sectors in the employment and economic structure. Machines in the agriculture sector increased productivity significantly, and crowds searching for work moved to towns and applied for “routinized” manufacturing jobs. Finally, the industrialized economies produced higher and higher value-added (and so wealth) in manufacturing that outpaced agriculture. The power of the third revolution is electronics led by computers. Electronically controlled machines have been able to produce a higher variety of products, making mass customization possible. Increasing automation required less manufacturing workers, and people were absorbed by the more and more dominant service sector. During the third industrial revolution, developed nations arrived at the era of service economy and knowledge society. In the current revolution there is still no agreement on the ultimate power, but we think that mobile internet as a basis for a revolutionary new type of network is a good candidate. It bears the opportunity to connect everything (the digital and physical world, as well as things, services, people), everywhere, ubiquitously. The key component on the demand side of this revolution is the personalized product (and the aligning production). The personalization is challenging the traditional business model of manufacturing companies that was developed through the first three revolutions, and it urges them to become servitized firms. The expected productivity increase and the servitized manufacturing firms together will accelerate the decline of manufacturing measured by its share in employment and value-added in developed countries. The deeper gap between qualified and low skill workers are fuelling unbalances in societies.

Altogether, industrial revolutions are interpreted as socio-economy wide phenomena, and Industry 4.0 is a specific branch of it, a manufacturing sector-oriented approach.

At this part of the study, it is also worth clarifying the relationship between digitization, digitalization and Industry 4.0. Digitization refers to the conversion of analogue physical signals into zeros and ones to be stored, processed, transmitted by the computer (Prause,

Table 1.

Key features of industrial revolutions

Revolution	Key technology	Production system	Labour movement	Society
1st	Mechanization	Factories instead of guilds	Working class appears	Low skilled agricultural workers are absorbed by “routinized” manufacturing tasks
2nd	Electricity	Mass production	From agriculture to manufacturing	
3rd	Computers	Mass customization	From manufacturing to services	Service sector becomes more and more dominant
4th	Mobile internet	Personalization, servitization	From mass to personalized services	Further relative decline of manufacturing and sharpening tensions among high and low skilled workers

Source: own compilation

2016). Scanning a document, for example, or acquiring data by sensors from a machine. Digitalization means moving to a digital business, using e-mail, chat or social media instead of letters, papers, telephone. Going paperless is digitalization. Industry 4.0 goes beyond the “electronic-based” digitalization. It relies on new and innovative technologies to completely transform the way organizations operate and we work; it extends the boundaries of digitalization (Table 1).

Perspectives on Industry 4.0

In the following chapters, the different perspectives are discussed. We start with the technology and applications and design principles since all the others depend on them. Then continue with vision and its relation to innovation and competitiveness. We also touch upon the integration and maturity perspectives.

Technologies and applications

This chapter describes the prehistory and some predecessors of I4.0 and then reviews its core technologies. The aim is to build a solid basis for the following perspectives, so we do not go into technical details.

Technology-based developments of the recent past
Innovative (sometimes also called emerging, exponential) technologies are at the heart of I4.0. New technologies build on developments of the last decades, at those times called Advanced Manufacturing Technology (AMT). The highest level of these developments related to manufacturing is Computer Integrated Manufacturing (CIM). CIM could be developed in the 1980s building on “modern automation systems (often made up of embedded systems such as CNC machines) and software integration technologies (e.g. the integrations of Computer-Aided Design-CAD, Computer-Aided Manufacturing-CAM, Computer-Aided Engineering-CAE, Computer-Aided Production Planning-CAPP) systems” (Yu, Xu, & Lu, 2015, p. 6). One should note, however, that while CIM systems built on integrated data storage, and a central system supported data exchange, recently emerged technologies are built on distributed data storage and cyber system supports their data exchange (see the design principles chapter) (Yu et al., 2015). Altogether the technology-based developments

of the 1980s brought the system view and integration into the forefront.

A more recent important avenue of business development based on technologies is the e-business movement. The new business model has been built on virtual markets, “in which business transactions are conducted via open networks based on the fixed and wireless Internet infrastructure” (Amit & Zott, 2001, p. 495). Companies have learned how to replace brick and mortar shops and services with electronic channels to reach customers. E-business mainly changed the marketing and sales functions within manufacturing organizations and service businesses, as well, by providing more direct, quicker, flexible and cheaper communication and contact with customers. While e-business brought crucial changes in customer-related processes and services, it did not change yet, how physical products were made. Nevertheless, it changed the information flow, ERP systems integrated real flows and connected them with other business functions.

Additive manufacturing or 3D printing, existing since the 1980’s, is a bundle term for various technologies and is considered as a disruptive technology. Additive manufacturing is different from traditional subtractive technologies, as it adds layers of materials instead of taking out. Therefore, the material waste is reduced considerably, and the technology can produce very complex and diverse products. Disadvantages, however, is the high price and low variety, availability and capability of materials, the low speed of production, the extra step of finishing the final product, and the intellectual property concerns (Rylands, Böhme, Gorkin III, Fan, & Birtchnell, 2016). Additive manufacturing was used only for rapid prototyping till recently.

Technologies of I4.0

There are several different classifications of I4.0 technologies (e.g. Chiarelloa, Trivellib, Bonaccorsia, & Fantoni, 2018; McKinsey & Company, 2017; Schuh, Anderl, Gausemeier, ten Hompel, & Wahlster, 2017). Instead of analysing the available classifications, we describe shortly the most important technologies and their interdependencies.

Without any doubt, the basis of today’s technologies is the cyber-physical system (CPS), which consists of *sensors/*

actuators, a network and a cloud. Sensors (translating physical features into digital data) and actuators (translating the digital instruction into physical reaction) (Difference Between Sensors and Actuators, 2018) produce and use data, the *network* for communication transmits them into the *cloud* (let it be private or commercial) to be stored or manipulated (Porter & Heppelmann, 2014). More developed CPSs are able not only to send and receive signals but also to reconfigure themselves autonomously, i.e. without people’s interaction.

The CPS (both hardware and software) is embedded into products, devices, and every kind of things and it enables them to communicate with each other using a common protocol. The connection of these things is called the *Internet of Things* (IoT). As we can control our air condition, the heating, the television with our mobile phone, machines can also be controlled in a factory, or even more, they can communicate with each other, and reconfigure themselves based on information from other machines or products. Machine-to-Machine (M2M) systems is a subcategory of IoT.

There can be several sensors built into a thing (e.g. a machine) measuring different parameters, like temperature, pressure, etc. every second, generating terabytes of big data. *Big data* has three important differentiating features: volume, velocity and variety. Developments in infrastructure (like storage systems, virtual servers) were required to collect and store data, and new data analysing programs (e.g. R) and visualizing software made it possible to *analyse big data*.

Augmented and virtual reality (AR/VR) is another technology. Augmented reality puts digital pictures/objects on reality, while virtual reality shows a digital picture of the reality.

There are also more tangible types of technologies. *Advanced industrial robotics* sometimes called collaborative robotics should not be isolated from people for safety reasons. Even more, these robots are able to

complement or support human work, for example lifting heavy objects. Automatic guided vehicles and mobile industrial robots also belong to this group of technologies.

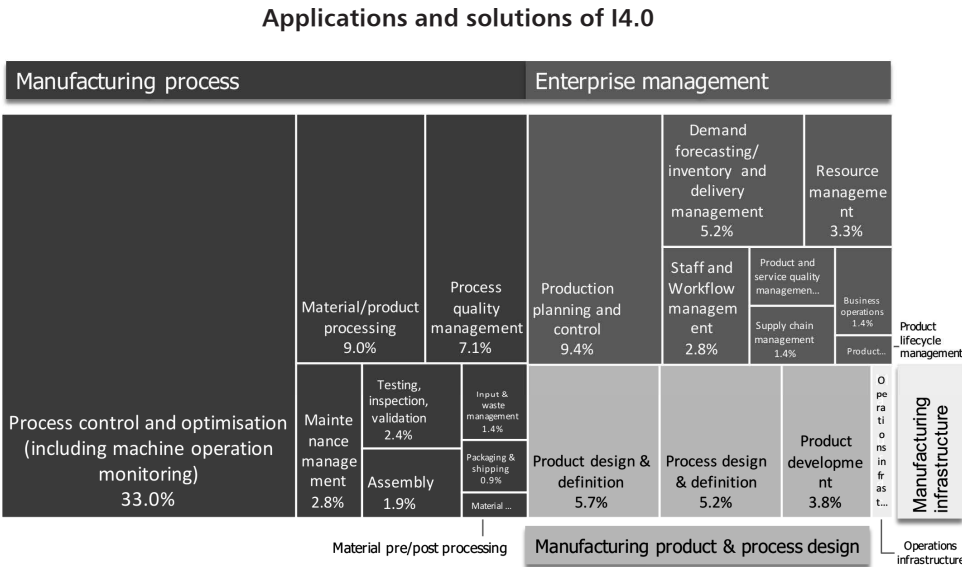
Last but not least *additive manufacturing* is also considered as a manufacturing technology of I4.0. The main reason is the changed purpose of its use. This technology is matured and became economical for small-scale production. Nowadays, it is frequently used for replacing broken tools, as well, making possible to significantly reduce the level of inventory of maintenance materials.

Technologies are not independent of each other. The most important connection between them is data: each of them produces and utilizes data, they ‘swim in the big data ocean’.

However, the adaptation of the technologies varies extremely among groups of manufacturing companies (Frank, Dalenogare, & Ayala, 2019), indicating that a small group of firms is ahead in the digital transformation. The actual maturity of the specific technologies is a further factor that might influence their level of adaptation. E.g. AR technology is still in the experimental phase, while the cloud is a widely used mature technology. Even in the case of mature technologies, like advanced robotics, one can find some industry-specific considerations (e.g. intensity of competition, available capital and general level of technology etc.). That is why robots are more widely used in automotive and electronic industries than in any other manufacturing industries. Finally, the competitiveness of national economies (or productivity) has also a stochastic impact on the use of technologies see (Eurostat, 2019).

Sometimes *horizontal and vertical integration* or simulation are also listed as technologies. We think that integration is a different perspective of I4.0 as described in a later chapter, while *simulation* is not a separate technology, but an application, a combination of data analysis and virtual reality. *Digital twin* is similar, it uses big data and virtual reality. We consider machine learning, blockchains

Figure 1.



Source: López-Gómez et al. (2018, p. 30)

or software robots (like chatbots) as I4.0 technologies, but they are used more in services than in the manufacturing sector (Marciniak, Móricz & Baksa, 2020). Cybersecurity is also often claimed as a technology, however, in our opinion it refers to a set of comprehensive policies and elements of infrastructure securing long-term use.

Applications and solutions

In a business environment, the listed technologies are adopted to resolve specific business problems. For example, at a lean department predictive maintenance is supported by big data analysis of sensor collected data. In other words, *applications and solutions are combinations of different technologies to serve business purposes*. Based on 212 case studies collected worldwide in the manufacturing industries, López-Gómez, McFarlane, O'Sullivan, & Velu, (2018) identified the following use of I4.0 technologies depicted by Figure 1. Most of the applications support operations management processes: the most frequent use is in process control and optimization (33%), in production planning and control (9.4%) and in material processing (9%). Enterprise support process (ca. 25%) and product design (ca. 10%) are represented by lower weights.

Design principles

Design principles help to adapt and use I4.0 technologies in an effective manner. Hermann et al. (2015) identified the specific design principles of I4.0, namely interoperability, virtualization, decentralization, real-time capability, service orientation and modularization.

Considering the mobile internet connection as the key power behind I4.0, the principle of interoperability is straightforward. Machines, people should connect and communicate with each other (to optimize the use of time and resources all over the value chain). This connection means not only the channel through which data flow but also the protocol of communication. Machines have to use the same standard in order to “understand” each other. So far, the industry-wide standards are still missing. “*Virtualization* means that CPSs are able to monitor physical processes” (Hermann et al., 2015, p. 12). It provides data for simulation and modelling, for a virtual copy of real processes. By embedded CPS, *real-time data acquisition* and interoperability enabled *decentralized decision making* becomes possible. In other words, even the operator can make the decision, having all the necessary data. Even RFID tags on products can give instructions to machines about what operations and when they should undergo. Rapid scaling and quick changeovers are further key characteristics of the new industrial reality. The *modularity* of manufacturing resources means plug & play kind of capacity changes/additions. Since hardware consists of more and more electronic and less mechanical parts nowadays (Porter & Heppelmann, 2014), changing the features of the machines or upgrading becomes much faster and easier.

Finally, *service orientation* is linked to the personalization: processes can make exactly what

customers want (represented by the RFID tag). It has far-reaching consequences for the internal organization of processes: “The *services* of companies, CPS, and humans are available over the IoS [*Internet of Services*] and can be utilized by other participants. They can be offered both internally and across company borders” (Hermann et al., 2015, p. 12).

The elements of a fine web of relations that need to be managed among technologies to build an effective system around I4.0 are identified by these principles. According to this interpretation, it also means that design principles and maturity assessment are closely related perspectives.

Vision: how to succeed in the era of personalisation

I4.0 is the *new vision* of manufacturing. As announced in German documentations (Kagermann et al., 2013; Cordeiro, Ordóñez, & Ferro, 2019) it embraces the key issues of personalization, co-development/co-creation (Pralhad & Ramaswamy, 2004), hybrid/servitized organization (Baines, Lightfoot, Benedettini, & Kay, 2009) and flexible factory. These new factories can handle unique request from the customer, for example by RFID chips on products, which provide the necessary information for automatic machinery. Due to the personalized production customers become partners in developing the requested product together with the producer. And producers build new capabilities, sometimes new businesses, to become service providers, as well. So, the line between services and manufacturing becomes even more blurred than before. Personalized products can be handled only by automatic and autonomous machines, multiple routing opportunities of products and dynamic planning and control equipped with real-time information from the shop floor for optimized decision-making resulting in resource productivity and efficiency.

Innovation: from processes to business models

I4.0 can be adopted to serve each *type* of Schumpeter's *innovation*: product, process, organizational, and marketing (Schumpeter, 2017; Tavassoli & Karlsson, 2015). In I4.0 it is translated for *business model innovation*, *product innovation* and *process innovation* (Gilchrist, 2016).

A business model “is about the benefit the enterprise will deliver to customers, how it will organize to do so, and how it will capture a portion of the value that it delivers” (Teece, 2010, p. 179). Therefore, *business model innovation* means an essential change in the value proposition to the customers, a significant reconfiguration of the company's and its network's processes and systems, and/or redefining the financial streams (revenue and cost structure) of the company (Horváth, Móricz, & Szabó, 2018). A business model innovation is usually disruptive, as it changes the basic routines of the company, which is extremely difficult, although sometimes happens (e.g. see the IBM transformation from a manufacturing to a service company, which changed not only the product portfolio and the revenue streams, but the organizational and governance structure, as well (Walker, 2007)). It is more

usual, that new companies innovate classical business models. For example, platform companies (Facebook, Amazon, Google, Uber, AirBnB) have done that. They provide a two-sided marketplace, where people and/or companies meet. Seemingly they offer free service for users, but they generate income from user data, selling and posting advertisements, or premium services. We argue that business model innovation should include at least two types of Schumpeter's innovations.

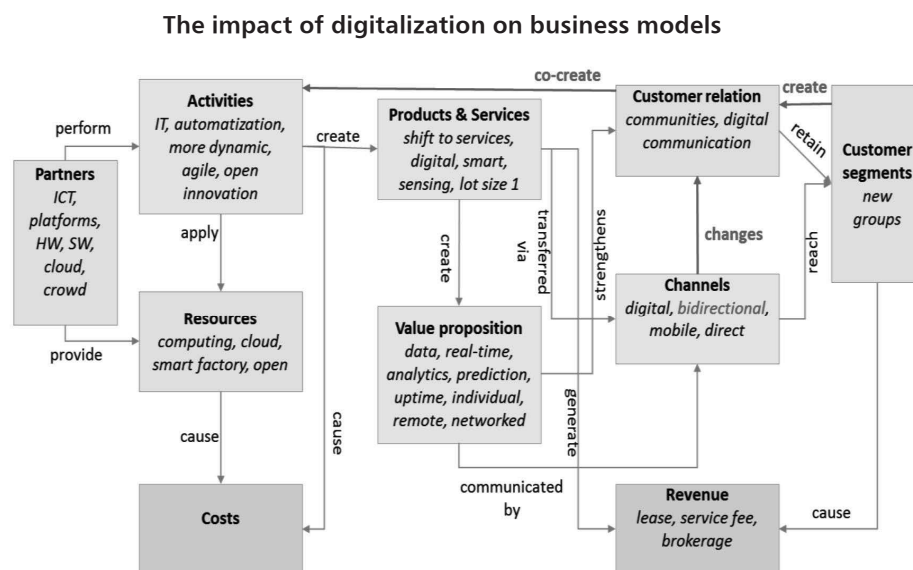
Digitalization has a significant impact on various elements of the business model, on the value proposition supported by big data analytics, providing real-time, predictive information to customers; on the product-service portfolio, as these additional data can manifest in new services; on the processes by automation and resource efficiency; on the sales and information channels reaching new customers and becoming bidirectional (Horváth et al., 2018). The complex effect of digitalization is well summarized in Figure 2, where we can identify the key building blocks of a business model canvas, a popular strategic analysing tool (Fritscher & Pigneur, 2009).

Finally, *process innovation* aims to achieve a higher level of integration in order to improve efficiency and quality. Basically, it means ensuring relevant and real-time information for decisions to different parts of the business, from the level of operators to the management and between supply chain partners. Process innovation usually addresses the core processes (manufacturing and/or service provision for customers) of the firm but supporting processes (administration) and customer-related processes (marketing, sales) also provide room for innovation (Herbert, 2017). Today, as we have shown by citing López et al.'s research, I4.0 projects are usually focused on process innovations in manufacturing companies. This I4.0-based transformation effort of the production system is called smart manufacturing (Frank, Dalenogare, & Ayala, 2019).

Competitiveness, objectives: customer value and shareholder value

The *objective* of I4.0 innovations is to increase the *competitiveness* of companies. This competitiveness can

Figure 2.



Source: Prem (2015, p. 9)

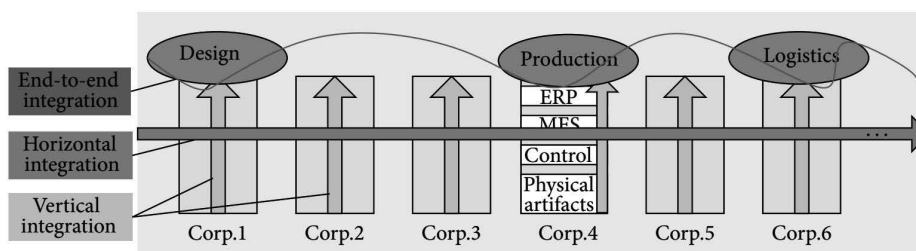
While business model innovation transforms the whole organization, *product/service innovation* embraces only a smaller part of the business. Smart products contain several sensors, which can provide information to the user and to the producer about the status and usage characteristics of the product. There is an opportunity for remote control, maintenance or upgrade (Porter & Heppelmann, 2014). The more products become smart in the portfolio and therefore lead to more and more services, the more organizational change is required by the company (Porter & Heppelmann, 2015). After a while, it can result in changes in the business model, as well. In the operations management literature this process is called servitization (Baines et al., 2009), while marketing researchers know this phenomenon as the service-dominant logic (Vargo & Lusch, 2008).

manifest in business (shareholder value), operational (customer value) and other performance measures. Shareholder and customer value creation, sometimes called double value creation, ensures the long-term prosperity of companies, as both the owners and the customers get what they want (Chikán, 2006).

The most usual measures at the *business level* are productivity (e.g. value-added per employee), and return on capital employed (ROCE) (Blanchet, 2014). *Productivity* is a complex term, but the two most frequent measures are labour productivity (when labour is considered as input) and total factor productivity (when labour and assets are both considered). It is claimed that the previous three revolutions increased productivity (value-added per employee) considerably, and the fourth is expected to increase it as well (Rüssmann, et al., 2015). Higher

Figure 3.

The three kind of integration and their relationship



Source: Wang et al. (2016, p. 2)

productivity means that companies can produce more output from the same inputs, or the same output from fewer inputs than before. Higher productivity also means higher revenue with reduced costs and reduced working capital (López-Gómez, McFarlane, O'Sullivan, & Velu, 2018, p. 25). Based on estimations ROCE can increase as products' value-added increases more than the invested capital. So, the key issue is to provide more value-added to customers through smart features or more services.

At the *operational level* we expect improvements in all classical indicators, like better quality, higher flexibility, faster delivery, as well as cheaper and more reliable products and services. And expectations are indeed very high due to published experiences so far. According to López-Gómez et al. (2018, p. 32), I4.0 applications could significantly reduce labour costs (depending on applications in average with 66-80%) and material costs (42-63%), as well as quality defects and errors (60-100%), and improve service and delivery performance (71-75%). Similar conclusion is drawn by WEF after studying "lighthouse" I4.0 factories (Martin, et al., 2018).

Sustainability can be another direction to measure the impact of I4.0 (Kamble, Gunasekaran, & Gawankar, 2018). Using smart products and processes we can save energy, reduce pollution, support communities or disabled people. Automatic factories can also provide the opportunity to use the energy, when there is no demand for it without additional costs (and with reduced energy costs) (Szalavetz, 2018), e.g. in the middle of the night. Life cycle management of products (end-to-end engineering, see next paragraph) is possible due to continuous data flow from smart products (Porter & Heppelmann, 2014).

Integration

Vertical (e.g. managing trade-off among value chain activities) and horizontal integration (e.g. managing partners in a supply chain) have been long in the focus of management. Furthermore, a life cycle management of the product is an extended horizontal integration incorporating even the customer.

There is a shared perception that I4.0 solutions enable deeper *integration of value chains*, vertically, horizontally and through engineering end-to-end (Wang, Wan, Li, & Zhang, 2016; Gilchrist, 2016) (Figure 3). Within companies, vertical integration becomes easier, as managers at all levels can get access to necessary data

real-time, remotely, from their own desk. Performance and activities become transparent, and a faster decision is possible. Also, horizontal integration with customers and suppliers can be stronger as partners can collect and share more information, even real-time. Not only everyday operations can be integrated at a higher level, but end-to-end processes of engineering, along the life cycle of the product, becomes a reality. It is possible to maintain or even upgrade the product remotely while it is at the customer (think of smartwatches, mobile phone, computer software), and producers can take care of components at the end of the products' life cycle.

Maturity

Maturity models assess the road step-by-step towards I4.0 from different aspects (Viharos et al., 2017). We review here three seminal models: the study of Schuh et al. (2017) discusses maturity at the factory level, Porter and Heppelmann (2014) at the product level (that finally linked to the business ecosystem), while Lee, Bagheri, & Kao (2015) at the technology level.

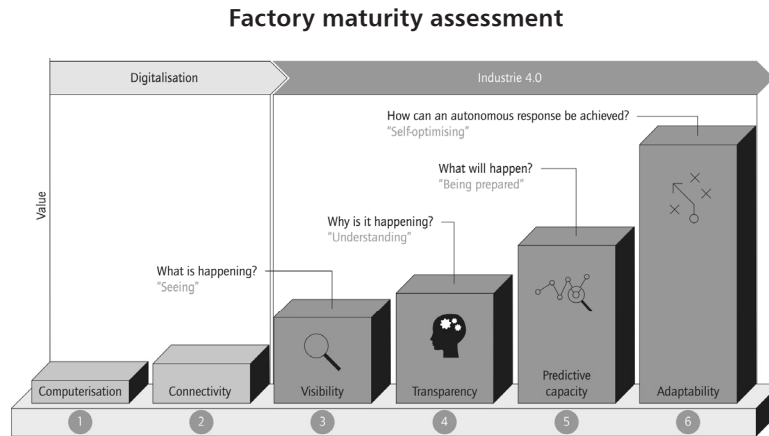
Schuh et al. (2017) identifies the stages in the factories' I4.0 development path (Figure 4). It claims that I4.0 starts beyond the "pure" form of digitalization, or in other words, some digitalization (computers, connectivity) is the prerequisite for I4.0. The starting maturity level is visibility, and the final is the autonomous and self-optimizing adaptability.

Porter and Heppelmann (2014) determined four levels of product maturity, starting from a traditional product to arriving at the connected, smart product:

1. Monitoring (sensors and other sources acquire data on the condition, environment, use).
2. Control (software embedded in product or cloud enables control of product functions and personalize user experience).
3. Optimization (algorithms based on monitoring and control enhance product performance and allow predictive diagnostics, service and repair).
4. Autonomy (combines levels 1-3 and allows autonomous product operation, self-coordination of operation with other products, autonomous product enhancement and personalization, self-diagnosis and repair).

Lee et al. (2015) have categories (5C) at the CPS level: connection (condition monitoring with sensors), conversion (self-aware, component/machine), cyber (self-compare,

Figure 4.



Source: Schuh et al. (2017, p. 16)

Table 2.

The perspectives of the framework for thinking about Industry 4.0

Layer	Literature	Elements					
Technologies	based on Schwab (2016)	From digitally dominated (big data analytics, simulation, cloud computing, VR/AR)		Glue (Sensors and network)		To physically dominated (Robots, 3D printing)	
Applications	WEF, 2019	e.g. digital quality, predictive maintenance, visualisation, cell design, MES					
Design principles	Hermann et al., 2015	Interoperability		Virtualization	Decentralization	Real-time capability	Modularity
Vision	Kagermann et al., 2013	Personalization, Co-development/co-creation, Hybrid/servitization, Flexible factory					
Type of innovation	www.pwc.com/industry40	Business model		Product/service		Process	
Competitiveness, objectives	Porter & Heppelmann, 2014, 2015	Business oriented (shareholder value) Productivity, profit margin		Operations oriented (customer value) cost, delivery, quality, inventory turnover		Other orientation e.g. sustainability	
Type of integration	Wang, Wan, Li, & Zhang, 2016	Vertical integration (seamless internal processes)		Horizontal integration (involving partners)		End-to-end integration (life cycle approach)	
Maturity	Lee et al., 2015	Technology: Connection, conversion, cyber, cognition, configuration					
	Porter & Heppelmann, 2014	Product: Monitor, control, optimization, autonomy					
	Schuh et al., 2017	Factory: Visibility, transparency, predictive capacity, adaptability					

Source: own compilation

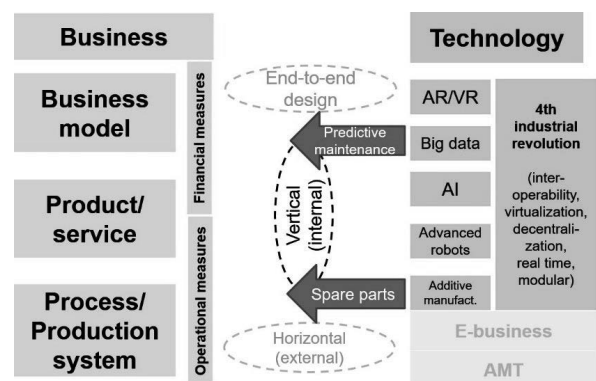
the fleet of machines), cognition (prioritize and optimize), configure (actions to avoid). Basically, the categories and hence the trajectories of the three maturity models are very similar, however, they put different aspects – the factory, the product or the technology – into the focus.

The framework for thinking about Industry 4.0

After the detailed description of the perspectives (summary in Table 2.), hereby we describe their interconnectedness in a framework. We consider Industry 4.0 as the business-oriented utilization of novel technologies by manufacturing firms (Figure 5.). Businesses pursue different types of innovations, such as business model, product/service or process/production system innovations in order to improve financial, operational (or other) measures for higher competitiveness. New technologies, built on old ones, form the basis of the 4th industrial revolution. Systems built on new technologies have specific design principles as compared to older ones. The combination

of new technologies, such as augmented/virtual reality, big data analytics, artificial intelligence, advanced robots

Figure 5.

The framework for thinking about Industry 4.0

Source: own compilation

or additive manufacturing (3D printing) provides the ground for business applications, which help to solve a business problem. Applications and developments improve integration vertically, horizontally, and end-to-end engineering. And finally, all these efforts support the competitiveness of the company.

Based on this logic, Industry 4.0 is a phenomenon, where manufacturing firms combine the “core” technologies of the 4th industrial revolution to enable (different types of) business innovations.

Application of the framework for thinking at the factory level – the experience of a case factory

The case factory and methodology

Our case factory is part of a multinational corporation, having subsidiaries in several countries including Hungary. The corporation has three divisions. The case factory operates in the automotive division producing mainly connectors in large varieties. They have industrial robots and short production lines (only a few steps to produce one product).

The authors have a long-lasting link to the factory. Previously, the lean management system of the factory has been studied (Demeter & Losonci, 2019). Altogether, we have conducted 8 semi-structured interviews, the first in 2017 and the last one in February 2020. We interviewed the Lean/Digital Manager (4 times), the Supply Chain Manager, two project managers from the digital department and one software developer. The interviews lasted between 45 to 120 minutes. Several factory visits were also arranged. Furthermore, the Digital Manager and the Supply Chain Manager gave several guest presentations about the digital transformations in classes, and three students of the authors had their internship under the supervision of the Digital Manager.

The perspectives of I4.0 at the case factory

Technologies and applications, design principles

The case factory started the I4.0 transformation in the early 2010's. It installed several thousands of sensors and actuators into the machines and currently appr. 80-85% of their machines are interconnected. The factory has several applications, relying on various technologies:

- *Cloud and IoT*: The multinational corporation has industrial private clouds at two service providers including computational and security services, but subsidiaries also have their own data storage solutions, where high secret, experimental data are managed. Subsidiaries share and exchange data collected by machine sensors through the cloud for further analysis and process optimization purposes. This direct access to any type of data from any factory is considered by the company as IoT.
- *Digital andon*: andon is a signal of a problem, which requires a fast reaction from operators or maintenance staff. By digitizing the signal, the maintenance gets instant information about the problem. This solution

requires the internet, mobile phones and machine data for the analysis.

- *Digital dashboards*: The “business” dashboard of the shop floor provides detailed, daily refreshed information about machines, processes and people, with some standard charts, and exploring capabilities (i.e. filtering features). This dashboard is available on managers’ mobile phones, as well. Data are retrieved from shop floor control and ERP systems. They replace the paper-based, static factory KPI reports. In the manufacturing dashboard arena, there are three developments, which are based on real-time sensor data. The first one shows the operators’ cycle times. This data is also visible for the operators themselves on smart screens nearby. A heat map using each operators’ data at the factory level is also created, showing real-time information for managers’ dashboard. 2) Several sensors monitor various parameters of machines and make alert if needed. 3) There are intelligent cameras installed in the assembly area to identify faults in products. The requirement: internet, smart screens, sensors in machines, cloud for data storage and computing, and business intelligence software for visualization.
- *E-QCPC* (electronic quality control process chart): this solution virtualizes the existing paper-based problem reporting and strengthens the escalation process. If a problem is not solved in a set time, it goes up to the next level. There are screens on the shop floor and in other parts of the company, and people can enter the problems. They can also monitor the status of previous submissions. The requirement: internet, smart screens, cloud, software.
- *OLMS* (operator learning management system): the plant has a sophisticated electronic learning platform for different levels (operators, managers), and different technologies. When an operator wants to start a task, the machine identifies the operator by his/her identity card. If the operator does not have the relevant training, the machine sends him for training on the e-learning platform on the shop floor. The managers can monitor the progress of workers and can also see, how well the operators go through the training, which can be useful information for example in case of promotions. Requirements: an online platform for training materials, sensors to identify people, training platform on the shop floor.
- *Predictive maintenance pilot*: the factory puts tremendous effort into the pilot project to extend the life of tools by predictive maintenance. They have big data collected from machines. They want to understand the patterns of signals and be able to predict the breakdown and replace the tool just-in-time. Requirements: internet, sensors, cloud, big data analytics.
- *3D printers*: the company owns metal and plastic 3D printers not only for rapid prototyping but also for printing products in small quantity for the aftersales market. Requirement: 3D printer.

- *Mobile Industrial Robots (MIRs)*: The robots deliver materials/products between the warehouse and the shop floor without human interaction. MIRs are collaborative robots, sensing the presence of humans. Requirements: internet, sensors, robots.
- *Plant simulation*: the company has 1 full-time employee making simulations for potential investments, for example, by simulating the operation for various number of MIRs to find the optimal number to buy. Requirements: internet, sensor data from the shop floor (not necessarily real-time), cloud, big data.
- *Real-time analytics*: they use the analytics for process optimization and shop floor control. Requirements: sensors, cloud, big data, internet.

We can identify the majority of I4.0 technologies in the applications of the case factory. We could not find AR/VR (it is in experimental phase in a US factory only), and it has only plan to adopt machine learning in some equipment.

Some of the *design principles* are already working at the case factory. Upgrading of machines was among the first steps of the digital journey which is the basis for *virtualization*. Digitalization is also used in the support processes, e.g. e-QCPC is the virtualization of a previously paper-based system. Data collected by sensors are the main input for the *decentralized decision making*. *Real-time information* is used mainly for monitoring (dashboard) and escalation (andon). Although machines are connected and monitored, their interconnectivity is not beyond yet (e.g. machines cannot self-compare, prioritize and optimize or reconfigure themselves). Nevertheless, the implementation of MIRs in the internal logistics processes will rely on the interoperability of machines and systems, which can take the factory to the next level of maturity. *Modularity* and *service orientation* are not in focus yet.

Vision and objectives

The vision of the initiatives is to build a flexible factory. They have made steps to make the factory more flexible and agile.

The main reason behind this visionary factory concept is that the factory has experienced a slow but continuous change in the demand: customers require smaller volumes and higher varieties. It led to a reduction in the batch sizes at the shop floor level, reducing the company's profit margins. Nevertheless, the company must provide the same level of service (i.e. operations measures) for their clients. The clear dominant objective is cost reduction while sustaining and possibly improving other measures (Table 3.).

Type of innovation, integration

They have moved into the direction of personalized production, but they are still far from that. The company is still a "pure" manufacturing firm, as we could not identify additional services in the product portfolio.

I4.0 at the factory is dominated by development efforts related to the production system. The production system centred approach at the corporation is reflected by the fact that the lean departments were actively involved during the digital transformation from the very beginning within the regional automotive division.

Minor changes have started in the organization. At the division level, a Chief Digital Officer (CDO) is appointed and he has regional accelerators responsible for spreading the policies of the digital transformation and the knowledge of specific technologies. At the case factory, the head of the lean department is appointed as the digital factory manager. The factory is also in the process of creating local accelerator positions.

Vertical integration was in the centre from the beginning of the digital transformation. Links between human resources and operations were resolved by OLMS; digital andon implies closer cooperation of maintenance and operations; the installation of MIRs connects logistics and operations. Considering the factory's responsibilities in the internal network (produce products based on central orders and deliver them into the distribution centre), we expect that the vertical integration will remain at the forefront of digital developments.

Table 3.

Perspectives of I4.0 at the case factory

Layer	Case factory experience
Technologies	Cloud, IoT, Big data analytics, 3D printing, Advanced industrial robotics (MIR)
Applications	Digital andon, digital dashboard, e-QCPC, OLMS, predictive maintenance (pilot), 3D printing, Mobile Industrial Robots, real-time analytics, plant simulation
Design principles	Interoperability of machines (only connection and conversion), virtualization of paper-based systems, decentralized data acquisition, real-time information
Vision	Flexible factory able to handle smaller batch sizes, while keeping the same service level.
Competitiveness, measures	Dominantly cost focus. Indirectly quality and flexibility are also addressed.
Type of innovation	Mainly core manufacturing processes, plus some supporting ones (e.g. OLMS, predictive maintenance). Minor modifications in the organization (CDO, accelerators)
Type of integration	80-85% of machines are connected, which means some level of vertical integration. No projects for changes in the supply chain. Other measures (sustainability) are not in the focus.
Maturity	Connection/monitor/visibility phase

Source: own compilation

Maturity

The innovation of the production system is in the focal point of efforts both at the corporate and factory level. To assess the factory's maturity, the factory focused model (Schuh et al., 2017) is appropriate. According to that classification, the factory is between the visibility and transparency levels. This is also confirmed by the current level of design principles.

The strategic importance of the digital factory is underlined by the internal audit system as well. The business unit assigns stars to each factory annually based on the yearly operations audit performance. The operations audit is built around the business unit level multi-plant improvement program (Netland & Aspelund, 2014), that merges six sigma and lean. As we have already noted, the appearance of digital tools in the daily operations has impacted the lean departments from the beginning. The corporation has also modified the operations audit system and incorporated digital aspects as a separate item, added to the 12 existing items. Factories get 1 to 5 stars (5 is the highest) for each item. The lowest item ("the bottleneck") determines the overall performance of the factory. Due to the novel nature of the digital item, it can get one level lower than the overall performance (e.g. if each item is 4 or higher, and the digital item is only 3, the overall performance still can be 4 stars). Therefore, considerable digital efforts are required to get the usual audit performance (4 out of the 5 stars).

The framework for the case factory

The advantage of our framework is that going through the perspectives a detailed picture of an organization can be obtained, connecting the business and technology sides of I4.0. Even if the perspectives are closely related sometimes, still each has its own logic and provides specific insights into the digital transformation. Furthermore, the perspectives also help to see in which directions the company has a shortage or might have opportunities.

Based on our multi-perspective framework we have shown that the case factory has deep experience and can rely on accumulated knowledge gained by the deployment of traditional industrial robots. It works heavily on interoperability of machines and real-time capability. Most of the applications are digitally dominant solutions, but the factory also uses 3D printing, and just started with advanced robotics. The efforts focus on vertical integration. Considering the technologies and the level of integration the factory is at the visibility/monitoring level. Business-wise, their dominant objective is to sustain – and if possible, to improve – operational performance, mainly the cost position; business level performance measures and sustainability issues are secondary (but certainly not neglectable). The I4.0 investments at the case factory serve to improve the core processes both directly and indirectly (i.e. transparency, quicker feedbacks).

To summarize, the factory uses many technologies, but the level of integration is still low. Currently, there are islands of digitalization in the daily operations. Due to their position in the corporation network probably they

will not be able to change their production and cost focus, even if opportunities would be there. The business and the technology side seem to fit each other.

Summary

Our study highlights that there are many perspectives around Industry 4.0, as it is usual in every newly emerging management initiative. We have selected several seminal perspectives that are widely discussed in relation to Industry 4.0 in (operations) management literature. We are convinced that based on our case-illustrated description of perspectives researchers could and should make a much clearer stance on their approach to I4.0. In our view, the type of innovation pursued by the available technologies is the most distinctive factor. The case factory level efforts are focused on the production system and a matching audit system is developed (see Schuh et al., 2017). Expected improvements (operations measures) and related fields (lean management) are emerging accordingly (Buer, Strandhagen, & Chan, 2018; Tortorella, Giglio, & van Dun, 2019). As our comprehensive approach indicates, alongside these perspectives even the behaviour of a disruptor firm (e.g. Tesla), which builds a completely new business ecosystem, can also be described.

We acknowledge that there are several shortcomings of our study. First, we do claim that this list of perspectives is not comprehensive. Considering the background of the authors, this "patch" is proposed to be the most useful for production plant managers, for manufacturing experts, and even for general and academic audiences. There are further crucial perspectives at the firm level, such as managing the digital transformation process itself, the role of IT, the development of organization and people etc. (Liao et al., 2017), that are not covered in the paper. Second, our case factory's experience is limited to the production system (core process) innovation. This level of analysis is not necessarily in the focus of wider interest related to digital transformation. Nosalska et al. (2019) claim that business reports and government documentations emphasize business model changes disproportionately more frequently than scientific articles. Promising future research could examine the link among these different types of innovations in the I4.0 context. Finally, there are crucial factors beyond the firms' boundaries, namely legislation, education, infrastructure, industrial policies and social acceptance which were not considered. These factors with many unintended consequences require structural changes (Kovács, 2017) (Kovács, 2018), and only their successful restructuring could accelerate the organizational efforts.

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COMPLEXITY OF CHANGE AND ITS RELATIONSHIP WITH THE LEVELS OF COOPERATION NEEDED DURING A CHANGE PROCESS

A VÁLTOZÁS TÍPUSAI ÉS AZ EGYÜTTMŰKÖDÉS SZINTJEI AZ ISMERT VÁLTOZÁSMENEDZSMENT-ELMÉLETEKBEN

Change, and the capacity for change is an organic and necessary part of the life of organisations, and this organisational phenomenon has been the topic of countless researches and publications. The decisive majority of change management approaches are basically functionalist and look for the tool(kit)s of managers to bring the change process to success. The focus is on managers (leaders); if they look at the employee perspective at all, they do so to identify clues for the leaders. They want to understand employee behaviour to upgrade the change management tools of managers so that the latter can achieve their goals as effectively as possible. This study follows a different approach: identifying what relationship, what type of cooperation/co-action is assumed or recommended for change processes by existing and well-known change management schools. This paper reviews the basic change types along two dimensions to identify the most popular change management theories and the change types they discuss. One fault line dividing the theories concerned into two major groups is whether they consider the relationship between change and the quasi-steady state typical of organisations to be discontinuous, incremental or continuous. Another fault line concerns control being exercised over the change process, i.e. the extent to which the initiators and/or leaders of the change can and/or want to assert their intents during the process. The nature of this paper is a narrative or integrative review, which is based on a more idiosyncratic engagement with the literature. That is, the author considered the mainstream approaches and theories as my starting basis. This paper comes to the conclusion that the more complex the changes a theory aspires to solve, the more central the partnership, cooperation and dialogue between management and employees are in the model. The deeper the changes it operates with, the more it affects the deepest cultural layers of organisations, and the more essential the dialogue component is for the model.

Keywords: change management, change management theories, dialogue, partnership, cooperation

A változás és a változásra való képesség szerves és szükségszerű jelenség lett a szervezetek mindennapjaiban, ennek megfelelően rengeteg kutatás és publikáció született a témában. A változásmenedzsment-elméletek többsége alapvetően funkcionalista megközelítésű, arra keresik a választ, hogy a változási folyamatban milyen eszköz(tár) vezet(i a vezetőt) sikerre. Fókuszukban a vezetők állnak; amennyiben munkavállalói perspektívából vizsgálódnak, annak konklúziói a vezetőknek nyújtanak támpontokat. Azért akarják megérteni a munkavállalókat, hogy a vezető minél sikeresebben érje el az általa kitűzött célokat. A tanulmány más megközelítést alkalmaz: azt keresi, hogy az ismert változásmenedzsment-elméletek milyen viszonyt, az együttműködés és együtt-cselekvés milyen fajtáját feltételezik vagy írják elő a változási folyamatokban. Ez a cikk az alapvető változáselméleteket két dimenzió mentén különbözteti meg. Egyrészt napjaink szervezeti változásmegközelítései között ott figyelhető meg törésvonal, hogy hogyan tekintenek a változás és kvázi-állandó állapot viszonyára: szekvenciális kapcsolatot feltételeznek közöttük: amikor időről-időre, epizodikusan, bizonyos szakaszokra kibillen a szervezet ebből a kvázi-egyensúlyi állapotból, és valamilyen változás folyamatába kerül, vagy azt állítják, hogy ma már a hatékonyan működő szervezetekben nem is létezik ez a kvázi-egyensúlyi állapot. A másik dimenzió, ami mentén különbség figyelhető meg az elméletek között, az a szándékolt-nem szándékolt dichotómia, vagyis hogy a szervezeti szereplők tudják-e tervezni, irányítani, menedzselni, tudatosan kontrollálni a változási folyamatot. A cikk alapvetően narratív vagy integratív szakirodalmi áttekintés, amelyben a mainstream megközelítéseket és elméleteket tekintette a szerző kiindulópontnak. A cikk arra a megállapításra jut, hogy a változásmenedzsment-elméletek minél bonyolultabb, komplexebb változásokban gondolkodnak, annál inkább beszélnek a szervezeti vezetők és alkalmazottak közötti érdemi, valós, kölcsönös együttműködésről. Minél mélyebben ható változásról beszél egy elmélet, minél inkább érinti a szervezeti kultúra mélyrétegeit, annál inkább foglal el központi helyet az adott változásmenedzsment-elméletben a dialógus.

Kulcsszavak: változásmenedzsment, változásmenedzsment-elméletek, dialógus, partnerség, együttműködés

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It has become almost self-evident by now that constant change is here to stay in the everyday life of organisations (Barnard & Stoll, 2010; Burnes & Jackson, 2011; Drucker, 1999); it is inevitably present in every organisation and every industry (By, 2005; Cummings & Worley, 2001). Change is driven by the need for adaptation to survive in the current turbulent business and economic climate (Bakacsi, 2005; Dobák, 1996; Robbins et al., 2010); the need for continuous growth as a primary business objective (Drucker, 1999; Karp, 2005) and an immanent feature of capitalism that is the operating medium of organisations (Zizek, 2014); and by the ever-present general business fashion trends. The trends include total quality management (TQM) from the seventies on, IT developments in the eighties, BPR in the nineties and efforts to alter and develop organisational culture after the millennium (Burnes, 2011). Today's overriding goal is continuous change, not as a source of gaining a competitive edge, but as the only guarantee of the survival of the organisation (Armenakis & Harris, 2009).

The above developments led to an explosive growth in the number of research, empirical and theoretical papers on change management in the past 40 years (Dobák, 1996; Gelei, 1996; Kerber & Buono, 2005). Therefore, mapping the theories and models of change management is an impossible mission. However, a closer look at the theories makes you realise that there is nothing new under the sun. Indeed, there is no novelty compared to the mainstream theories being taught at business schools (see Leppitt, 2006a, b). So I simplified things by considering the established models' general ideas, and assuming that any new model would correspond to one or a combination of these.

Although change and the capacity for change is an organic and necessary part of the life of organisations, and this organisational phenomenon has been the topic of countless researches and publications, according to a 2008 survey by McKinsey & Company, almost two-thirds¹ of the organisational change programmes do not achieve their intended goals (Beer & Nohria, 2000; Burnes, 2011; Burnes & Jackson, 2011; By, 2005; Sirkin, Keenan, & Jackson, 2005).

By (2005) and the authors he quotes offer several explanations for the above. In their opinion, the technical literature itself has contributed to low success rates with the contradictory and rather confusing theories and

approaches it has conveyed. There are many superficial analyses, and with only a few exceptions, the empirical and theoretical findings and models applicable to organisational change and its management rely on assumptions that have not been tested by the authors (By, 2005) and so they may have been applied later on at the wrong place or time or in the wrong way (Kerber & Buono, 2005). The assumptions concerned refer to the nature of change (what can be regarded as change), the role of managers, key factors of change (identification of key factors like speed), the nature of the senior–subordinate relationship etc.

The assumptions of the various change and change management approaches are so diversified that their only common denominator is that *at the end of the change process something is done differently than before* (Robbins et al., 2010). As for the process of change, the most frequent distinctions are made along its two main dimensions: based on its *speed or tempo*, the change can be episodic (discontinuous) or continuous, and in terms of the underlying *intent* (or *control* exercised over change) intended or unintended.

This paper reviews the basic change types along these two dimensions to identify the most popular change management theories and the change types they discuss. The decisive majority of change management approaches are basically functionalist and look for the tool(kit)s of managers to bring the change process to success. The focus is on managers (leaders); if they look at the employee perspective at all, they do so to identify clues for the leaders. They want to understand employee behaviour to upgrade the change management tools of managers so that the latter can achieve their goals as effectively as possible. My study adopted a different approach: identifying what relationship, what type of cooperation/co-action is assumed or recommended for change processes by existing and well-known change management schools. Functionalist approaches are excessively managerialist. However, novel-type labour and organisational changes demand more than that: the employee perspective, and partnership must be given much more emphasis (Tsoukas, 2002). Interpretative, critical approaches have appeared on the side of theory, but the change management theories have not treated them with equal emphasis so far, and this is particularly true of the change management discourses in Central and Eastern Europe. Here, this article fills a gap.

The pace of change

The early change management theories agreed that organisations needed quasi-steady-state periods to function efficiently (By, 2005; Rieley & Clarkson, 2001). This does not mean a state without any change whatsoever: there is no living organism, whether an individual, a group, an organisation or any system composed of subsystems (Schein, 2002a, b), that would be completely unchanging, even at the level of its subsystems. Homeostasis is typical of every living organism and reflects the state of continuous adaptation to the changing environment (Schein, 2002a, b). By lack of change we mean a quasi-steady state where the integrity, the predicable operation of the given system (individual, group, organisation, etc.) is maintained, and that gives the system a sense of security, a certain stability and its identity (Schein, 1996).

Today's approaches to organisational change can be assigned to two major subsystems based on their view of the change–quasi-steady state relationship, i.e. whether they assume a sequential order of quasi-steady periods and *periods/episodes* of change, or categorically deny the occurrence of quasi-steady states in a well-functioning organisation today. Further points can be defined along the axis of episodic/discontinuous to continuous change; based on By (2005), I will consider the following change types: discontinuous, incremental, bumpy incremental, continuous and bumpy continuous.

The main characteristic of *discontinuous change* is that major internal problems or serious external constraints trigger significant and fast shifts, which are easy to separate from everyday operation at strategic, structural or cultural level or a combination of these three. The shifts/changes are then followed by longer periods of consolidation and peace. Changes of this type can also be conceived of as sudden, one-off, rare breaks with the past (Pettigrew et al., 2001), when the focus of management is directed at a major project or a well-definable object of change (Kotter, 2008).

Incremental change is continuous change that can be divided into well-definable periods in terms of time, scope and subject matter. Each unit of the organisation addresses a single problem, a single change at a time, but there is always something to deal with, to change. The reason for the change may include minor or major strategic shifts due to the continuous strategic revision process that affects the entire organisation and demands some, bigger or smaller, change on behalf of every organisational unit/subsystem.

The literature offers several definitions of *continuous change*. In terms of the above typology, By's interpretation of continuous change differs from the concept of incremental change in that this process is not a by-and-large uniform one affecting the entire organisation. By continuous change he means continuous adaptation, i.e. changes that can be interpreted at the level of the operational/organisational unit. Certain authors (By, 2005) therefore do not consider these two categories different and suggest merging the categories of continuous and incremental change (as interpreted by By). By,

however, argues that this would mean disregarding the extent, the scope, of the change, i.e. whether it takes place at the level of the organisation or a subsystem, whether it affects the strategy or some local aspect. As in the case of incremental change, By distinguishes between even and bumpy (continuous) change. This fine-tuning mirrors the volatile aspect of continuous change, i.e. the alternation of more and less intensive periods in the operational change processes.

Somewhat in contrast with the terminology of By, Pettigrew et al. (2001) mean by *continuous change* uninterrupted change unfolding and taking shape during the process itself: "a new pattern of organizing in the absence of explicit a priori intentions" (Pettigrew et al., 2001, p. 704). These two different concepts of continuous change foretell the distinction of change types along another typical dimension, that of intent. Note, however, that Pettigrew et al. assume an initial intent to change, and unintentionality refers to the specific content, the aim, of change.

Kotter (2008) also builds the definition of continuous change on its being continuous as opposed to a one-off major project, involving the continuous adaptation of such organisational elements as competencies or organisational culture.

Accordingly, *in what follows I will use the term "continuous change" to denote a process involving the entire organisation, the content of which unfolds/is specified during the process itself.*

Dichotomy of intended/unintended change

The intended/unintended dichotomy is based on whether the organisational actors can plan, direct, manage and deliberately control the change process.

Unintended change takes place in an unplanned way, not deliberately, without being coordinated and controlled at organisational level. That is, by unintended change I mean a change that just *happens* to the organisation (Cummings & Worley, 2001). The changes concerned can be minor or major organisational changes or even radical ones (e.g. crisis), or cases of permanent improvement based essentially on the trial-and-error method applied in everyday work that will occasionally spread to the whole organisation (Kerber & Buono, 2005). Such continuous everyday changes are a natural part of organisations (Wheatley, 2006), the results of "natural evolutionary changes" (Schein, 2002a, p. 34) that do not necessarily promote the enhancement of organisational efficiency (Schein, 2002a).

There are three main types of *intended change*. Kerber and Buono (2005) distinguish between directed, planned and guided processes of change. *Directed change* is initiated and directed from the uppermost hierarchic levels of the organisation. They depend on the authority of the managers, and on the degree of accommodation to/acceptance of change by their subordinates. Consequently, the main task of the managers is persuasion, the treatment/addressing of the emotional reactions of the members of the organisation.

Planned change may start at any hierarchic level and can be initiated by any actor of the organisation; the only requirement is the support of top management. The most widespread and popular change management theories concern planned processes of change. They serve as a map, a project management tool for the leaders of change. They emphasise that the primary function of change leaders is to identify and involve the organisational actors concerned and establish their commitment. The importance assigned to participation notwithstanding, the preservation of the results of the initiative and the results of change is a strategic task and responsibility; the need for change, its aim and vision and the feasibility of the process are decided at the uppermost strategic level.

Guided (facilitated) change takes place in the context of a turbulent business/economic/social environment with many simultaneous and overlapping changes occurring in the organisation; these changes emerge, unfold, transform established practices and operating models or test new ideas. Guided change strives to exploit the professional expertise and creativity of the members of the organisation or, to use a nicer expression, to grasp the opportunities inherent in them, and supports and encourages their independent initiatives. The changes concerned are organic parts of the life of the organisation; they basically take for granted the commitment of the members to the organisation and their contribution to its goals. This approach does not want to tell the actors of the organisation what they should do and why, but rather want to inspire them to grasp the opportunities of change, and design the activities.

The special, internal tension inherent in this type of change is due to the fact that change itself is intended, but its implementation is not. The process of change is minimally controlled; the goals are not set in advance, nor can they be defined in advance. The direction and the aims unfold during the process, and it is a question of the specific change management concept being applied as to whether

it will take a final form (e.g. action research, Coghlan & Brannick, 2014) or not (e.g. learning organisation, Senge, 1990a, b, 1993).

The change management literature identifies several types of change. One fault line dividing the researches concerned into two major groups is whether they consider the relationship between change and the quasi-steady state typical of the organisations as being discontinuous, incremental or continuous. Another fault line concerns control being exercised over the change process, i.e. the extent to which the initiators and/or leaders of the change can and/or want to assert their intents during the process (Figure 1.).

Well-known change management theories by type of change

An excellent demonstration of the *discontinuous-guided* change management concept is provided by the change strategies developed in the seventies by co-authors *Zaltman & Duncan* (1977) based on their experience. The four strategies making up the model are designed to help the executives shift the behaviour of organisational stakeholders in favour of organisational change. That is, organisational change, its aim and content are determined by management, the leaders of change, and in that process – as is obvious from the telltale names of the strategies – employees are the negative actors to be managed somehow. The leader may choose one of four change management approaches, taking into account the change situation and its main characteristics. These so-called “situational characteristics” are the following: anticipated level of opposition, relationship of the organisational actors with (formal or informal) power to the change (do they support it, have they realised the need for it, etc.), power of the initiators of change, commitment of stakeholders, degree of urgency/necessity of change for ensuring the adaptation of the organisation, and rate of risk of failure and the threat

Change management theories by change and focus of change management

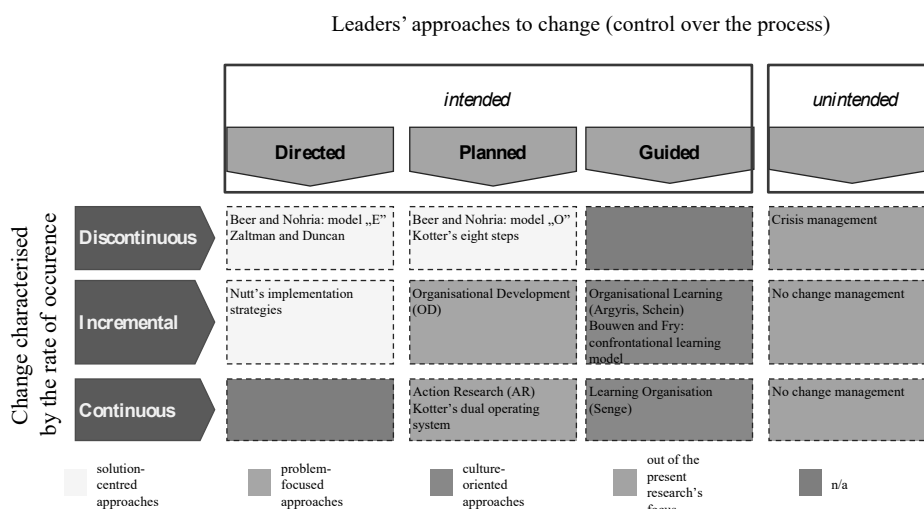


Figure 1.

Source: author's figure

it represents for its future. The facilitative, re-educative, persuasive or power-based strategy matching the situation always has to be chosen accordingly.

As explained above, *incremental change* is composed of well-definable phases in terms of time, scope and subject matter, when the individual units of the organisation treat a single problem, a single change at a time. Continuous and periodic strategic supervision actually defines such phases of change for the organisation. But changes induced by innovation also result in such phases (Bouwen & Fry, 1991). These strategic changes, whether major shifts or minor fine-tuning efforts, affect the whole organisation and demand smaller or bigger changes on behalf of every unit or subsystem.

The change management typology matching *strategy implementation* is associated with the name of Nutt (1987). The main difference between the four implementation strategies (intervention, participation, persuasion and edict tactics) lies in how far Leader No. 1 involves others in strategy making, the setting of the strategic goals and expectations and the preparation of the strategic action plans, and who these “others” are.

The change management typology associated with innovation is hallmarked by the names of Bouwen & Fry. Their article (1991) describes mainly innovation strategies. The term “innovation” as they use it means “the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order” (Bouwen & Fry, 1991, p. 37). That is, in their interpretation, innovation and change are one and the same thing. In the course of change, the (predominant) logic of the old routine is challenged by a new logic (that of change). The success of innovation depends on the quality of interaction between the two logics. In their research, the authors identified four core strategies for the meeting of the two logics. The first three models (power, sales, expert) correspond almost completely to the power/persuasive/re-educative strategies of Zaltman and Duncan on the one hand, and to Nutt’s persuasion, intervention and edict strategies (Gelei, 2011) on the other. Only the fourth fails to fit. The confrontational/learning strategy mobilises cultural levels and offers a totally different qualitative level for the meeting of the two logics. The termination of the process is followed by a longer period of consolidation and rest, when the new or innovation logic of the process of change becomes the dominant logic.

Beer & Nohria (2000) distinguish two fundamental changes and change management approaches based essentially on two factors. One is change of type “E” focusing on the hard components of the organisation and the other is change of type “O” stressing the soft components. The distinction does not rely exclusively on the focal point of change: this dichotomy can also be detected in the style and process of change management. The change concept underlying change management of type “E” corresponds exactly to that of *guided and discontinuous* change and the one behind type “O” to *planned and discontinuous* change. The main difference between the two is that while type “E” approaches the change process top-down, type

“O” adopts what is essentially a participative approach. Forcing by persuasive and power tools is opposed to involvement, the intent of creating commitment.

Kotter’s eight-step model (Kotter, 2006, 2007, 2008), probably the best-known change management model, is akin to the above type “O” model. Kotter designed his model that became most popular in a short time almost 20 years ago (Preface of the Editor of Harvard Business Review to Kotter’s article, 2007). The steps or stages are arranged in a strict sequence, and failure may derive from missing one step or following the wrong order (Kotter, 2007). These steps make it clear that, in Kotter’s opinion, the key factors of successful change management are motivation and commitment, a powerful coalition supporting change, vision and communication, and the institutionalisation of the results in the everyday life of the organisation. Later on, Kotter himself acknowledged that change management scenario and key factors had to be supplemented. One reason for that was that turbulence in the business/economic world had kept intensifying after he created his model (i.e. second half of the nineties) (Kotter, 2008, 2012). In the new era, instead of being scarce phenomena, strategic changes and major organisational changes in their wake became increasingly frequent, recurring more often than every few years. Kotter realised that his model in itself did not offer a suitable methodology for coping with such frequent changes; instead, flexible solutions had to be integrated in the organisational structure to permit continuous adaptation. This led to Kotter’s so-called *double operating order theory*, which means a *continuous, planned change*.

Action research (abbr.: AR) also brings *continuous, planned change* to the life of the organisation. AR is a change process that has a twofold aim: to solve organisational problems and to contribute to scientific knowledge about organisations (Grasselli, 2009). From the perspective of science and academia, the main thesis of AR is the following: “If you want truly to understand something, try to change it” (Schein, 1996, p. 64). In this context, change is but a “pretext”, an ideal medium. In addition to the enrichment of scientific development, of scientific-level knowledge, AR explicitly wants to contribute to solving real problems.

Looking at AR from the perspective of the manner of contribution to solving real problems, i.e. from that of practice (change management), it is only slightly different from organisational development. Coghlan & Brannick (2014), for example, identify organisational development (OD) as an AR implementation option. Bakacsi, on the other hand, qualifies action research as the “dominant process model” of organisational development (Bakacsi, 2005, p. 75.). The basic literature on organisational behaviour, however, treats the two separately (see Cummings & Worley, 2001; Robbins et al., 2010).

Besides the explicit aim of contributing to scientific knowledge, the other difference between action research and organisational development is that action research undergoes dynamic development during the process itself (Coghlan & Brannick, 2014) and therefore treats

the iterative quality of changes, i.e. one change leading to another, *much more deliberately* than OD. Action in one process generates another action, i.e. the next step of the change process (Grasselli, 2009). That is, action research tends to bring continuous change and organisational research incremental change in the life of organisations.

The most complex change management approaches do not define themselves as change management schools. They consider change and learning to be inseparable twin concepts. In their opinion, change is an immanent part of the life of organisations in the 21st century, and organisational learning is the organisational competency that ensures long-time survival. There are several *organisational learning* approaches (see the typology of Edmonson and Moingeon in Edmonson & Moingeon, 1998), but I was concerned primarily with the theories to which this learning/change parallel could be applied (the best-known ones being those of Edgar Schein and Chris Argyris). That school differs from the others in that research focuses expressly on the individual, and instead of simply urging a change of (individual or organisational) behaviour, it considers the alteration of assumptions and the ways of thinking underlying behaviour the keys to success. The common denominator of these theories is the assumption that real change in a human system will also manifest itself in the altered behaviour of the individual. A change of behaviour, in turn, requires a cognitive change: the individual perceives, understands, sees and interprets the world in a new way, i.e. the (human) system changes (Watzlavik et al., 1974), and this is also reflected and shown by the change of behaviour (that is, merely a symptom, a consequence). This phenomenon is called “second-order change” (Watzlavik et al., 1974; Palmer et al., 2009) or “double-loop learning” (Argyris & Schön, 1978).

Organisational learning is, in this sense, “an organisational self-knowledge process in which the organisation acquires growing awareness of its situation, objectives and operation – by reflecting on the accumulated collective experience, and challenging certain things regarded as given beforehand – and can therefore operate with growing efficiency and effectiveness” (Gelei, 2002, p. 6). Given the nature of the process, it can only be a *guided, facilitated* procedure. And it may happen in certain organisations that self-knowledge acquisition becomes a permanent process, an integral part of everyday life. If so, we speak of a *continuous state* of change, i.e. operation as a *learning organisation* (Senge 1990a, b, 2006; Senge & Kofman, 1993).

Levels of cooperation in change management theories

As mentioned above, the decisive majority of change management theories are functionalist, whereas the constructivist approach implies a radically different paradigm (Blaikie, 2007). *To use the functionalist terminology, what relationship, what type of cooperation and co-action they assumed and prescribed for the processes of change.* Or, to ask the same question from

a managerial perspective (of course, there are many presuppositions inherent in this wording): *What level of employee involvement do the known change management theories consider ideal (the pledge of success)?*

The early (and the best-known) change management theories focus on employee resistance (resistance coming from the members of the organisation). Change means an alteration of the status quo, and resistance is bound to appear (Bouwen & Fry, 1991; Nutt, 1987; Zaltman & Duncan, 1977). The inherent assumption is that the employee is not necessarily a cooperating partner; in this approach, the employee is not part of the “we” and should therefore be forced, manipulated, persuaded, maybe educated, but at the very least assisted (Nutt, 1987; Zaltman & Duncan, 1977). Or perhaps be encouraged, motivated, made committed (Beer & Nohria, 2000; Kotter, 2006, 2007, 2008), and for this reason be involved in various phases of the process.

Obviously, the conceptions that consider the employee if not an adversary, some kinds of outsider are quite remote from the one in which managers and employees shape organisational change together and change develops in the wake of their cooperation. In these theories, the employee is the necessary evil in the process whereby the manager tries to realise her/his goals. However, the more participatory approaches take something for granted: the necessity of change must be declared at management level and communicated *top-down*, and those who are “down” must be involved as a next step. Consequently, even if they do not regard employees as “instruments”, they do not consider them equal partners either.

Based on Robbins et al. (2010), the theories of change management can also be classified according to their point of departure, i.e. what they assume (take for granted). The choice of focal point determines the role given by management to employees in the process of change.

The *solution-centred schools* regard the *problem and consequently the aim of change as given (defined by management or an external expert)*, and they provide *solutions, i.e. tactics, strategies and aids, for that problem, i.e. for the effective management of the specific change concerned*. The *problem-focused* approaches assume that the solution, the steps to be taken, is determined by the nature of the problem. They step back and consider problem identification – with the active contribution of employees – the first objective. The *culture-oriented* change management schools see change as a continuous process of collective self-reflection, where the success of change depends on the depth of the effort and its collective nature.

Solution-centred change management schools

The solution-centred change management schools (e.g. Beer & Nohria, 2000; Bouwen & Fry, 1991; Kotter, 2006, 2007, 2008; Nutt, 1987; Zaltman & Duncan, 1977) *declare that the aims and directions (the problem to be solved) are set by the manager(s), but to do that one also has to address the fact that the organisation also includes employees*. The suggested ways and means of “dealing with them” differ by school.

Zaltman & Duncan (1977) openly speak of manipulation, forcing by power tools, or, in a softer version, of awareness raising and facilitation. The difference between the four implementation strategies defined by Nutt (1987) lies in the extent to which the top executive involves others in strategy making, in setting the strategic goals and preparing the action plans, and who these “others” are (external experts, key stakeholders and elected committees are the only groups mentioned at all).

The first three of the four so-called “innovation models” defined by Bouwen & Fry (1991) are very similar to the typologies of Zaltman and Duncan and of Nutt. The power, sales, expert and confrontational-learning strategies in the theory of Bouwen and Fry refer to the clash between the dominant logic determining the past and the new logic of innovation/change in the context of organisational innovation, i.e. organisational change. The authors use the term “dialogue” to denote the meeting of the two logics, their interaction, but it seems more appropriate to call it “negotiation”. The difference between the four innovation models lies in how the various reality interpretations, logics or the “various organisational actors as owners of the different logics” (Gelei, 2011, p. 148) negotiate with one another.

The first three strategies give one-sided control to management (typically also responsible for defining the strategy) in introducing the change, the new logic. Control is exercised over the discourse of the parties and the object of the change. In the power strategy, the stronger party, typically management, one-sidedly forces its own “reality definition and action logic onto the other party” (Gelei, 2011, p. 149). The sales strategy applies less force and a “smooth approach” (Bouwen & Fry, 1991, p. 42), and the expert strategy relies on cognitive persuasion (Bouwen & Fry, 1991). Only the fourth, the confrontational-learning strategy differs from the typologies of Zaltman and Duncan and Nutt in that the meeting of the dominant (old) and change (new) logic entails “their sincere dialogue without taboos and distortions, based on equal participation” (Gelei, 2011, p. 150).

Beer & Nohria (2000) see the key to successful change in the sequential alternation of changes of types “E” and “O”, stressing that type “E” should be the first, since that is what focuses on the hard elements of the organisation in what is a *top-down* approach. Employee participation can only come later, after the alteration of the hard elements considered the most important by management. It goes without saying that the direction and aim of the change are defined by the manager(s).

Although in Kotter’s graphic example (the case of the penguins, Kotter, 2007) the necessity of change is recognised by someone who is not in management, his role ends and control is taken over by the latter once they are convinced of the necessity. Management must generate a feeling of urgency in employees to ensure motivation. They have to inform them of the market, the rivals, market competition and financial performance, the expected trends, and all this has to be communicated in a clear way “to make the status quo seem more dangerous than

launching into the unknown” (Kotter, 2007, p. 98). Besides using rational arguments, it is important to impact on “the non-analytical side of the brain” (Kotter, 2008, p. 35) of employees, i.e. the way they *feel*. This “impacting” closely resembles the concept of manipulation that Zaltman and Duncan had treated openly.

Every step proposed by Kotter (generating a sense of urgency, setting up a steering group, development of a vision) is a management task. Although he speaks of setting up a coalition to steer the process (to direct the changes in cooperation with the manager), a key criterion of the coalition is that its members must agree with the actual situation of the organisation, the challenges, opportunities, and the causes and means of any change (Bakacsi, 2004; Kotter, 1999, 2007, 2008) as interpreted by management. Thus Kotter’s model may seem highly participative, but cooperation with a team selected by the manager and nodding to the manager’s goals and requirements is not real cooperation: they do cooperate with the manager unilaterally. The cooperation is certainly not a reciprocal process.

The problem-focused change management schools

The problem-focused change management approaches, as compared to the previous schools, take one more step back and do not consider it evident that a manager(s) sees clearly what needs to be changed in the organisation to improve its effectiveness. *Taking a step back* means in this case a review, a diagnosis of the organisation to find a *common (collective) answer to the questions: Where are we now? What is the problem? How could things be improved?* These questions bring to the surface phenomena that are really relevant to *the whole organisation (not only the manager(s))*, and *explore the real and jointly interpreted problems*.

Problem-oriented change management approaches make explicit their humanistic-democratic values based on which they view organisations, change processes and co-action by the members of the organisation. These values are *respect of people, trust and support, sharing power, confrontation and participation* (Robbins et al., 2010).

However, the most important value is *cooperation* based on the above, which refers to relationships among the members of the organisation, as well as to the connection of external experts to the organisation (Coghlan & Brannick, 2014; Gelei, 2002; Robbins et al., 2010).

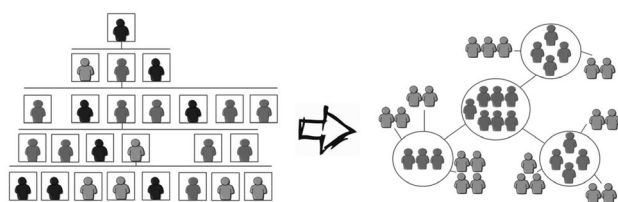
In the *organisational development* (OD) approach, the basis of cooperation, of the relationships within the organisation and between advisors and members of the organisation, is the so-called *democratic dialogue* (Coghlan & Brannick, 2014). The qualifier *democratic* stands for the fundamental values described above. And *dialogue* in this case means an honest and open dialogue on problems, difficulties or even strengths, positive features during which a common understanding is reached. That dialogue is more important in the process than anything else, as it is “through conversation that things start to change” (Robbins et al., 2010, p. 529).

A characteristic of *action research* (AR) similar to organisational development, essentially determining the fundamentals of the process, is *collaborative democratic partnership* (Coghlan & Brannick, 2014), which exceeds the democratic dialogue characterising organisational development in that it builds even more powerfully on involving the members concerned by organisational change in *each and every* step of the process. So in organisational development, the decision is *always* with the top managers of the organisation, including deciding who, when, how and to which members the organisation should provide feedback, and what specific order should be placed on the basis of the diagnosis, and what action, and what steps should follow the diagnosis. In contrast to the above, in action research, partnership cuts across the entire process, thereby rendering all decisions even more democratic and resulting in co-decisions (Bakacsi, 2005; Robbins et al., 2010) with all persons concerned in each of the topics listed above. The person in charge of this *cooperation is the action researcher (advisor)*. This is an important qualitative feature of the process, as opposed to organisational development where the client, the highest-ranking officer appointed to manage the process, determines the extent and the quality of involvement and cooperation.

The third example of a problem-focused change management approach after OD and AR is *Kotter's dual operating system model* (Kotter, 2012). Kotter claims that a second operating system is the structural element that ensures that the organisation can respond to changes around it at the necessary speed. In its focus is the ongoing monitoring of the (business, industrial) environment and the organisation and the correlations and connections between the two, and it keeps analysing and evaluating these, and translates them into *strategies and strategic actions*. The word "second" means that it *supplements* the organisation's traditional (hierarchical) operating system, and that makes the organisation's operation twofold or dual. In terms of its nature, the supplementary or second structure is *networked*, which applies to its operation and its connection to the hierarchic organisation structure; its members represent all levels of the organisation: employees "arrive" in the strategic network from all levels, from the topmost to the lowest. Due to its networked nature and strategic focus, Kotter calls this complementary structure a *strategic network* (Figure 2.).

Figure 2.

The relationship of conventional hierarchy to the strategic network



Source: Kotter (2012, p. 49)

So, what we are discussing is a partly modified version, coded in organisational structure, of Kotter's eight-step model. The cardinal points of the previous model (voluntarism, steering coalition, group jobs, leadership instead of management, vision, shared objectives, continuous communication, etc.) are transparent as basic principles here too, but the model guarantees through a structural solution that *each* level of the hierarchy, groups of employees much larger than in the previous model, should contribute to defining and jointly interpreting the objectives, and the direction and triggers of the change. As a matter of fact, this is now about an ongoing, institutionalised process of joint thinking – and, *at a certain level*, joint decision-making (dialogue) – involving each group of employees. Kotter, however, fails to describe what he means by "*certain level*" in any more detail, thus implementation and execution remain strongly organisation-dependent, and even more manager-dependent.

Culture-oriented change management schools

In Robbins et al.'s (2010) typology, the third type of change management school is that of the so-called culture-oriented approaches of the change management. These approaches do not define themselves as change management schools, a fact explained by the way they see change. In their view, real change concerns two levels: the cognitive and the behavioural level. There is no change as long as there is only cognitive recognition, but there is no change either if behaviour changes, but the adjacent guiding principles, the mental models (Argyris, 1977, 1991, 1994; Argyris & Schön, 1978; Senge, 1990a, b, 2006) and, at a cultural level, the deep layers of culture (Schein, 1981, 1993, 2002b) or the dominant logic (Bouwen & Fry, 1991) remain intact.

(Real) change for them is identical to second-order change (Palmer et al., 2009; Watzlavik et al., 1974) or to double-loop learning (Argyris, 1977, 1991, 1994), to be realised at both organisational and individual level. At organisational level, *organisational learning* must be made part of the culture, and this is the basis of the learning organisation concept (Senge, 1990a, b, 2006). While elaborating the concepts, the best experts on the theory have identified broader, complex, individual, personality-related, cultural and social issues, which must be brought down before these lofty ideas can materialise.

The fathers of the *organisational change*² trend (Edgar Schein, Chris Argyris) analysed and considered one by one chiefly the individual and organisational cultural hindering factors that block these genuine (i.e. both cognitive and behavioural) change processes. Their suggestions to overcome the obstacles may be viewed as a type of change management concept given the fact that they *define actions for organisations wishing to learn, develop and change*. The Figure 3. is a summary of the adequate responses (ultimately the change management actions) to be given.

According to *Edgar Schein*, the task is to bring to the surface the deep-lying, tacit routines, assumptions and beliefs discussed above, i.e. *cultural self-understanding*

Figure 3.

Summary of the culture-oriented change management schools

	Adjacent hypothesis: the main obstacles of organisational change	What to focus on when bringing down factors that hinder learning?	What is a necessary condition to organisational learning?
Edgar SCHEIN	The <i>shared tacit presumptions</i> embedded deep into the organisational culture, and the inconsistency of these.	On essential, shared presumptions, beliefs and values.	Dialogue: identifying shared presumptions jointly.
Chris ARGYRIS	<i>Interactions</i> between the organisation's members, the tacit principles (so-called theories-in-use), self-defence strategies, a lack of interpersonal competences.	On interpersonal interactions, and their development must be first focused on.	Individual and joint reflections (dialogue): valid information, free and well-founded choice.
Rene BOUWEN and Ronald FRY	The quality of <i>interactions</i> between the organisation's members (one-sided control, lack of dialogue).	On the quality of interactions between dominant logic and the new/change logic (open confrontation, equality, consensus, valid and shared information).	Dialogue: creation of shared interpretations.

Source: Based on Pulinka (2007, p. 41) with modifications

(Edmonson, 1996; Gelei, 2002; Schein, 1981). The precondition to self-understanding is *dialogue with each other*, within subcultures and also with groups that have a different culture (Schein, 1993). Schein regards this process of dialogue as “the true artistry of change management” (Schein, 1996, p. 61).

Chris Argyris assumes that “organizational learning is a process of detecting and correcting error” (Argyris, 1977, p. 116). He investigated during his research and advisory projects what organisational and individual hindrances there are in this process. Argyris recommends primarily the *development of interpersonal competencies* to bring down the obstacles to learning. To achieve that, the individual must first face the shock of realising how they actually work, and what tacit assumptions hide behind their actions. This means *self-reflection and self-understanding*. That must be followed by devising their new operating principles (Argyris, 1977). That is, the review of the principles adhered to is also a double-loop learning process, and the process of reflection must be established for the long term *on both individual and organisational levels*. That institutionalised reflection is already about the operation of the learning organisation. Argyris does not submerge deeply in analysing this operation; instead, his writings and his work (McLain-Smith, 2013; Smith, 2001) describe the road leading there, and how to overcome the obstacles encountered on your way.

The theory of Bouwen & Fry (1991) based upon case studies relates to the literature of organisational change much more explicitly than that of the above two authors. The co-authors examine organisational innovation processes and come to the conclusion that real innovation and change can only happen in an organisation if the representatives of the old (dominant) logic conduct a *dialogue* of essence with the representatives of the new logic bringing the change, and they create the new operating logic in the course of their cooperation.

Logic in the present case refers to the dominant mindset, the *paradigm of action* (Gelei, 2011) that determines the way in which organisational actors view the environment, the relationship of the organisation with its environment, the necessary and adequate steps, objectives, and the corresponding internal workings and behaviours.

Bouwen and Fry claim that organisational changes are about the entry on the scene of a new logic that challenges the *raison d'être* (correctness) of the old (dominant) logic. The resulting level of learning depends on the quality of the interaction forming between the two logics: “compliance and passive followship, imitation and adoption, cognitive learning through insight, or communication and orientation on valid data” (Bouwen & Fry, 1991, p. 42). That is exactly why Bouwen and Fry emphasise that the innovation thus created (change) cannot become established in the organisation in the long term, because it fails to rest on the universal, common understanding, genuine learning, and cognitive and behavioural changes of all members of the organisation (Bouwen et al., 1992). Only the *confrontational-learning strategy* brings about genuine organisational change and learning, and dialogue, a high-quality interaction between the two logics, is the process of that strategy (Bouwen & Fry, 1991). Similarly to almost all of the writings of Argyris, Bouwen and Fry also place great emphasis on the internal tensions in the dialogue, and the fact that it is a time-consuming and tiring process.

Tsoukas' (2002) observation whereby a main feature of post-bureaucratic, postmodern organisations is that employees tend to bring much more of themselves “into” these organisations is relevant at this point. They no longer stand for just knowledge or physical strength at the workplace; their emotional-psychological presence has become much more powerful. This has two consequences: they are less and less authority driven, and are meanwhile increasingly internally guided. And simultaneously, “to

the extent they are more psychologically present at work, they expose more of themselves to others; hence, they are more vulnerable” (Tsoukas, 2002, p. 15). Thus it is a task for both the scientific environment and for daily practice to render organisations as safe as possible even from that point of view. Make them places where we *can* show ourselves, and where it is *worthwhile* for us to do so. This line of thought connects closely to the next change management school, the learning organisation concept.

Another well-known (and rather popular) school of culture-oriented change management is the *learning organisation model*. Peter M. Senge, credited for being the father of the learning organisation concept, made a list – much like Argyris and Schein – of the barriers hindering individual and organisational development and learning. Senge, however, analyses these obstacles within a broader social-cultural framework. He identifies several social-cultural dysfunctions (e.g. management is identical to control, diversity is labelled as a problem, excessive competition, lack of trust, etc.), and attributes extra importance to three factors as the major obstacles to change: fragmentation, competition focus and the problem of reactivity (Senge & Kofman, 1993; Senge, 1990a, b, 1993).

Senge sees the solution of the above problems in the creation of the learning organisation, because we need a medium that offers a possibility for changing our way of thinking, where the medium itself thinks differently and is characterised by a changed mode of operation, a changed *culture*.

The most important feature of the learning organisation is that it is in *constant change since it is characterised by learning continuously*. “The organisation has the ability of continuous learning and renewal. Qualities it must have include organisational self-diagnosis (self-understanding) and (lasting) operational development based on the same: exploration, awareness raising and deliberate alteration concerning the theories we adhere to, our ways of (individual and organisational) problem solving, our mistakes (!), deeper system dynamics, our mechanisms for creating a shared vision, our communication patterns, mental maps, our personal objectives, hidden cultural assumptions and modes of operation” (Gelei, 2011, pp. 52–53).

That operation is not easy, and it takes a great deal of time and energy to create. In his book, Senge established the fundamentals indispensable for building a proactive organisation. His five principles are as follows: personal mastery, mental models, shared vision, collective learning and dialogue, and systems thinking (Senge, 2006).

The basic concept is built on the paradox that organisational learning is impossible without the individuals who constitute the organisation, but it is more than the sum of individual learning. It is not enough for the individual to learn; first, the others are also a necessary ingredient, and second, in a learning organisation learning must be realised at a community level. There are “three core learning capabilities: fostering aspiration, developing reflective conversation and understanding complexity”

(Senge, 1990a, p. x). All of these may be interpreted at both an individual and a community level.

Senge, then, sees the above five principles as the precondition to be a learning organisation. The point of existing as such is nothing other than leaving behind old ways of thinking and learning how to be open to one another, and how to make efforts to ensure that we increasingly understand how we work as individuals and as a community, as an organisation guided by shared objectives and directions, working together to achieve these objectives. *A self-understanding dialogue that is to reach a shared conclusion is likewise an inseparable part of this existence*. In expressing his thoughts, he talks about nothing more than the theories of organisational learning, and he keeps referring to the works of Argyris and Schein (Senge, 1990a, 2006). His approach, however, is different: he starts out from the social and organisational aspect, and from that point he gets all the way to the individual.

Taking the change management perspective to interpret the above theories, two things need highlighting: lack of control and voluntarism. Double-loop learning, defined as “change” in the theories, concerns deep layers at both individual and organisational level; therefore, the process of learning/changing is impossible to map in advance. These deep layers are tacit in the first place, hard to access, and of course even more difficult to challenge, and change. The process of change is thus subject to a minimum rate of control; objectives *are* not and *cannot* be specified in advance. The direction, the objective, is formed in the course of the process, during the collective action, the *co-actions*.

The other important, immanent feature of these theories is that organisational and individual learning are closely interrelated: there is no organisational learning without learning by the people constituting the organisation. And learning – both at individual and organisational level – concerns the deep-lying principles that determine our acts and decisions (cognitive schemes/mental models/cultural deep layers). In bringing these to the surface, examining and challenging them cannot happen “from the outside”, by force, by order, only on a voluntary basis, by looking ourselves honestly in the face. In other words, the learning process is a *voluntary* self-reflecting process, and at an organisational level it is a voluntary common act, that cannot be enforced or prescribed at either level. But it also means that it cannot happen without organisational members. Involving colleagues and treating them as partners is therefore a necessary, indispensable element of these models and theories.

In sum, we may say that the early change management theories did not regard staff members as cooperating partners; instead, they saw the main task of change management in handling their predictable opposition/resistance (by manipulation, communication, pretended or controlled involvement, motivation, incentives). Problem-focused schools make cooperation the key to change management, and dialogue is already a central element in these approaches. And culture-oriented theories label dialogue the key to change management. Partnership,

cooperation and co-action are critical parts of these change management schools.

Another interesting observation belongs here. If one considers change management schools in the light of the type of change they want to address, one cannot fail to notice that the more complex the change they contemplate, the more they talk about dialogue and substantial, genuine and mutual (!) cooperation among the members of the organisation. The more an organisation regards change as an organic part of its daily operation, the more important partnership, cooperation and dialogue will become.

Contemporary organisational changes thus make dialogue increasingly unavoidable. This concept should deliberately be integrated in the change management theories. What is dialogue? What are the necessary and sufficient conditions of labelling an organisational relation dialogic, an organisational situation a dialogue? What do other disciplines, anthropology, sociology, philosophy, etc., say about the dialogue? This is one of the subsequent steps to be taken by management science for the sake of a better understanding of organisational change processes and the specification of more efficient change management tools.

Notes

¹ The error rates quoted there refer to general organisational change programmes. For change-of-culture programmes the corresponding rate is 90% (Burnes, 2011).

² Organisational learning has several trends (Edmonson & Moingeon, 1998); the ones that are relevant from a change management point of view are those that regard and interpret organisational learning as a process of change.

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FOUR PILLARS OF CROSS-CULTURAL MANAGEMENT

A SYSTEMATIC LITERATURE REVIEW

A KULTÚRAKÖZI MENEDZSMENT NÉGY PILLÉRE

SZAKIRODALMI ÁTTEKINTÉS

In the 1960s, markets became global, firms became more international, and cross-border joint ventures increasingly provided firms with opportunities to rapidly expand geographical market participation. Culturally diverse settings, and the challenges linked to these, have become the focus of scholarly conversations. The importance of Cross-cultural management (CCM) significantly grew. The purpose of this paper is to review CCM-related studies and to map all the relevant areas. Summary is made of 95 sources consisting top-tier journals' research papers and management scholars' texts in order to increase understanding in this underresearched field. From many interlinked disciplines, four major ones are identified and detailed in this paper: psychology, anthropology, international business and strategic management. Based on the analysis, the current understanding of CCM is discussed, and promising ways of further research are identified that can further advance the conversation on CCM.

Keywords: cross-cultural management, strategic management, management studies, international business, international management

A '60-as évektől kezdődően egyre nagyobb a nyomás a szervezeteken, hogy nemzetközivé váljanak. A nemzetközi szervezeteknek terjeszkedésének köszönhetően egyre fontosabbá válik a kultúraközi menedzsment. Egyre szélesebb körben vitatott téma, a növekvő szakirodalomnak köszönhetően már nemcsak az üzleti világban, hanem az akadémiában is fontos szerepet kap. Az eddigi szakirodalmi áttekintések a kultúraközi menedzsmentnek egy adott részét emelték ki, a jelenlegi cikkben a fogalom egészének tanulmányozása a cél. 95 forrás feldolgozása történt meg annak érdekében, hogy körbejárható legyen a téma és az alapvető pillérek beazonosíthatók legyenek. A kutatás során nemcsak a szakirodalom összegzésére, hanem az egyes források egymáshoz való viszonyának értelmezésére, továbbá a történelem során bekövetkezett változások kiemelésére is sor került. A legrangosabb szakfolyóiratok és könyvek tanulmányozása során egyértelművé vált, hogy a jelenlegi értelmezés szerint négy alapvető pilléren áll a kultúraközi menedzsment: pszichológia, antropológia, nemzetközi kereskedelem és stratégiai menedzsment. Jelenlegi cikk ezeket vizsgálja a kultúraközi menedzsment jobb értelmezése érdekében.

Kulcsszavak: kultúraközi menedzsment, stratégiai menedzsment, menedzsmenttanulmányok, nemzetközi kereskedelem, vezetéstudomány

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In the past few decades, the importance of cross-cultural management (abbreviated: CCM) has significantly grown. Instead of clarifying the meaning of the term, it raises more questions in both academic and business practitioner communities. With growing international

and global business opportunities CCM became a more complex and relevant issue for organizations because of the practical applications; in academia, because of its complexity beyond business. Social media, branding, marketing and sales became the norm after the 1960s

in international business. Something was changing; the world of business seemed more global in nature. For most businesspeople and scholars, the term “global” replaced “international”, as the adjective was commonly used to describe organizational and leadership strategies, thinking, and behaviour (Bird & Mendenhall, 2016). New challenges appeared, and created new problems, so far unknown; new solutions were needed. The field of CCM was primarily focused on international business and management (Haider, 1966). This was consistent both in how scholars approached managerial behaviour in an international setting, as well as in the thinking around what CCM entailed, in addition to the work that international managers performed. Given organizational structures, internal communications and information systems, international work was primarily managerial in scope. Few activities involved the leadership skills of creating and communicating a vision or leading change (Mackenzie, 2005; Kaminska, 2013; Winter, 2014).

In the 1960s, 1970s and 1980s with the impact of globalization and the growing number and size of the multinational enterprises, CCM became a crucial part of modern management. The rapid globalisation of business has brought with it an increased need for effective international work (Heidrich, 2009; Karácsonyi, 2016). The changing nature of international organisations, changing economic conditions, and the change in multinational enterprise host locations in the developing countries created unique challenges. These new circumstances needed new skills and mindsets from managers and researchers as well (Harris & Kumra, 2000; Message, 2005). The new needs of multinational enterprises gave CCM space to grow. Initially, the adaptation of CCM and understanding of other cultures was not deemed necessary above an arbitrary minimum level. With time, new challenges appeared and therefore a more detailed discussion was needed.

The existing literature appears relatively broad, delineating definitions of CCM and suggesting its different forms (Adler, 2008). Academic interest in this topic has been rising continuously, both theoretically and empirically, resulting in an increase in the number of publications after the 1960s. Hofstede (1980, p. 398) suggests that the key cross-cultural skills are: (1) the capacity to communicate respect; (2) the capacity to be non-judgemental; (3) the capacity to accept the relativity of one's own knowledge and perceptions; (4) the capacity to display empathy; (5) the capacity to be flexible; (6) the capacity for turn-taking (letting everyone take turns in discussions); and (7) tolerance for ambiguity. There are many other approaches toward CCM as a complex topic in cross-cultural models like: Trompenaars' research in the cultural dimensions and highlights of national culture differences (Trompenaars & Hampden-Turner, 1997); Schwartz's aims to compare and measure cultural differences through human values (Schwartz, 1994); and the GLOBE project, in which the researchers try to measure current cultural specialties, and conduct the research in a wider range than Hofstede (House et al., 2014).

There are several approaches, these analyse CCM from different aspects, focusing on factors such as cross-cultural skills, -dimensions, -values, -specialties that can be directly linked to CCM but not fully cover the phenomena (Bakacsi, 2012; Milassin, 2019). The current paper is focusing on Adler's definition that explains CCM. Adler (2008, p. 13) defines CCM the following way: “Cross-cultural management explains the behaviour of people in organizations around the world and shows people how to work in organizations with employee and client populations from many different cultures. Cross-cultural management describes organizational behaviour within countries and cultures; compares organizational behaviour across countries and cultures; and most important, seeks to understand and improve the interaction of co-workers, managers, executives, clients, suppliers, and alliances partners from countries and cultures around the world”. Based on this definition literature review has been started regarding CCM, and through the research the current meaning of CCM is highlighted in this paper.

CCM has changed, not along one path, but growing from one subject area to another, containing a crucial part of each and holding them together. According to the studied sources CCM consist of four main pillars: initially it was a part of (1) psychology, then touching (2) anthropology, later combining these with business practice related challenges, mostly (3) international business and (4) strategic management. This is the reason why CCM should not be studied as one single term, but as the summary of many. It is challenging to have a one over all standard understanding since there are several perspectives from which CCM can be analysed (Romani, Primecz, & Bell, 2014). However, the goal of this paper is to map up the current understanding of CCM. According to the top-tier journals have a better overview to CCM and what it consists of.

In this paper insights about CCM are organized systematically. Despite the traditional narrative reviews, the research process with systematic literature review is more structured and transparent (Tranfield, Denyer, & Smart, 2003). This review differs from previous ones regarding CCM, in a few important ways. First, articles from several disciplines are analysed: cultural science, business and international management, organizational behaviour, human resource management, and strategy and management (Appendix I). These disciplines are acknowledged to be mostly related to CCM. According to the Scimargo ranking of top journals (Q1), these are the disciplines that have the biggest effect on CCM. The focus is on the top journals, and through analysing them, a common understanding regarding CCM in the current research will be shown. Secondly, not only will the original conceptualization of CCM dominate the current paper, but the outcome of the comparison and analysis will be shown too. Highlighting the growing process of CCM, and the most important parts of it was crucial to understand its current meaning. Thirdly, this review studies CCM from several aspects, such as psychological, social and practical, and gives an overview to the current

understanding. This is an important addition since CCM is constantly growing (Oddou & Menedelhall, 1984; Starfield, 2002; Szkudlarek, 2009). and becoming a more and more important discipline, which can be enriched by insights that expand beyond the core meaning (Tomaselli & Mboti, 2013). Four different aspects are identified based on the literature; therefore, through these four aspects, CCM as presented here is also focused on the meeting points of these aspects.

Methodology

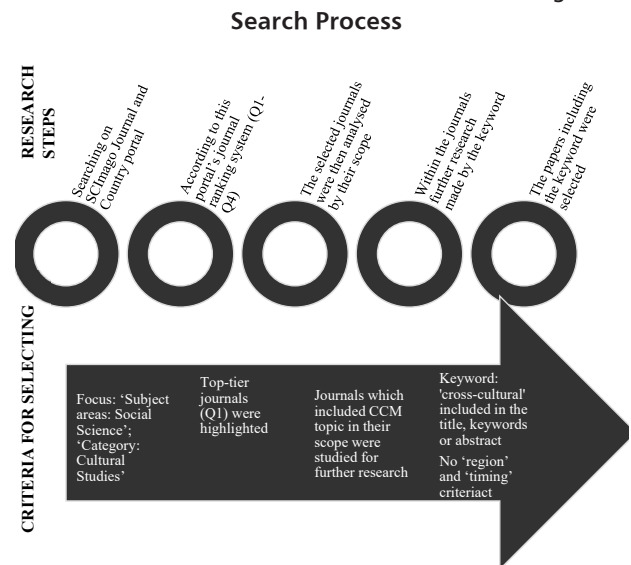
Scope of the literature review

The aim of this paper is to present a comprehensive, yet focused literature review of CCM. First, the most important part of the research was to identify the relevant literature on CCM. Full books and book chapters were excluded since the criteria for academic journals and books are not the same. In order to have a standard criteria and scope of literature of these kinds, certain sources had to be excluded from the search (Brocke et al., 2009). Although some of the papers were heavily based on books, therefore these books, book chapters were studied and added to the research for better understanding. Initially only review studies published in ranked peer-reviewed academic journals were included in the search. These rankings are subjective, but they provide criteria that authors can use for selecting studies to review (Webster & Watson, 2002).

The current review is focused on the SCImago top-ranked journals (Q1), and selected only cross-cultural topics (Figure 1.). SCImago Journal and Country Rank is a publicly available portal that includes journals and country scientific indicators developed from the information contained in Scopus database – Elsevier B.V. The current paper's resources are based on this portal's journal ranking system (Q1-Q4), and according to this system the top category (Q1) journals are highlighted and studied for further use in the current literature review. The selected journals were then analysed by their scope. The ones including the CCM topic were included for further research (Appendix I). Within these journals research had been made by using the key phrase 'cross-cultural' in titles, keywords or abstracts. The articles that mentioned 'cross-cultural' but did not deal with the topic, were not considered (Primecz, Kiss, & Toarniczky, 2019). These articles were focusing cultural and behaviour topics but cannot be linked to CCM directly. There were, however, academic works heavily based on other already published papers or books; these resources were studied too in order to have a better understanding of the particular research or theory. The ones which gave added information to the papers published in top journals were used too and mentioned as a reference. Some that were only used in these top papers are reviewed but not used in the current paper since the theories were not fully developed and the paper was not strongly built on them; therefore, they are not mentioned as a reference. At the beginning of the research, all the selected papers, and the reference list, were analysed in order to include all the necessary works.

Going further with the research process from the current research point of view the crucial resources including the selected top journals' papers and other works that served as a grounding for these works, were all identified and used for further analyses in the current literature review.

Figure 1.



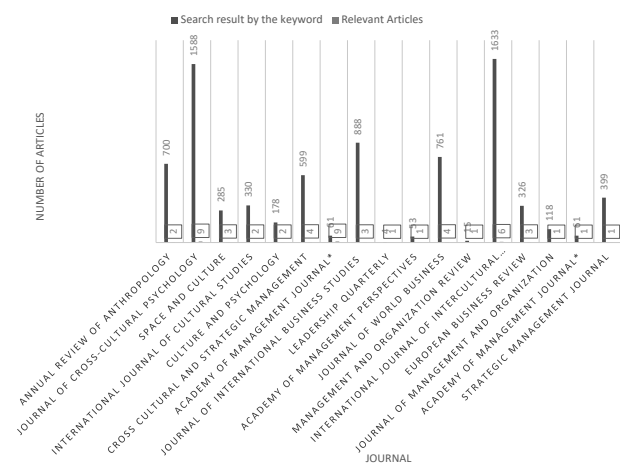
Source: own research result

In order to avoid restricting the ability to identify patterns or potential gaps and then draw conclusions, many scholars advise working with insights from disciplines outside the core areas (Jones & Gatrell, 2014). Following this advice led the research to the conclusion that the CCM topic was not only studied from an international aspect, but also from a psychological and sociological point of view. On SCImago, many 'subject areas' and 'categories' have been analysed (Appendix I). The main scope was 'Subject areas: Social Science' and 'Category: Cultural Studies'; besides this, there were many other top journals that gave important roles to CCM according to their scope (Figure 1.). The CCM topic, therefore, has been researched in business, management and accounting related journals too. There was no 'region' and 'timing' criteria in the research process. According to the scope of the journals, there were 49 that focused on, or included CCM as a topic. Further research throughout the journals using the key phrase reduced this number; by this stage there were 17 journals identified (Figure 2.). The application of the criteria, the study of the journals' scope and research with the key phrase resulted in 53 selected articles at the end. Analysing these articles other papers and books were identified that these papers were heavily based on, and in addition those were added too. The current review is based on a total of 95 sources.

A large proportion of the selected articles were from three journals: the Academy of Management Journal with 10 articles (19%); the Journal of Cross-cultural Psychology, which contained 9 articles (17%); and the International Journal of Intercultural Relations, which had 6 articles (11%) that were looked at. These journals have published the

majority of the used studies (the initial 53 papers) and the remaining articles have been selected from the other journals (Figure 2), on average 1-2 articles per journal (Appendix I). Occasionally, it had to be reorganized as some of the articles may have dealt with topics directly linked with CCM, but different terminology was used. These articles were included when they more explicitly discussed CCM, and some of the initial 53 papers referred to these. The journals that were among the top-tier journals according to the SCImago ranking and that met the inclusion criteria 'Social Science – Cultural Studies', did not publish completely appropriate articles that could have been studied further regarding CCM.

Figure 2.
Comparison of the literature searching result and the relevant articles



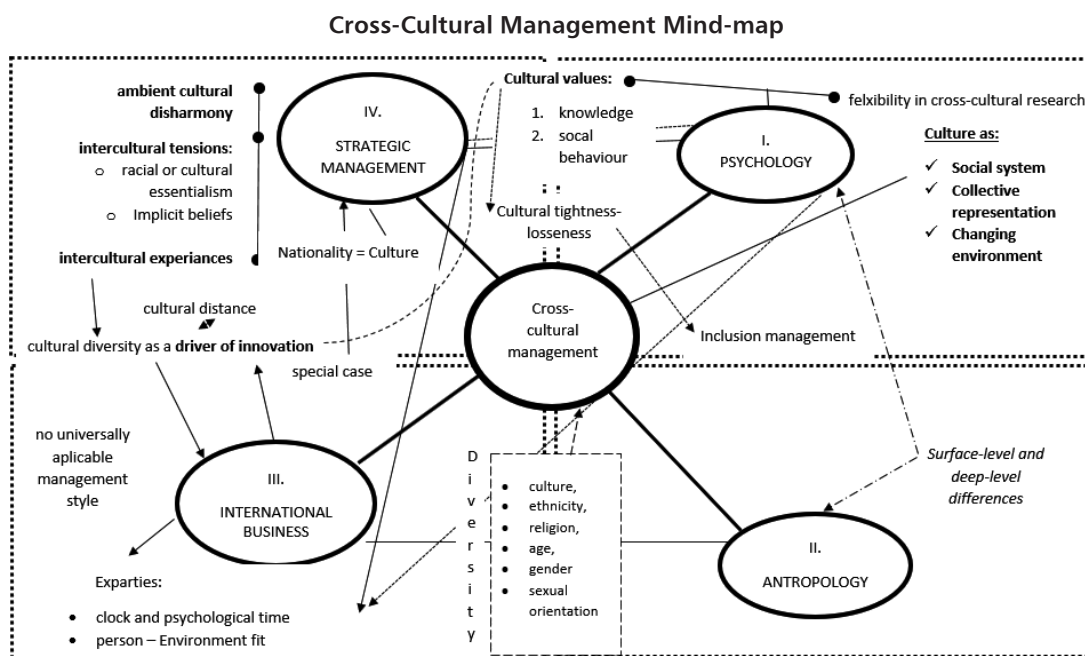
Source: own research result

For the purpose of the current study certain choices needed to be made despite the potential risk. Since only Q1 ranked journals were analysed, there might have been some articles in the lower ranked journals that would have given more insight into various CCM topics which were not included. Also the identified main pillars are highlighted in the current paper, but with further research others might also appear. This limitation can be lifted by including other key phrases, but in order to have complete coverage for the literature review and to manage the analysis, this risk had to be taken. In order to give the current research a clear structure and a manageable process top journals were used as the basis of the research. These journals publish papers that are identified as the best and highest quality papers by the academia therefore the ideas and theories discussed in these papers give the ground to further research. If these papers give the standard, then these lead the academic discussion about certain theories, therefore analysing CCM according to these papers gives an overview of the current understanding of it. Also this paper can support further research, and might be an initial step towards a better understanding of CCM and other papers based on or linked to CCM.

Research Result

The current understanding of CCM includes four main categories in the social sciences (Figure 3): psychology, anthropology, international business and strategic management. These four major pillars are identified as the main pillars of CCM. The literature emphasizes these four areas since, based on CCM's history, it has grown out of and through these areas of study. CCM is rooted

Figure 3.



Source: own research result

in psychology and anthropology because these sciences deal with culture and its effect on human behaviour. (2) Psychology highlights the individuals understanding and interpretation of society and cultures. Any kind of interaction across cultures is inherently stressful, as it challenges our assumptions which we assume are universal. Since cultural habits are acquired and internalized from early childhood, they generally elude our awareness except when we encounter people whose cultural scripts are at variance with our own. As a person changes according to their circumstances, and are affected by others in their societies, (2) anthropology can help to give a better understanding of human behaviour and development (Abe & Wiseman, 1983; Albert, 1986;). (3) International business, and the rising chance of growing as an organization and community, brings different cultures close together and forces companies to manage groups that consist of individuals with wildly different backgrounds (Osbeck, Moghaddam, & Perreault, 1997; Chen et al., 2010). This contains notions of levelling up partnerships and including cultural matters into (4) strategic thinking (Francis, 1991; Pornpitakpan, 1999; Mohr & Puck, 2005). CCM links many subareas and grows alongside and in parallel with them, include terms and specialties from all the four areas (Figure 3.). This process shows that CCM is wide, constantly growing and specifying at the same time.

Identified main pillars of cross-cultural management

Psychology

With the internationalization of enterprises in the 1960s, cross-cultural issues started to rise, and addressing these cross-cultural issues was an urgent matter. A new demand for CCM tools started to surface from the multinational enterprises' side, and at the time it was mostly to manage the daily business relationship between the headquarters and the subsidiaries. CCM started to be crucial in strategy making. Cross-cultural psychology as a discipline had already existed, being part of psychology, but initially coming from anthropology (Pedersen, 1991; Y. Kashima, 1998; Singelis, 2000). Most companies faced problems regarding multiculturalism, and CCM related questions and innovations all started as a Western project, since the companies that went global first were Western too. In order to prevent the psychology from becoming exclusively Western, cross-cultural psychologists sought to test the universality of psychological laws via cultural comparative studies (Ellis & Stam, 2015). Attempting to overcome psychology's 'culture-blindness' was considered a laudable goal of the early cross-cultural psychologists whose context was the emergence of cognitive psychology and individualism, the new mechanisms of information processing in psychology, and finally the cultural upheavals of the 1960s and 1970s.

The main definition of cross-cultural psychology was defined in the beginning of the 50s: "Culture consists of patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the

distinctive achievement of human groups, including their embodiments in artefacts; the essential core of culture consists of traditional (i.e. historically derived and selected ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of further action. [...] this formula will be modified and enlarged in the future as regards (1) the interrelations of cultural forms: and (2) variability and the individual" (Kroeber & Kluckhohn, 1952, p. 181).

For the first few decades cross-cultural psychologists worked, as a rule, directly with people in other cultures, mostly in face-to-face situations. Their studies were focused on topics like cognition, perception, and developmental and social issues. Expanding the literature further in this new emerging science of complexity Hofstede wrote: "[...] I treat culture as 'the collective programming of the mind which distinguishes the members of one human group from another'" (1984, p. 21). These words foreshadowed a new approach in cross-cultural psychology, which has become increasingly social, statistical and indirect, in the sense that the only contact with participants is through the group administration of questionnaires and scales. Although the literature on cross-cultural psychology does not explicitly mention this, with time and with bigger cross-cultural projects, face-to-face data collection and qualitative information methodologies did not become a priority anymore. The initial idea to address a new demand, the need of a better understanding of another culture and another individual from a different cultural background, faded away. Cross-cultural research became about statistics and generalization (Leong, 2016). In other words, the purpose of the world-wide research started to be about efficiency and not about understanding.

According to Schwartz (2009), "The underlying normative value emphases that are central to culture influence and give a degree of coherence to these manifestations" (p.128). In this view culture is outside the individual. It is not located in the minds and actions of an individual. It refers to the information to which individuals are exposed by virtue of living in a particular social system. Culture is created – and can be destroyed too – by humans. Currently it is passed on to us by previous generations, but can be and should be shaped with time (Bond & van de Vijver, 2011; Torrén & Kärtner, 2017), even if the globalized world inherits the history of multiple conflicts that are actualized in the trans-generational memory of cultures (Silva & Guimaraes, 2012; Sieck, Smith, & Rasmussen, 2013). Culture comprises shared beliefs, values, and group norms of interconnected individuals, such as those from the same nation, racial or ethnic background. People can build emotional connections with a specific cultural group, drawing from it a sense of comfort and safe haven (Peleg & Rahal, 2012; Hong et al., 2013). In their research, Hong and his colleagues have started to examine the role of emotions in meeting intercultural challenges. For example, it has been demonstrated that the ability to recognize emotion in a new cultural context and emotional regulation are important predictors of

intercultural adjustment (Jorgensen, 1979). Hong explains that attachment researchers have incidentally established that secure and insecure attachment styles can predict adolescent adjustment through emotional regulation and social competence (Cooper, Shaver, & Collins, 1998). According to this research, emotions are one of the most important links between an individual and their cultural attachment. Based on this, culture cannot exist without humans, and individuals are indeed the creators and the shapers of culture.

Anthropology

It was only in the 18th-century that, in France, the single term "culture" began to be used and to acquire a sense of skill or refinement of the mind or taste. It was rapidly extended to refer to the qualities of an educated person, and this meaning has been retained until today (Jahoda, 2012). In English, in the 19th century, the writer Matthew Arnold held a similar view, describing culture as "the acquainting ourselves with the best that has been known and said in the world, and thus with the history of the human spirit" (Arnold, 1873). Around the same time, the anthropologist Edward Tylor famously began his definition of the words "culture" or "civilization", which is a complex whole that includes: knowledge, belief and any other capacity acquired by man as a member of society. "Culture... is that complex whole which includes knowledge, beliefs, arts, morals, law, customs, and any other capabilities and habits acquired by (a human) as a member of society" (Tylor, [1871] 1958, p. 1). The word "culture" comes from human science, directly from the positive human skills such as knowledge, values and communication, and is directly linked to the meaning of civilization (Driel & Gabrenya Jr., 2012). It means that the core of culture is the individual in society; it comes from an individual and creates a whole together.

Any kind of comparative study of social phenomena across two – or more – societies is "cross-cultural." However, the current usage ordinarily distinguishes "cross-cultural" from "cross-national" research, with the former referring only to comparisons among nonindustrial societies of the variety traditionally studied by anthropologists, and the latter to comparisons among modern nations (Udy, 1973). "Cross-cultural analysis" is directed toward generalizations and is thereby distinguished from piecemeal comparisons seeking to describe only one society, by contrasting it with others. As a research activity, "cross-cultural analysis" has been increasing. The comparative study of nonindustrial societies, with a view to discovering or testing general principles, is distinctive, and quite different theoretically, conceptually, and methodologically from both cross-national research and piecemeal comparison. Cross-cultural analysis would seem to be central to both anthropology and sociology, but its basic patterns of operations as well as the skills it demands are very different. The typical cross-cultural study is directed toward the analysis of a relatively small number of traits

over a relatively large number of societies. The number and type of societies studied as well as the range and kinds of data required from each society are all determined by the nature of the generalizations sought.

If several or many societies are involved, the cross-cultural researcher almost always has to rely on secondary source materials for most of the information. Since the sample of societies is usually fairly large, it is necessary to manipulate the data through aggregative statistical techniques in order to gain a clear and understandable result that can be then generalized. Cross-cultural analysis is typically carried on in library, office or laboratory, rather than in the field studying the environment and all the circumstances. Generally speaking this involves studying secondary ethnographic and historical sources in large numbers of nonindustrial societies, coding relevant data from these sources only, and manipulating these data so that they will yield fairly abstract, theoretical conclusions, according to Stening (1979). The potential for problems in intercultural relationships is greater since cross-culturally there are often major differences in values, attitudes, beliefs, expectations, and the like. Therefore, using a small sample in research and studying this sample, and then making a conclusion, seems not good enough to make reliable outcomes. Triandis (1972), clarifies "a cultural group's characteristic way of perceiving its social environment" (p. 3), as a "subjective culture". As a result the outcomes of such studies are only true for that certain group. Studying cross-cultural management makes this even more complex, since it not only about a separate group, but the relationships and links between them are also highlighted. Anthropology as a science dealing with humans does not seem as involved in these issues so far, according to the studied literature. For this reason, taking a sample and generalizing the results seems unacceptable and harmful in the long run.

In several ways psychology studies are closely related to anthropology research. These two sciences are linked in CCM, therefore they should be analysed in parallel to each other. The central concerns of anthropologists and psychologists are very similar, but there are many differences in their perspectives or approaches that need to be stated. Anthropologists are often concerned with the discovery of acceptable alternatives in a behavioural domain under certain external or environmental conditions (Frake, 1964). Despite this, psychologists are concerned with predictions regarding particular choices in a given group and the way members will respond to certain stimulus situations. Psychologists prefer experiments and the manipulation of variables; furthermore, they often artificially restrict the set of alternatives open to their respondents in the service of experimental rigor. Psychologists see their main purpose as the development of general laws of human behaviour and the application of these laws to different situations. However a law cannot be considered general unless it holds on to the full range of the variables involved, for example in various social settings, and for most humans (Triandis, Malpass, & Davidson, 1971).

International Business

The growing pressure for performance, delivery, and increased globalization have created a debate on the use of standardized “best practices” across countries versus adaptation to the local context (Nedeem et al., 2018). On one side there are the universalists arguing in favour of ‘convergence’ across countries, claiming transferability of these best practices irrespective of national boundaries (Pudelko & Harzing, 2007). On the other side are those who posit that despite globalization, direct transfer of “best practices” across countries is hindered by many contextual factors such as social, institutional and cultural factors. Increased globalization and emigration to many developed countries and the organizations in these countries have become increasingly more demographically complex, with employees of diverse cultural backgrounds working and interacting on a daily basis (Shore et al., 2009; Jaeger et al., 2016). A culturally diverse workforce poses significant challenges for leaders; furthermore, complexity is added because diversity and its effects are not very well understood yet (Giddens, 1991; Rupert et al., 2010). Moore (2015) notes that leaders need to be sensitive to cultural differences and must adopt different leadership styles in order to manage employees from diverse backgrounds. This task should be nothing less than a priority (Adler, 1997; Harris, 2000; Hiranandani, 2012; Jansen et al., 2016). Creative solutions for cultural minority related problems must be found. This would also facilitate the development of positive mindsets toward diversity; thus it directly and indirectly plays an important role in cultural minorities’ socialization process (Malik & Singh, 2015). This might be the key to integration by not creating a one-over-all standard that eliminates the varied cultures but builds a well-rounded CCM.

Scholars have looked at convergence theory to understand emerging global business ethics. Early accounts of this theory are considered today as ethnocentric because they assumed that the United States and some Western European countries were the “correct” model to which all successful developing countries would eventually converge to (Usunier, 2011). Convergence theory posited that as the world became industrialized, the demands of professional management would cause managerial styles and values in different countries to become more alike over time (Chong & Thomas, 1997). This aims to reduce organizational cultural differences that impede knowledge transfer. In addition, another way to integrate different cultures within an organization or group is by creating a new platform for such transfer. This could mean cultural crossvergence (Sarala & Vaara, 2010). Through cultural integration, one creates a positive social dynamic for alleviating the risks of nationalistic confrontation, reaping the knowledge potential residing in distinctive national cultural systems.

The purpose of cultural integration, on one hand, is quite positive; it helps groups – or organizations – to work together and have an easier way to interpret strategy. Unique challenges come from the cultural differences; these are shown in such aspects as language, values, and

expectations. These differences are likely to influence the manner by which work is done, and the underlying capabilities needed for success (Yagi & Kleinberg, 2011). Integration of cultures under one standard – overall – culture, might address these challenges. On the other hand, it indirectly creates standards that go against all cross-cultural topics, since the differences vanish and create a new common culture, but not actually reaching out for each other and not aiming to have an understanding. Business managers have long been interested in the standardization issue and suggest operational economies and the development of uniform best practices (Dorfman, 2012; Popli, 2016).

Strategic Management

In the 60s, markets became global, firms became more international, and joint ventures, particularly cross-border joint ventures, increasingly provided firms with opportunities to rapidly expand geographical market participation. This created economies of scale and critical mass. This lets companies reduce risk, learn new skills and technologies, and facilitate effective resource sharing (Harrigan, 1988; Lei & Pitts, 1999; Michel et al., 2000). With joint ventures becoming a powerful force shaping firms’ global strategies, it is not surprising that partnerships between horizontally related firms have significantly increased since the 1960s (Park & Ungson, 1997). Environmental variables, including pre-departure training, sources of support, family adjustment and job characteristics have also been found to influence cross-cultural adjustment (Harrison et al., 1998; Shaffer & Harrison, 1998; Kraimer et al., 2001; Van Vianen et al., 2004). One framework for categorizing cultural differences emerges from research on diversity in work groups.

The diversity concept has also been met with very different interpretations, even within the European context. Point and Singh (2003) found that companies in Europe had different diversity definitions, with emphasis ranging from gender to age to culture to disability (Stoermer, Davies, & Froese, 2017). Almond et al. (2005) found in their research on American multinationals in the UK that gender was universal when discussing diversity across subsidiaries, although differences on other dimensions and groups emerged (Chatterjee, 1992; Salk & Brannen, 2000; Chuang, 2015). Therefore, if creativity is coming from a diverse team, then it is a complex case, since in a diverse team every individual has another meaning for creativity. For this reason, the first step towards international success in the case of multinational companies is to find a common ground or to have a correct interpretation. As one of globalization’s biggest pressures is to make companies innovate in a global multicultural context, as it is increasingly important to cultivate a culturally diverse workplace to enhance employee creativity (Zhou & Su, 2010; Keller, Wen Chen, & Leung, 2018).

Cultural diversity is routinely invoked as a driver of innovation and improved performance, for both individuals and organizations (Watson, Kumar, & Michaelsen, 1993; Ely & Thomas, 2001; Edgar et

al., 2014). Diversity is a characteristic of groups that refers to demographic differences such as gender, race, ethnicity, nationality, all of which potentially contribute to a cultural identity that stems from membership in sociocultural distinct demographic groups (McGrath, Berdahl, & Arrow, 1995). The members of these groups tend to share certain world views, norms, values, goals, priorities, and sociocultural heritage (Ely & Thomas, 2001; Hajro, Gibson, & Pubelko, 2017). Diversity of the labour force is a fact, yet knowledge about attitudes towards diversity in different national contexts is limited (Berry, 2016; Traavik & Adavikolanu, 2016). The shape and form of diversity varies from country to country, but diversity in itself is always present and organizations are increasingly under pressure to manage it successfully. The growing number of women in the workforce, the escalation of migration from developing to industrialized countries, and the importance of international career mobility all contribute to the diversity of the workforce (Priest et al., 2014).

Cultural diversity in a workplace ideally provides for the confluence of disparate ideas from different cultures. The appropriate combination of ideas and perspectives from different cultures potentiates creative solutions and addresses business problems in the global economy (Chen et al., 2010; Stahl, 2017). Intercultural disharmony in the workplace, and in society in general, is inevitable, and is not directly under individuals' control. A disharmonious multicultural social environment can easily undermine an individual's creativity. Everything depends on our own understanding so this makes cross-cultural research even harder since everyone has their own understanding regarding diversity – which is believed to be the engine of growth and success within multinational enterprises (Ajiferuke & Boddewyn, 1970; Esterby-Smith & Malina, 1999). Esterby-Smith and Malina (1999) refer back to Siegle's (1986) book, where he is pointing out that in terms of the world's roots, something that is reflexive "must turn back on itself, and then turn back on its turning" (1986, p. 2). Reflexivity is a valuable component of CCM, especially when there is a need to combine different perspectives in order to have a clear understanding about diversity within a business setting or social science.

Conclusion

In the current review, psychology, anthropology, international business and strategic management have been studied. CCM emerged from psychology; the first research and paper publications were made in the journals regarding psychology. Since cultural issues are about human behaviour, mindset, values and beliefs, understanding human psychology was the first step towards understanding each other. First definition of CCM was created by an anthropologist. Humankind and their history, capabilities and skills, are all connected to those that understand themselves, others and the environment they are surrounded by. In order to create links between cultures and gather people with different

cultural backgrounds, human-focused studies are needed. Although CCM was an existing science, the growth of it comes from globalization and the international relationship within business settings. New solutions were needed for the unique challenges that came with the globalized world. For this reason diverse teams started to be the engine of success and for these teams new management styles were needed.

The purpose of this review was to systematically analyse the literature on CCM by identifying the main pillars of it, linking the different aspects together and considering the current understanding. Through reviewing the literature and studying the different pillars of CCM, a better understanding has been achieved by developing a mind map. In comparison to former reviews on CCM, the current review distinguishes itself because it is an extensive overview of different aspects and shows the links between these in order to make the structure and meaning visible. The review focuses on the different parts of CCM and brings the connections to the forefront, which previous reviews did not discuss in detail. Highlighting the top journals and top academics' understanding of CCM gives an overview to the term. Through the four pillars, CCM can be brought closer to full knowledge and clarification, and this may serve for a better understanding for future research and discussions.

Limitations

The aim of this review is to analyse and synthesize the literature regarding CCM from top journals with no time limit, in order to be able to study the history of CCM and all the aspects that are directly connected to it. Despite all the efforts, the current study suffers from a few notable limitations. First, in attempt to test CCM and its development and components, a narrow focus was taken. The literature selection approached only top journals and books that each paper was heavily based on and left out research that had appeared in lower ranked journals and other sources. Second, during the reviewing process, the focus was on CCM and the different aspects that had been studied, measured and researched so far. The aim was to capture the use and the understanding of these papers. Lastly, not all the necessary aspects are researched and studied. Therefore these aspects are mentioned regarding the main four pillars, but not analysed in detail. Some of the sub areas have not been fully explored yet, and linked to CCM directly so far; therefore these could not be included in the current review. Research on CCM will continue to be a significant and vibrant topic. Many exciting opportunities lay ahead in further gaining a deeper understanding, as the current research is a step towards achieving that goal by mapping the current understanding of CCM.

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Appendix I.

SCIImago: Subject Areas - Categories	Journal	Issues (From - 2018)	Search result by the key-word	Relevant Articles
Social Science – Cultural Studies	Annual Review of Anthropology	1972	700	2
	Journal of Cross-Cultural Psychology	1999	1588	9
	Space and Culture	1999	285	3
	International Journal of Cultural Studies	1999	330	2
	Culture and Psychology	1999	178	2
	Cross Cultural and Strategic Management	2016	599	4
Business, Management and Accounting – Business and International Management	Academy of Management Journal*	1963	61	9
	Journal of International Business Studies	1960	888	3
	Leadership Quarterly	1996	4	1
	Academy of Management Perspectives	1987	53	1
	Journal of World Business	1997	761	4
	Management and Organization Review	2005	15	1
	International Journal of Intercultural Relations	2005	1633	6
	European Business Review	1989	326	3
Business, Management and Accounting – Organizational Behaviour and Human Resources Management	Journal of Management and Organization	1994	118	1
Business, Management and Accounting – Strategy and Management	Academy of Management Journal*	1963	61	1
	Strategic Management Journal	1980	399	1

* the same journal but searching results with different keywords

BRAND AVOIDANCE BEHAVIOUR OF GEN Z TOWARDS FAST FASHION BRANDS

A Z GENERÁCIÓ FAST FASHION MÁRKÁKKAL SZEMBENI MÁRKAELKERÜLÉSI MAGATARTÁSÁNAK VIZSGÁLATA

Most research into consumer behaviour and branding focuses on the reasons why people choose certain products and brands. Research related to anti-consumption emphasises the opposite: its aim is to explore reasons behind the rejection of different products, brands, or even consumption as such. Relevance of this issue is not negligible: knowing what consumers do not want (and why) is at least as important as knowing what they do want (and why). Survey results, related to the five categories of brand avoidance – experience avoidance, identity avoidance, moral avoidance, deficit-value avoidance and advertising – provide the input for the methodology of multidimensional scaling, aiming to identify sets of variables which are commonly responsible for brand avoidance. The of the research lies in its scope including all five categories of brand avoidance, which have not been tested in this comprehensive way in the fast fashion apparel industry before. The use of multidimensional scaling for analysing the aspects of brand avoidance is also unique. Its main added value is to provide an explainable picture of variables which “stand together” in shaping brand avoidance behaviour related to fast fashion. In addition, the clustering of respondents sheds light on the dominant features of those variables, in case of the brand avoidance behaviour of Gen Z.

Keywords: anti-consumption, brand avoidance, Fast fashion, generation Z, multidimensional scaling, MDS

A fogyasztói magatartással és márkázással kapcsolatos kutatások többsége a termék- és márkaválasztás okainak feltárására fókuszál. A fogyasztásellenes magatartásra irányuló kutatások ennek ellenkezőjét hangsúlyozzák; céljuk a termék, a márka, illetve maga a fogyasztás elutasításának hátterében húzódó okok azonosítása. A téma relevanciája nem elhanyagolható: legalább annyira fontos tudni, mit és miért nem választanak a fogyasztók, mint azt, mely termékeket és márkákat preferálják. A kutatás a Z generáció márkaelkerülési magatartását vizsgálja az irodalomban azonosított öt márkaelkerülési kategória – a tapasztalati, az identitáshoz köthető, a morális, a hiány értékű és a reklámmal kapcsolatos márkaelkerülés – mentén, kérdőíves felmérés alapján. A kutatás három vonatkozásban nyújt hozzáadott értéket: felfedi azokat a változó-csoportokat, melyek együttesen befolyásolják a márkaelkerülési magatartást; az eddigi kutatásokon túllépve valamennyi márkaelkerülési kategóriát megvizsgálja a fast fashion márkák esetében; valamint az adatokat a multidimenzionális skálázás módszerével elemzi, amelyet a márkaelkerülési szakirodalom eddig nem alkalmazott. A megkérdezettek klaszterekbe való besorolása rávilágít arra is, mely márkaelkerülési változók dominálnak klaszterenként a Z generáció márkaelkerülési magatartásában.

Kulcsszavak: fogyasztás-ellenesség, márkaelkerülés, fast fashion, Z generáció, multidimenzionális skálázás, MDS

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According to Lee and Fernandez (2009), consumption related research mainly observes consumer behaviour and attitudes, often focusing on the reasons why consumers buy certain products and brands. A crucial reason behind purchasing a product is the sum of benefits provided by the brand (Lee et al., 2009b; Olins, 2009, cited by Budac & Baltador, 2013, p. 444; Wernerfelt, 1984; Bauer & Kolos, 2016; Lee et al., 2012; Keller, 2013) which reflects a clearly positive viewpoint related to the consuming of brands (see also Rindell et al., 2014). However, due to the controversial impacts of consumer society, beyond knowing what consumers want, getting to know what they do not want has gained noticeable interest recently. This area is not only interesting, but also very diversified, which resulted in the emergence of different approaches, such as alternative consumption, prosocial and pro-environmental consumption, or even anti-consumption. Research into the latter approach is spreading (Englis & Soloman, 1995; Banister & Hogg, 2004; Lee et al., 2009a; Knittel et al., 2016). Due to the fact, that the boundaries of these approaches are not clear, all of them will be touched upon briefly, however our paper follows the latest trend by dealing with anti-consumption. Anti-consumption is also a complex area, considering the object and the reasons behind of this phenomenon. Our paper focuses on brand avoidance as a special form of anti-consumption, via summarizing the relevant literature and testing the model of Lee et al. (2009a), extended by Knittel et al. (2016), on consumers of generation Z, related to the fast fashion apparel industry. A questionnaire-based survey is testing the five categories of brand avoidance: experiential avoidance, identity avoidance, moral avoidance, deficit-value avoidance and advertising avoidance.

Lee et al. (2009b) suggest a model which is aimed to be reliably tested on an identifiable target group where brand avoidance behaviour appears in an expressed form. Previous research, carried out in the apparel industry often did not meet this precondition, making survey results highly ambiguous. Our survey was clearly conducted at a sample from the target group as 81% of the surveyed 501 university students reported to regularly buy fast fashion apparel products. The precondition for using the theoretical model of Lee et al. (2009b) has also been met, since the remaining 19% of respondents have expressed strong brand avoidance behaviour, buying fast fashion apparel products never or very rarely, although they are members of the target group.

In the empirical analysis, we have used the methodology of multidimensional scaling (MDS) to identify sets of variables which are commonly responsible for brand avoidance in the fast fashion apparel industry. The 8 sensitivity-related aspects illustrate the sources of brand avoidance in a complex way, indicating the interconnectedness of included variables in the actual brand avoidance behaviour of the sample. Respondents have been classified by a cluster analysis, along the variables of the initial model and the 8 sensitivity aspects. Clusters represent strongly committed and weakly committed brand avoiders, as well as a group of respondents who mainly aim to protect their identity with brand avoidance.

Final results are expected to be useful for both slow fashion companies to strengthen their sustainability strategy and brand value, as well as for fast fashion companies to fight brand avoidance behaviour in the future.

Literature review of brand avoidance

The importance of branding and its link to brand avoidance

Branding includes functions and benefits both for the company and the consumers. From corporate perspective, the brand can function as a *resource of the company* (Olins, 2009 cited by Budac & Baltador, 2013, p. 444; Wernerfelt, 1984), it ensures *functional benefits* like higher price and *emotional benefits* like consumer and investor trust (Bauer & Kolos, 2016). The brand also ensures the *differentiation* between brands; in this manner a well-known brand can be a source of competitive advantage (Lee et al., 2012). Last but not least, a strong brand assures several *marketing advantages* such as higher loyalty and higher price margin (Keller, 2013).

From consumer perspective, a central issue of consumer behaviour research is to understand the role of branding in consumers' decision-making process and the benefits brands provide to consumers. Kapferer (2008) has identified 8 functions of the brand, which ensure benefits for consumers. These are identification, practicality, guarantee, optimisation, badge, continuity, hedonistic and ethical functions (Kapferer, 2008, p. 22). Two of these functions need to be highlighted in connection with brand avoidance. The brand can be considered as a symbolic entity, which is related to customers (Prónay, 2016, p. 32). The brand as a *symbol* strengthens the self-image of the consumer or the image that a person presents to others. The *ethical function* means the satisfaction linked to the responsible behaviour of the brand and its relationship to the society. The negative perception associated with those functions or the lack of them may lead to brand avoidance (Kapferer, 2008).

Anti-consumption and brand avoidance

Beyond positive effects, the spread of consumer society has also resulted in some conspicuous negative impacts, related mainly to environmental and social issues – like overconsumption (mainly as a result of excessive production and the creation of mass markets, together with the ideology of more consumption representing higher value and satisfaction), overuse of natural resources, environmental degradation, inequalities, exploitation of labour etc. As a reaction to this phenomena, several consumers started to reduce their consumption and the topic of anti-consumption has become a preferred research area. Iyer and Muncy (2009) argue that anti-consumption movements appear in societies, where mass consumption is present (p. 160). Gabriel and Lang (2008) highlight anti-consumption in connection with the changing nature of consumption, as a message of the anti-globalization movement. Zavestoski (2002, p. 121) defines

it as “resistance to, distance of, or even resentment of consumption”.

Close and Zinkhan (2009) argue that alternative consumption and anti-consumption have long traditions in the American society, originating from the 17th century. They define anti-consumption as resistance towards consumption of certain products and services while alternative consumption refers to the refusal of purchasing traditional products via traditional channels (Gould et al., 2007, cited by Close & Zinkhan, 2009, p. 200).

Lee and Fernandez (2009) also argue that *anti-consumption* is not equal to alternative, conscientious or green (sustainable) consumption. The latter are regarded as types of *prosocial consumption*. Although some consumers tend to express their anti-consumption attitudes via non-conform or specific lifestyle choice (like purchasing environmentally friendly products), anti-consumption primarily focuses on the reasons against consumption. Black and Cherrier (2010) do not make such distinction; they consider anti-consumption as part of a sustainable lifestyle, because environmental concerns are often strongly related to anti-consumption. In addition to environmental concerns, self-interest and subjective well-being, as well as political and personal concerns have also been found to be frequent motivations behind sustainable lifestyles (Iyer & Muncy, 2009, p. 160).

Iyer and Muncy (2009) classify *anti-consumers* into four groups, as illustrated in Table 1. In line with the statement of Craig & Lees (2006, cited by Iyer & Muncy, 2009, p. 160), the object of anti-consumption can be consumption in general; the consumption of certain brands and products. Reasons behind anti-consumption behaviour can be social concerns or personal concerns.

Table 1.

Types of anti-consumers

		Reason behind anti-consumption	
Object of anti-consumption		Social concerns	Personal concerns
	General	Global impact consumers	Simplifiers
	Specific	Market activists <i>brand avoiders</i>	Anti-loyal consumers <i>brand avoiders</i>

Source: based on Iyer & Muncy (2009, p. 161) and Lee et al. (2009a)

Global impact consumers aim to reduce their general consumption for the sake of the society and the planet. The group of simplifiers (in line with Zavestoski, 2002) represent simpler lifestyle, oriented to less consumption. According to Cherrier et al. (2011), voluntary simplifiers use anti-consumption in relation to their personal reflection, individual fulfillment and desired self (p. 1758). Market activists tend to avoid several products and brands, because those create special social and environmental problems. Anti-loyal consumers can be defined as an opposite of loyal consumers (Iyes & Muncy, 2009).

According to Aksoy et al. (2013), loyal consumers create value for companies through repurchasing and positive word of mouth, while anti-loyalty is regarded to “reflect personal commitment to avoid purchasing a product because of perceived inferiority or because of a negative experience associated with it” (Lee et al. 2009a, cited by Iyes & Muncy, 2009, p. 162).

The phrase of *brand avoidance* emerges in several studies (see Oliva et al., 1992; Thompson et al., 2006; Lee et al., 2009b etc.), with different approach. Lee et al. (2009b, p. 422) define *brand avoidance* as a special form of anti-consumption where consumers intentionally decide to avoid certain brands, although they have access to the product, they could afford it financially, and they have the ability to purchase it. It means an active rejection of the brand (Lee et al., 2009a). If the reason behind not choosing a brand is high price, unavailability or non-accessibility of the brand, it cannot be considered as active rejection and hence, as brand avoidance. Based on the two approaches (Iyer & Muncy, 2009; Lee et al., 2009b), market activists and anti-loyal consumers can be regarded as brand avoiders (see Table 1.).

Unlike the above authors, Hogg and Banister (2001) identify two reasons behind product avoidance or brand avoidance: lack of affordability and the refusal of buying the product. Tamasits & Prónay (2017, based on Fetcherin & Heinrich, 2014) explain brand avoidance as a relationship between the brand and the consumers, based on its strength and direction of emotion. If the brand relationship is weak and the consumer’s emotions to the brand are negative, brand avoidance is evolving.

This paper uses the definition of Lee et al. (2009a), which excludes situations from brand avoidance, where the consumer is not able to buy the product, due to any reasons.

Main types of brand avoidance

As seen from the definitions, Lee et al. (2009b) consider brand as a multidimensional constellation, implying several reasons to exist behind avoiding brands. The comprehensive model of Lee et al. includes four types of brand avoidance (Lee et al., 2009b) which provided a theoretical background for a few empirical research since then (e.g. Knittel et al., 2016; Rindell et al., 2014; Kim et al., 2013).

Experiential avoidance originates from brand promise, which is an important aspect of a brand’s constellation of values, as emphasised by several authors (Lee et al., 2009b; Kapferer, 2008; Bauer & Kolos, 2016; Majerova & Klietnik, 2015). Majerova and Klietnik (2015) consider brand promise as a rational component, expressing what the brand provides to the consumer. Individual expectations derive from those promises and if the company is not able to meet the expectations, it may lead to disappointment and result in brand avoidance (Lee et al., 2009b).

Tamasits and Prónay (2018) argue that the effect of self-image on consumption originates in self-esteem and self-consistency, which are deeply discussed in the research of Sirgy (1982), who states that individuals try

to act in accordance with their view of themselves (self-consistency) and are looking for those experiences which strengthen their self-concept (self-esteem). *Identity avoidance* occurs when consumers perceive certain brands to be inauthentic, or when the brand is connected to a negatively judged reference group which they do not want to belong to (Lee et al., 2009b; Englis & Solomon, 1995; Hogg & Banister, 2001).

The next category of brand avoidance is strongly connected to green or eco-friendly thinking and supports the growing importance of social sensitivity (Töröcsik, 2016). Unlike the other three types which express how brand promise directly influences well-being of the individual, *moral avoidance* relates to the wider society (Lee et al., 2009b). For certain consumers, brand promise is not compatible with their reported moral values, consequently, the brand is avoided because of ethical reasons. Based on consumers' motivations and attitudes, Dudás (2011, p. 48) describes this type of conscious consumer choice as consciousness which takes into account the interests of other people.

Deficit-value avoidance mainly occurs when consumers associate the low price of the product with low quality. In addition to budget brands, deficit-value avoidance may also emerge in case of premium brands which are considered to be unable to provide adequate value for consumers for the higher price.

Knittel et al. (2016) used the model of Lee et al. (2009b) in their research on generation Y and explored a further category of *brand avoidance* which is *related to advertisement*. They found that content, celebrity endorser, music and consumers' response to the advertisement also can lead to brand avoidance. They have extended the model of Lee et al. (2009b) a posteriori with this fifth category of brand avoidance.

Lee et al. (2009b) considered their own extended model to be rather general. Due to this limitation, they suggest to test the model on the target group of a specific brand, where brand avoidance can be detected within the target group. Knittel et al. (2016) analysed generation Y, albeit their research was not interpreted for a specific industry. Kim et al. (2013) carried out their research in the fashion industry, where they used the model of Lee et al. (2009b), but without testing the advertisement related brand avoidance elements of Knittel et al. (2016).

Based on the above theories and results, our research aims to make a comprehensive evaluation of brand avoidance types, using the extended brand avoidance model (see Knittel et al., 2016), in the fashion industry, related to fast fashion brands, on a specific target group of those brands.

Designing the empirical research into brand avoidance

Selection of the industry for testing the model

As a result of the fast industrialization and economic boom in the 19th century, clothing industry has changed. The spread of sewing machines and patterns established the

ready-for-wear industry and also resulted in the spread of mass production. As a consequence of mass production, fashion items have become widely accessible for the society and since the 1990s, brands like Zara, H&M or Top Shop have gained strong market position globally as well as in Hungary (Okonkwo, 2007; Marketline, 2015a, 2015b, 2014a, 2014b, 2014c, 2014d, 2013). These brands are defined in the literature as fast fashion brands, however, researchers define fast fashion in different ways. Kim et al. (2013) and Taplin (2014) interpret the phrase as a business model: Fast fashion is the most well-known business model in the fashion industry due to its supply chain management, merchandising techniques, and retail technology (Kim et al., p. 243). According to Choi et al. (2010) "fast fashion is the strategy that retailers adopt in order to reflect current and emerging trends quickly and effectively in current merchandise assortments" (p. 473). Runfola and Guercini (2013), Joung (2014), as well as Zarley Watson and Yan (2013) similarly approach the phrase from a strategic point of view, while Sull and Turconi (2008) also add that fast fashion democratizes the couture by producing available and affordable items for masses (p. 5).

Hu & Shiau (2015) adopt the definition of Byun and Sternquist (2008): fast fashion – named after the fast food conception – means quickly updated products with short renewal cycle and speedy delivery. The approach of Lang et al. (2013) is more critical: based on product characteristics, fast fashion means that retailers produce items of weaker quality and shorter durability (p.707). Abeles (2014, p. 157) calls "fast fashion, where clothing, particularly for women, changes rapidly and marketing efforts attempt to compel consumption based on dynamic trends". According to Pookulangara and Shephard (2013), based on the definition of Wood (2009), Carey and Cervellon (2014), Miller (2012) and Cortez et al. (2014), fast fashion is a cheaper version of the styles appearing on the catwalks of Milan and Paris.

In our empirical research all above explained features of fast fashion will be used.

Selection of respondents from the target group of fast fashion brands

As fast fashion industry provides mass production, fast fashion brands have a wide range of targeted consumer segments within the society. Our empirical research focuses on the brand avoidance behaviour of one segment, generation Z. Following the typology of McCrindle and Wolfinger (2010), we characterize this generation based on sociological considerations. In the research of the Ernst and Young LLP (2015), members of Gen Z are described as highly educated, technologically savvy, naturally creative, innovative individuals and was born after 1994 (p. 10). According to Priporas et al. (2017), this generation will be a challenge in the future for marketing and retail, because as consumers they are supposed to behave differently and they are found to be more open for innovative products. In addition, Generation Z is regarded as the most environmentally conscious generation (Tari, 2011). Nógrádi-Szabó and Neulinger (2017) analyzed

Gen Z from the perspective of their values and lifestyle. Although their sample was limited on the young population of Budapest, research results significantly contributed to the understanding of Gen Z's attitudes towards brands and clothing. This generation in the capital city was found to pay extraordinary attention to mobile communication and clothing. The Williams and Page (2011) supports those results, describing the members of GenZ as individuals who think twice what they are going to wear, considering fashion and clothing as a key tool for acceptance by peers and inclusion. Research results confirm the eligibility of analyzing fast fashion brand avoidance on a sample of Gen Z. Contrary to previous generations, Generation Z has a different attitude towards brands. In some cases owning an item is more important for them than owning the brand of that item (Nógrádi-Szabó & Neulinger, 2017). Based on these patterns, exploring the behaviour of Generation Z is expected to result in new insights into brand avoidance.

Sampling methodology and sample characteristics

Data collection was conducted via a web-based online survey, asking 516 students of Corvinus University of Budapest, from April to May 2017. First part of the questionnaire asked respondents from Gen Z about their opinion, related to fast fashion brands in general, while the second part focused specifically on brand avoidance behaviour of respondents who rarely or never buy fast fashion products. This paper introduces the results into brand avoidance. First, non-relevant respondents were excluded who exclusively purchase clothing through online channels, making store related questions irrelevant. Hence, the final sample counted 501 students. In order to avoid the difficulty to identify the target group (as often mentioned in literature, e.g. Zarley, Waston, & Yan, 2013; Joung, 2014; Lang et al., 2013; Birtwistle & Moore, 2007; Kim et al., 2013; Choi et al., 2010; Caro & Martinez de Albeniz, 2014; Gabrielli et al., 2013), respondents were directly asked which fast fashion brands they know and how often they buy from them. All respondents were able to name the most important fast fashion brands. 81% regularly buy their products, while the remaining 19% very rarely do so. That 19% (N=92) was the basis for us to test brand avoidance. Completely avoiding the purchase of fast fashion products seemed to be challenging for participants of the research. Reasons behind root partly in demographic features of the sample (see Table 2.) as well as in discomfort and inconvenience of changing to alternative ways of purchasing clothes in the market (e.g. to select clothes in second-hand stores which may be time-consuming and less efficient), which can be a barrier.

The sample is not representative related to habitation: majority of the respondents live in the capital city or in towns and has a better access to products of fast fashion brands. In smaller settlements, second hand shops and shops supplying non-branded mass-products are usually available. Second hand shops often provide more durable clothes of luxury brands as well, not only fast-fashion or non-branded mass products. From sustainability point

of view, buying products in second hand shops is a better choice than buying products in fast fashion stores, considering the stages of the textile product life-cycle. These facts are relevant in the case of moral avoidance.

Table 2.
Demographic characteristics of the sample

Demographics		N=92
Gender	Male	44 (48%)
	Female	48 (52%)
Habitation	Capital city	42 (46%)
	Town	38 (41%)
	Village	12 (13%)
Disposable net income/month/person	0-20.000 HUF	15 (16%)
	21.000-40.000 HUF	19 (21%)
	41.000-60.000 HUF	24 (26%)
	61.000-80.000 HUF	8 (9%)
	81.000-100.000 HUF	9 (10%)
	101.000-120.000 HUF	5 (5%)
	121.000-140.000 HUF	1 (1%)
	Above 141.000 HUF	11 (12%)

Source: own compilation

Disposable net income of respondents has positive skewness (the value of the skewness is 0.854), therefore they cannot afford complete brand avoidance in its strict meaning. There were only 9 respondents who reported to never buy fast fashion products.

Research results

Behaviour patterns of brand avoiders

Based on previous research results (Lee et al., 2009a, 2009b; Kim et al., 2013; Knittel et al., 2016), a total of 29 variables have been identified for the 5 main brand avoidance categories. Mean values for all variables are illustrated by Figure 1. and Figure 2., related to each category.

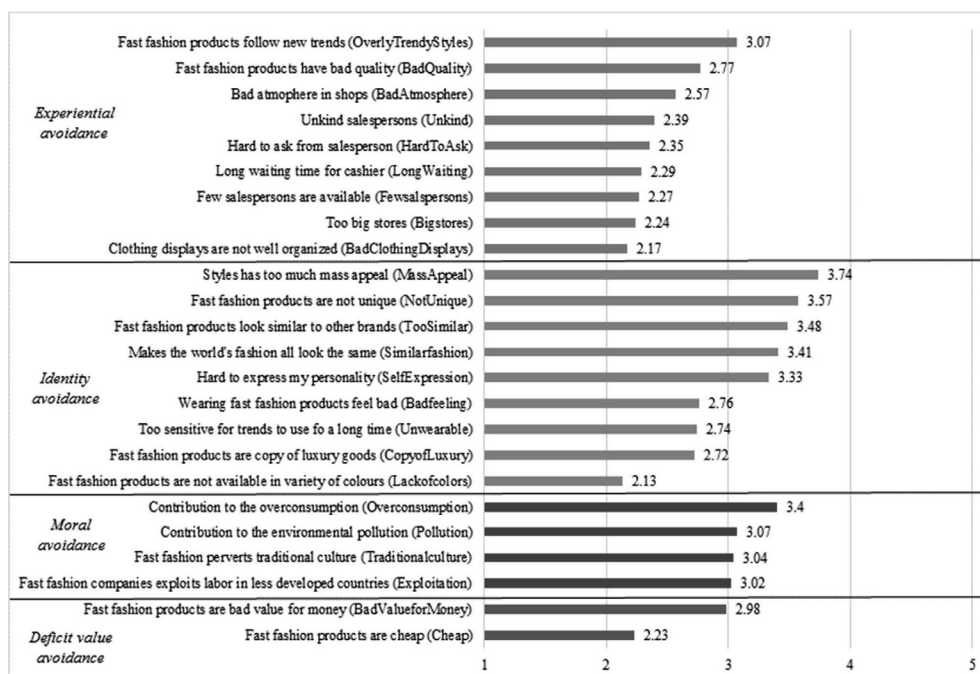
Figure 1. includes the categories of experiential, identity, moral and deficit value avoidance for all brand avoiders (N=92). Validity and reliability of these categories was tested previously by Kim et al. (2013).

The strength of main brand avoidance categories in brand avoidance behaviour of the sample can be explained through the total average scores for each category. *Moral brand avoidance* variables received the *highest* average score (3.19), exerting the strongest influence on brand avoidance behaviour of respective respondents. Within this category, contribution of fast fashion companies to overconsumption seems to bother respondents most (3.4).

Within the category of *identity avoidance*, average responses to variables express a range of "slight" to "strong" (but not "very strong") influence on respondents' brand avoidance. Difference between the highest and the lowest average score is significant. The most influential patterns affecting brand avoidance behaviour of

Figure 1.

Mean values to the question: "How do the following statements – related to fast fashion brands – affect your brand avoidance behaviour?" (1= not at all, 5=very strongly) N=92



Source: own compilation

respondents are mass appeal, not unique feature and same or similar look of fast fashion products, followed by the concern that it is hard to express one's personality through those products (3.33).

Within *deficit value avoidance*, the aspect of bad value for money seemed to have higher distracting power from purchase than low price.

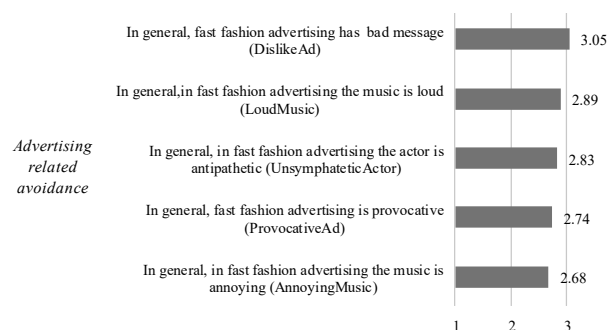
Experiential avoidance variables – including store-related features, personnel and product quality – are reported to have the *lowest* influence on brand avoidance behaviour in the sample (average score was 2.49). The low average value of experiential avoidance can be explained by the research results of Gabrielli et al. (2013) who identified the motivational factors behind buying fast fashion products. Main reasons appeared to be trying something different from the usual style and refreshing the wardrobe. In both cases, expectations towards fast fashion products proved to be low, decreasing the probability of experiential brand avoidance. Further explanation may stem from the value proposition of fast fashion which is fashionable clothing at accessible price (Caro & Martinez de Albéniz, 2014). As price is often regarded as an indicator of quality (Hofmeister-Tóth, 2006, p.173), lower price may lead to lower quality expectations, which can also decrease the probability of experiential brand avoidance.

Advertising related brand avoidance (see Figure 2.) was tested after a control question which asked whether the respondent has ever seen any kind of fast fashion brand advertising which resulted in a lower number of respondents (N=72). Since reliability for advertising related statements has not been tested before, the value of Cronbach alpha had to be calculated in this research (as suggested by

Füstös, 2009). According to the results, $\alpha=0.811$, which is in the recommended interval of reliability from 0.7 to 0.9 (Nunnally (1978), cited by Panayides, 2013). Deleting any of the variables did not result in higher Cronbach alpha value.

Figure 2.

Mean values to the question: "How do the following statements – related to fast fashion advertising – affect your brand avoidance behaviour?" (1= not at all, 5=very strongly) N=72



Source: own compilation

Based on the results of Knittel et al. (2016), respondents who met fast fashion related advertising (N=72) were asked about their opinions. As in case of Knittel et al.'s (2016) research for Gen Y, we found similar results for Gen Z, in terms of quite neutral average scores for the advertising related statements which do not differ from each other significantly (see Figure 2.). It means that advertising related features do not heavily influence respondents in their brand avoidance behaviour.

not show significant differences in the three clusters, the behaviour of respondents can be exclusively explained by the strength of influence of brand avoidance variables.

Table 3.

**Final cluster centers as result of the cluster analysis
(highest mean values are in bold)**

Final Cluster Centers			
	Cluster		
	1	2	3
Cheap	1.78	2.40	2.60
BadQuality	2.33	2.88	3.44
BadValueforMoney	2.78	3.35	2.92
OverlyTrendyStyles	2.26	3.15	3.88
Unwearable	1.93	2.93	3.52
Bigstores	1.85	2.73	2.00
BadClothingDisplays	1.78	2.68	1.76
LongWaiting.	1.78	2.95	1.96
BadAtmosphere	2.00	3.10	2.52
HardToAsk	1.74	3.03	2.20
Unkind	1.67	2.93	2.40
Fewsalespersons	1.67	2.98	2.00
Lackofcolors	1.70	2.55	2.04
SelfExpression	2.37	3.70	4.00
Badfeeling	2.11	3.23	3.16
NotUnique	2.37	3.85	4.56
TooSimilar	2.33	3.85	4.28
CopyofLuxury	1.89	2.95	3.44
MassAppeal	2.67	3.95	4.76
Overconsumption	2.63	3.73	3.96
Pollution	2.41	3.43	3.40
Exploitation	2.59	3.35	3.16
Similarfashion	2.19	3.80	4.36
Traditionalculture	2.07	3.65	3.44
DislikeAd	2.35	3.79	2.16
ProvocativeAd	2.18	3.42	2.28
UnsympatheticActor	1.82	3.31	2.30
Annoyingmusic	2.07	3.29	2.11
Loudmusic	2.13	3.55	2.21

Source: own compilation

Cluster 1: Least committed brand avoiders, 27 members

From Table 3. it is obvious that none of the variables have high average scores in this cluster. The total average score of all variables is 2.28. Most important (even if not too strong) aspects in the brand avoidance of the least committed brand avoider group are bad value for money and the mass appeal of fast fashion products, followed by moral aspects. Least influential aspects are connected to fast fashion stores and to the personnel. Regarding results of the MDS analysis, Cluster 1 does not show strong sensitivity in any categories.

Cluster 2: Most committed brand avoiders, 40 members

As opposed to Cluster 1, the total average scores of all variables is 3.5 in Cluster 2, showing a significantly larger

importance of brand avoidance aspects in fast fashion related behaviour of the 40 cluster members. Two third of variables take their highest average score in this cluster, compared to the other two clusters. While considering most brand avoidance sources as important, identity related statements seemed to be the most relevant features in the brand avoidance behaviour of Cluster 2 (even if they take their highest value in Cluster 3), including the problem styles have too much mass appeal in case of fast fashion products, they are not unique and are too similar to other brands. The group of most committed brand avoiders criticize the message of the advertising and the contribution of fast fashion to overconsumption. Least important aspects are lack of colour availability and the low price of fast fashion products.

Compared to results of the MDS, members of Cluster 2 strongly expressed strong sensitivity related to brand value and product patterns, uniformity, communication and wearability, followed by the sensitivity to social and environmental problems, values, personal feelings and the attitude of the store personnel.

Cluster 3 – Brand avoiders, who most protect their identity, 25 members

The total average scores of all variables is also relatively high in this Cluster (3.22) and 1/3 of variables take their highest value in this group. Variables of identity avoidance are absolutely prevailing: members of Cluster 3 strongly expressed their fear of deindividuation, they criticize fast fashion products for having too much mass appeal, being not unique, making the world's fashion all look the same, being too similar to other brands. This group considers it hard to express personality with fast fashion products. Least important factors in the brand avoidance behaviour of Cluster 3 – similarly to Cluster 1 – are connected to stores and the personnel.

Related to MDS results, members of Cluster 3 expressed strong sensitivity to brand value and product patterns, uniformity, as well as social and environmental problems, followed by sensitivity to values, communication and wearability as well as personal feelings and store atmosphere.

Discussion and Conclusion

The paper aimed to review the literature and report on a survey based empirical research into anti-consumption and brand avoidance, specifically related to fast fashion products and companies. According to the literature, five brand avoidance categories were identified – experiential, identity, moral, deficit-value and advertisement related brand avoidance – which were analysed on a sample from the target group of fast fashion brands, the Generation Z.

The research focused on the analysis of brand avoidance behaviour of respondents, based on the model of Lee et al. (2009a, 2009b), extended by Knittel et al. (2016). The compiled and conducted survey proved to be appropriate to test the model in the target group. However, the research also has limitations. The sample was relatively small, including only 19% of respondents of the total sample

– those who reported to buy fast fashion products very rarely or never. Hence, far-reaching conclusions cannot be made, but results provide an added value in testing a comprehensive model of brand avoidance which is unique in literature.

On a scale of 1 to 5, ranging from “no” to “very strong” effect, features of fast fashion products and companies are reported to exert an average effect on respondents’ brand avoidance behaviour in a range from 2.13 to 3.74. The most important patterns in brand avoidance behaviour towards fast fashion brands are mass appeal, not unique features and same/similar look to other products. This result is in line with Kim et al.’s (2013) research, where Korean consumers – who buy fast fashion products – reported to appreciate when the clothing is unique and suitable to express their personality. The lack of those features led to brand avoidance in case of fast fashion brands. For Korean respondents, poor performance of fast fashion products (such as problems with stitching, quality and durability) also led to brand avoidance, while in our research these aspects appeared to be less important in respondents’ brand avoidance behaviour as lower prices may result in lower quality expectations (see the findings of Gabrielli et al., 2013). Respondents reported to be most sensitive to product characteristics and least sensitive to features of the store and the personnel. Classifying variables into brand avoidance categories, moral brand avoidance received the highest average score of impact while experiential brand avoidance the lowest, showing how important the moral content can be behind human behaviour, especially in situations of avoiding something, in this case avoiding to buy fast fashion products.

In order to explore the hidden structure of data, multidimensional scaling was used to visualise the proximity of brand avoidance variables. MDS resulted in eight variable groups, representing different kinds of sensitivity, related to the features of fast fashion products and companies, profiling respondents’ brand avoidance behaviour. Variables, belonging to those groups of sensitivity, do not necessarily show the same structure as provided by the theoretical model as the sources of brand avoidance appear in a combined way in individuals’ actual behaviour. The resulting groups of the MDS analysis reflect sensitivities to some crucial phenomena like social and environmental problems, uniformity, underlying values, communication and wearability of clothes, the store concept, attitudes of the store personnel, personal feelings and store atmosphere, as well as connection between brand value and the product. These sensitivities are worth considering not only when fast fashion related brand avoidance behaviour to is analysed but also when acceptance towards a brand and its success factors are evaluated.

Clustering respondents based on their brand avoidance behaviour shed light on the levels of commitment and the most sensitive areas in individual decision making. Three groups were identified: least committed brand avoiders, most committed brand avoiders and brand avoiders who mostly fear their identity. Clusters were evaluated based on the initial model as well as on the results of MDS,

highlighting the importance of brand value and product patterns, uniformity, environmental and social problems as well as communication and wearability of products when it comes to brand avoidance of fast fashion.

Despite limitations of the research, results provide a systematic insight into the phenomenon of brand avoidance and contribute to a deeper understanding of the constituents of individual brand avoidance behaviour, based on a theoretical model and the outcome of multidimensional scaling. Future research – covering a broader scope of respondents and including various age groups into the analysis – is expected to provide further verification of the brand avoidance model and the results of this study.

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INTEGRATING HUMAN CAPITAL INTO CORPORATE STRATEGIC PERFORMANCE MANAGEMENT

– CHALLENGES AND PRACTICAL IMPLICATIONS FROM THE LEADER'S PERSPECTIVE

A HUMÁN TŐKE BEÉPÍTÉSE A SZERVEZETI STRATÉGIAI TELJESÍTMÉNYSZEMPONTJÁBÓL

– KIHÍVÁSOK ÉS GYAKORLATI KÖVETKEZMÉNYEK A VEZETŐ SZEMPONTJÁBÓL

The increasing role of intellectual capital – and its key component, human capital – in corporate value creation has been one of the most discussed topics in performance management studies in the last three decades. Many scholars and practitioners agree that these critical intangible strategic resources must be monitored and effectively managed at the firm in order to achieve corporate performance targets and execute strategy successfully. Integrating human capital into the strategic performance management system is not a simple exercise though as various organizational factors must be managed consciously on the way. This longitudinal case study research is focusing on the role of leadership on how human capital is integrated to strategic performance management, by analyzing various data at a leading financial service provider for more than 10 years. During this period the senior leadership was changed, which had a significant impact on both the perceived importance of human capital as well as the way how it was integrated to strategic performance management at the specific organization.

Keywords: intangibles, human capital, strategic performance management systems, leadership

Az intellektuális tőke – valamint az annak kulcselemét jelentő humán tőke – a vállalati értékteremtésben betöltött megnövekedett szerepének kérdése az elmúlt 30 év teljesítménymenedzsment-szakirodalmának egyik leggyakrabban tárgyalt témaköre. Számos kutató és gyakorlati szakember egyetért abban, hogy ezeknek a kulcsfontosságú nem tárgyasult stratégiai erőforrásoknak a mérése és hatékony menedzsmentje kulcsfontosságú mind a vállalati teljesítménycélok elérése, mind pedig a stratégia sikeres megvalósítása szempontjából. A humán tőke stratégiai teljesítménymenedzsment-rendszerbe való beépítése azonban korántsem egyszerű feladat, hiszen számos szervezeti kihívással kell számolni a megvalósítás során. Ennek a 10 éves longitudinális esettanulmány-kutatásnak a fő fókuszja annak vizsgálata, hogy miképpen hat a felső vezető vezetési stílusa a fenti kérdésre egy hazai piacvezető pénzügyi szolgáltató esetében. A kutatási időszak során a felső vezetők cserélődtek a vizsgált szervezetben, ami szignifikánsan befolyásolta mind a humán tőke észlelt fontosságát, valamint annak megjelenését a stratégiai teljesítménymenedzsment-rendszerben is.

Kulcsszavak: nem tárgyasult erőforrások, humán tőke, stratégiai teljesítménymenedzsment-rendszerek, vezetési stílus

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It was more than 25 years ago when Fortune Magazine published Thomas Stewart's (1991) ground-breaking cover story about the role of intangibles or intellectual capital (IC) in value creation and corporate performance.

Although human resources, effective processes and organizational structures or sustainable market relations had earlier been already considered and discussed as key factors in value creation, both Stewart's article and popular

book six years later (Stewart, 1997), did significantly stimulate the theoretical and practical discussion about knowledge capital at the early 1990s.

In the meantime, other well-recognized scholars – such as Lev, Davenport, Mouritsen and Paloma Sánchez –, and practitioners from different backgrounds – such as Edvinsson, Sveiby or Kaplan and Norton – have also joined in this discussion about intellectual capital management (ICM) and its role in value creation or executing corporate strategy and generating performance.

The first period of the related studies was trying to create clear definitions and practical classifications for intellectual capital and its components. In parallel, various measurement methods and tools have been developed to capture performance, value or strategic contribution of intangible strategic resources, including human capital. Many organizations have realized that their traditional performance management tools and reporting structures lack proper managerial information about their most crucial resources, the intangibles. This led to significant investments to new performance management tools and projects even if the first ICM initiatives often ended up with low impact on the organization and its management practices. This led to most recent times when the scholars are aiming to understand the way how to overcome the key challenges what organizations have been facing during the implementation and use of their ICM tools or when trying to integrate intangibles and human capital into their management systems. As various scholars (see, for instance Bögel, 2006) emphasize it, if the organization does not manage its strategic resources like human capital properly, they face a significant risk of losing a significant part of their assets. One of the first steps is to be aware and monitor the key performance dimensions of human capital and integrating it to strategic performance management systems of the firm accordingly.

How can senior leadership of the firm influence and support the organization to overcome the related challenges, and what are the typical dimensions of human capital being captured in a strategic performance management system – these are the key questions of this paper.

When answering these two main topics, this paper starts with extensive literature review on the role and management tools of intellectual and human capital. Then a 10 years longitudinal case study will be described and used to lead us to our main scientific results and practical insights. The financial service provider in the center of this paper is a good example to understand the role of senior leadership in intellectual capital management in a knowledge-oriented organization.

Value creation and corporate performance – An increase in role of intangible strategic resources

The discussion in management sciences about the role of intangible strategic resources is not a new (see, for instance Beer, Spector, Lawrence, Mills, & Walton, 1985; Davenport & Prusak, 2001; Hislop, 2009; Dalkir, 2011;

Gudas, 2012 or Tari, 2019) but still one of the ‘hot topics’ in both performance management and management accounting studies in the last two or three decades. The first stage of the intellectual capital management dialogue in the early 1990’s was intensive and concentrated mainly on ‘theoretical basics’. From the mid 1990’s and early 2000’s various practical management methods have been developed, most of them consciously designed to capture intangible strategic resources and manage them from various functional aspects in an organization, including its management control and strategic performance management systems. After a relatively quiet period in the mid 2000’s, the research of more recent times has concerned by a better understanding of the practical challenges of implementing and using the developed IC management tools in practice, as well as finding possible solutions and answers to the significant critiques have emerged regarding the generic and theoretic approach and the lack of real practical impacts and implications offered by the ICM perspective (Bontis, 2001; Juhász, 2004, 2016; Kaufmann & Schneider, 2004; Tóth, 2008; Dumay, 2009; Guthrie, Ricceri, & Dumay, 2012; Dumay & Garanina, 2013; Guthrie & Dumay, 2019).

If we apply Gartner’s classic lifecycle model (Gartner, 2016) to the ICM approach and its practical use in organizations, the most recent times could be called the phase of ‘*Through disillusionment*’. After the ICM perspective brought up a significant management topic onto the table but has been not able to fulfill the high expectations generated previously regarding the impact and benefits of the developed management tools and methods, recently both the scientific and practical management society have been disappointed and started to discuss the key problems and look for solutions to answer the practical challenges regarding intellectual capital management perspective (Dumay & Garanina, 2013).

Despite these challenges and the lower impact of ICM approach on corporate management practices, most scholars still agree that intangible strategic resources and human capital often play critical role in many organizations, especially in the so-called knowledge industries like education, financial services, software development, fashion, consulting or technology innovations. In these but also in other sectors effective and efficient management of human capital – or as Austin and Larkey refer to it, talent, skills and knowledge differentials of *knowledge workers* – is extremely critical for success (Austin & Larkey, 2007).

Besides the example above, there are several additional signs and indications of a significant and increased role of intangible strategic resources in both corporate performance and value. These are all emphasizing the need for such management tools in organizations which can effectively and efficiently capture and handle these important strategic resources of the firm. Such trends are for instance:

- *Increasing gap between market and book value.* Share of intangible assets in corporate value is still relevant (higher than 85%) today as well and not only before the

financial crisis (based on Ocean Tomo LLC, 2015; Mahn, 2015).

- *Increased investments into intangible strategic resources and human capital.*

According to Leonard Nakamura's calculations, the US-based companies alone have already invested more than 1 trillion dollars into intangible strategic assets between until 2001 only. The author estimates the long-term investments balance into intellectual capital by private companies in the US around 6 trillion US dollars (see, in Lev & Zambon, 2003).

A most recent study has also reemphasized this trend: according to Statista Database, organizations consider their people, brands, customer relations, strategic partners, innovation and patents, and flexible organization are the most critical strategic resources and tend to invest into these assets more actively (Statista, 2017).

- Looking at the phenomenon from a broader *strategic, organizational and performance management perspective*, other significant insights and research studies can be listed regarding role and impact intellectual capital on organizations.

- According to commonly referred-to scholars in this area, *experienced human resources, patents, know-how, software, customer relations, brands, well-developed organizational processes and innovative business models* play a crucial role in growth and corporate performance. As the authors emphasize, creating sustainable value is impossible without the conscious management and monitoring of these most crucial intangible components of performance (Lev, 2004).

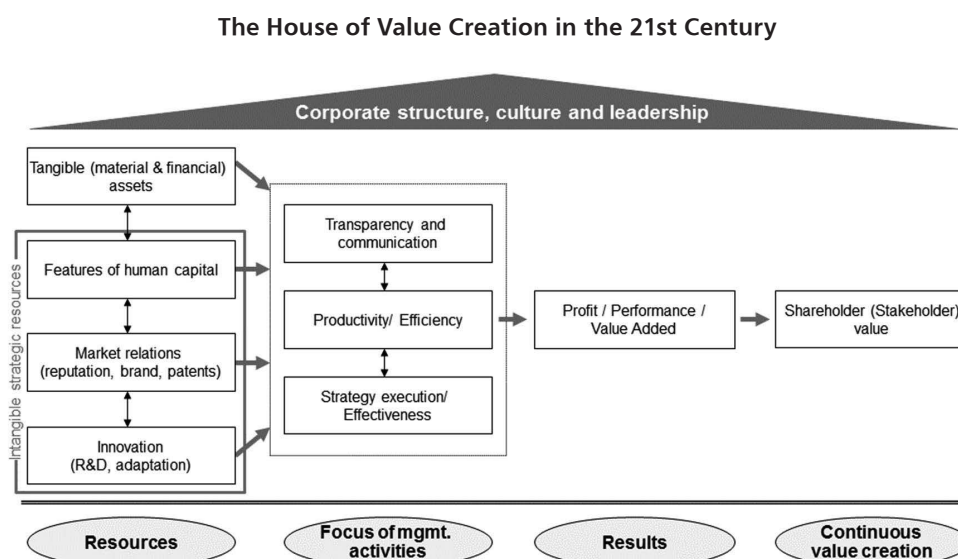
- Similarly, another study from the early 2000s highlights the role of *market liberalization and expansion, better protection of intellectual properties, enhanced information sharing, the application of new ICT tools and systems, as well*

as product and technology innovations as the most important triggers of performance (Teece, 2000). Most of these components are strongly connected to intangible strategic resources, and thus emphasize the importance that should be awarded to intellectual capital measurement and management.

- In another study, *84% of top managers of US-based companies highlighted the availability of highly qualified and motivated human resources ('human capital') as a crucial factor in corporate value creation and performance.* Additionally, these managers not only believe in the reality of this situation but expect the trend to become stronger in the future (Oliver, 2001, in Juhász, 2004).
- A similar conclusion can also be derived from a Hungarian research project: in a combined study implemented by KPMG and Pannon University, *77% of the participating 130 companies in Hungary categorized intangibles and human capital as critical strategic resources of the organizations* (KPMG BME Academy & Pannon University, 2006).
- Finally, a comprehensive research approach was applied by Juhász, 2016, when the author consolidated his longitudinal research focusing on 300 financial and top managers of different Hungarian manufacturing and service firms. According to the involved managers, *in average still 48 to 51% of their firm's value depend on intangible strategic resources.* Interestingly, most companies give little attention to measuring these items correctly.

As the above-mentioned studies already highlight, there is a practical need to systematically monitor and manage intangible strategic resources in most organizations. From a strategic performance management perspective, this means that the related key success factors and performance dimensions need to be integrated into the SPM system – or, based on the context and management

Figure 1.



Source: based on Lev & Servatius, in Horváth & Möller (2004) – modified

needs, to specific components of it. This observation is also valid for human capital, as one of the key components of intangible strategic resources or intellectual capital (specifically for human capital see in addition e.g. Crook, Todd, Combs, Woehr & Ketchen, 2011 or Önhon, 2019).

The 'house of value creation' has significantly changed in recent times, both in terms of type of strategic resources and the related key management requirements and activities (see, Figure 1.).

To execute strategy and create value in an organization having such a resources and activities structure like the house illustrates, the leaders of the firm need to put conscious emphasis on selecting and manage the most important resources and activities as key components of a comprehensive system: not only the classic tangible assets have to be developed but even more the intangible strategic resources such as *human capital*, *corporate relations*, and *innovation*. Amongst other components, *human capital* is a strategic resource, so management activities and communication about it should be transparent, its productivity should be measured, and its contribution to strategy execution monitored effectively.

Intangible strategic resources and human capital – A various definitions for a 'complex organizational concept'

Since this article does not aim to consolidate or provide a comprehensive list of the different IC definitions and terminology, the following definitions are only examples to illustrate the key dimensions of intellectual capital or intangible strategic resources¹:

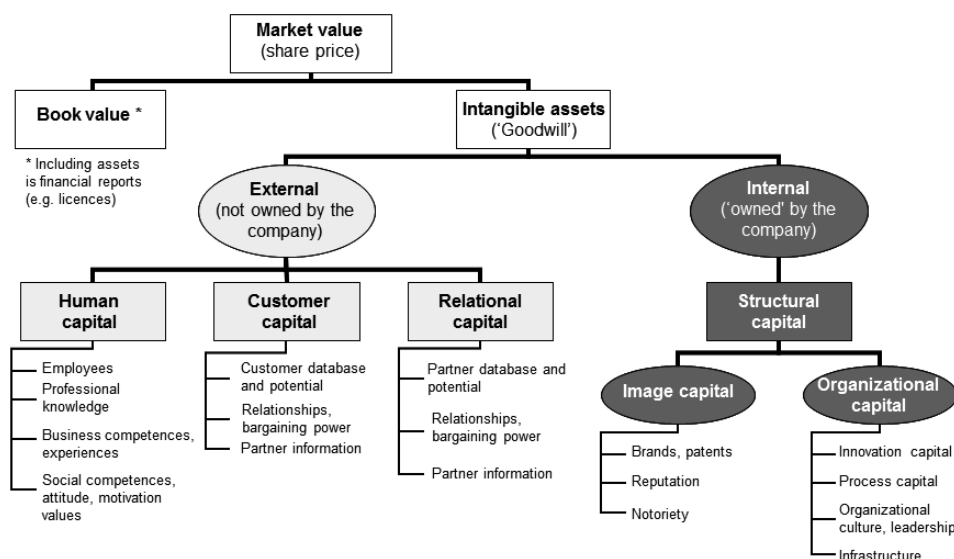
- Intellectual capital is usually defined as a *portfolio of strategic resources with no physical, material or*

monetary shape or existence but which still generates value for the organization (based on Kaufmann & Schneider, 2004; Arbeitskreis IWR, 2001).

- Gu and Lev (2001) additionally emphasize the role of context and declare that knowledge capital does not necessarily create value for an organization, but *they turn into value* – in the form of profit or better strategic performance (etc.) – *only if they are integrated into the value adding processes of the firm*. The authors refer to company's research and development, marketing, human resources management and IT practices as the most important intangible drivers of the organization.
- In another definition, intellectual capital refers to *such assets of an organization that are based on knowledge*. This approach differentiates between *internal and external attributes of intellectual capital*. In the first category, we can find such components like the expertise and experience of employees, business processes or the information system. Amongst external factors the brand value and the loyalty of customers are highlighted by the authors (Brennan – Connell, 2000).
- Similarly, Pfeil (2004) – based on Edvinsson and Sullivan – defines *intellectual capital as knowledge that can be converted to value*.
- Another relevant and practice-oriented perspective was provided by RICARDIS project funded by the European Union, where term intangible strategic resources or intellectual capital refers to a combination of *human, structural and relational capital*, and *those business activities of the organization* which aims to develop these three categories (RICARDIS, 2006). In addition to providing a comprehensive glossary of intellectual capital management, this project emphasizes the difference between *static and dynamic characteristics intangible strategic resources*, which is an important added value

Figure 2.

General classification of intangible strategic resources – a management accounting and performance management perspective



Source: based on Stoi & Daum, in Horváth & Möller (2004) – modified

from a performance management perspective (Sánchez, Castrillo & Elena, 2006).

- Finally, according to Kaplan and Norton (2005), the developers of balanced scorecard methodology, intangible strategic resources refer to a *combination of different skills and capabilities of employees* (expertise, talent, motivation), *information systems* (IT tools and infrastructure, knowledge management) and *organizational dimensions* (culture, leadership, coordination and team work) which are critical to generate strategic advantage and provide high-level services to customers.

Although the list of various definitions of intellectual capital may be continued², it is not hard to recognize that most of these descriptions are too generic for any research and do not provide a pragmatic framework for performance management either. To able to identify key success factors and dimensions of intangible strategic resources and human capital, and measure their strategic contribution and performance, we need a more pragmatic and practice-oriented approach to define intellectual capital.

The following chart (Figure 2.) illustrates such a pragmatic and comprehensive categorization of intangible strategic resources.

In this categorization, *human capital* is considered as the most critical component of intangible strategic resources. Amongst others, skills and capabilities, professional knowledge as well as social competences, and experience and attitude of employees are in this category. Briefly, human capital consists of the most critical (strategic) skills, knowledge and other attributes of people in the organization which affect productive work and strategic execution (Sveiby, 2001a, 2001b).

By combining the abovementioned pragmatic classification of intellectual capital with the previously mentioned differentiation between *static versus dynamic notion of intangible strategic resources*, a pragmatic management method and tool is created to be effectively and efficiently utilized to capture and manage strategic performance or intellectual capital, and its components (including human capital).

Table 1.
Intangible strategic resources and activities
(a dynamic vs. static view of intellectual capital)

I. Static dimension	Intangible strategic resources		
	Human Capital	Organizational Capital	Relational Capital
II. Dynamic dimension	Intangible strategic activities		
	To develop internally or acquire intangible resources	To increase the value of already available intangible resources	To evaluate and monitor intangible activities

Source: based on Sánchez, Castrillo & Elena (2006) – modified

As the Table 1. illustrates as a part of comprehensive performance management process human capital management cannot only mean to focus on *intangible strategic resources* only, but also on those *intangible activities* which are to acquire, develop, improve or evaluate and monitor intangible strategic resources and human capital.

If we apply this differentiation between dynamic and strategic performance dimensions for human capital: not only the *actual status and contribution* of human resources are relevant for corporate performance management, *but the activities as well* which help the organization to maintain the necessary high alignment of human capital to strategy or even develop it further.

Intangibles in corporate strategic performance management – The typical performance dimensions to capture human capital and its contribution

Strategic performance management (SPM) systems play an important role in 21st century organizations. They are designed, implemented and used *to provide the necessary information about performance and the status of strategy execution in an organization*. As Franco-Santos and his colleagues claim, ‘today, contemporary performance measurement systems comprise the use of financial as well as non-financial performance measures linked to the organization’s business strategy’, and ‘are frequently recommended for facilitating strategy implementation and enhancing organizational performance’ (Franco-Santos, Lucianetti, & Bourne, 2012, p. 79). Accordingly, the main objectives of SPM systems is enhancing performance by aligning people’s behavior to strategy, as well as developing the necessary capabilities the organization may need *to implement strategy successfully*. One of the most important aspect of this latter, is providing relevant managerial information to leadership and support their decision making in organizations effectively.

According to De Waal, one of the most frequently referred authors of SPM literature, ‘strategic performance management is ‘the process in which steering of the organization takes place through the systematic definition of mission, strategy, and objectives of the organization, making these measurable through critical success factors and key performance indicators to be able to take corrective and preventive actions to keep the organization on track to great performance’ (De Waal, 2013, p. 5).

If we translate and apply this and link it to the current state of organizational value creation (Figure 1.) and the enhanced impact of intangible strategic resources on corporate performance, integrating intangibles (including human capital) into strategic performance management is vital to manage performance of the firm effectively. Amongst others, this has been one of the main goals of developing the various intellectual capital management methods in the last decades: *to understand strategic objectives and business model better, support managerial*

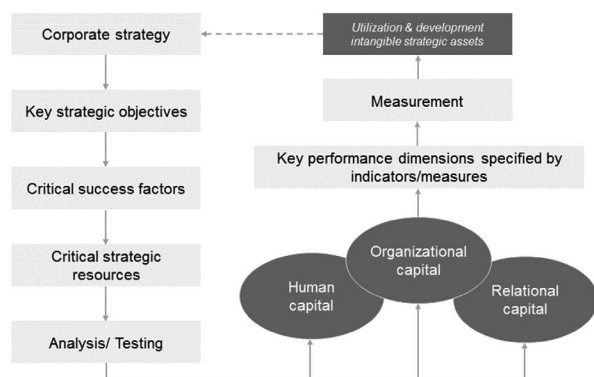
decision making and create better transparency about key performance of the firm (RICARDIS, 2006; Serenko & Bontis, 2013; Grimaldi & Rogo, 2013).

This is an especially relevant objective of the so-called *scorecard methods of intellectual capital management*, where the main goal is to identify the most critical components and performance dimensions (success factors) related to intangible strategic resources of the organization, and design such functional key performance indicators which are used later to monitor the status of the most important aspects of these resources (Bontis, 2001; Roos, Pike, S. & Fenstrom, 2005; or Juhász, 2004; Harangozó, 2007; Boda, 2008; Tóth, 2008; Stocker, 2012; Németh & Dóry, 2019). By identifying critical success factors and strategic resources of the firm, as well as measure and analyze their impact on strategy execution and performance regularly are crucial to manage intellectual capital and its components successfully.

The overall SPM cycle of intangible strategic resources, including human capital, is summarized on the Figure 3.

Figure 3.

Key steps of strategic performance management and monitoring of intellectual capital



Source: based on De Beer & Barnes (2003, p. 19) – modified

One of the first steps in the ICM-cycle is to understand the corporate strategy and identify those components which are the most critical to implement strategy and achieve performance targets. These factors are to be monitoring by properly selected key performance indicators and reported to management regularly. Since intangible strategic resources are embedded into corporate strategy and context, the related key strategic performance indicators must be also derived from corporate strategy. There no 'one best' set of performance dimensions for human capital.

Nevertheless, after analyzing 15 various scorecard methods designed for measuring and managing performance of intangible strategic resources, with a special focus on human capital, the following key performance dimensions can be identified in the literature. These represent the most critical and typical six performance dimensions which shall be theoretically integrated into strategic performance management system.

Table 2.

Key strategic performance dimensions of human capital

Overall category	Static performance dimensions	Dynamic performance dimensions
Skills and competences	- Degrees & educational level - Proportion of core & support staff - Experience (knowledge)	- Training (volume, coverage, spending per employee) - Knowledge sharing & experience building
Attitude and loyalty	- Employee satisfaction - Absenteeism - Loyalty (years)/ Average age in the organization - Social competencies	- Training in social competencies - Team building
Diversity	- Flexible employment (forms, coverage) - Women in different positions (manager, core, support) - Gender structure - People with disabilities	- Fluctuation of key target groups - Hiring/ Employees from key target group - HR support for diversity (projects, services, etc.)
HR stability and growth	- Positions filled/ open - Organizational image (in the targeted labor market segments) - Application trends for the organization - Experience (years)	- Fluctuation/ Turnover of staff - Hiring/ New employees - Employees leaving / Resignations versus dismissals - Retirements
HR effectiveness	- Value added/ Profit per employee (as total or per HR employee) - Customer satisfaction (with employees, with HR services) – internal & external stakeholders - Achievement level of HR targets & strategies (corporate level, and at the level of HR Department).	
HR efficiency	- Personnel costs (per employee or compared to total costs) - Total costs of HR Department (per employee or compared to total costs) - Operational efficiency of HR processes and services (time, quality, costs)	

Source: based on own analysis and consolidating 15 relevant IC measurement methods

Since the specific indicators in an organization need to be defined according to corporate strategy (Figure 2.), the Table 2. is to be considered rather as a potential benchmark and practical guideline to generate ideas and potential KPIs to capture human capital. From a practical perspective both corporate strategy, various organizational (size, sector, etc.) and other factors like data availability (see, e.g. Kremer, 2018) or 'soft'-organizational factors (see Harangozó, 2007 and later in this paper) may also have a significant influence on the performance dimensions of human

capital, and the way of implementation and utilization of them during strategic performance management of the firm.

Typical organizational factors influencing performance management systems and their use for intangible and human capital purposes

Implementing strategic performance management systems is not an easy task on its own. There are various organizational and behavioral factors which can *support, substitute or neutralize* the impact and beneficial use of corporate performance management systems (for more details, see amongst others in Ginzberg, 1980; Gabris, 1986; Burns & Scapens, 2000; Kennerley & Neely, 2002; Kasurinen, 2002; Bodnár, Harangozó, Szűcs, & Dankó, 2009; Harangozó, Bodnár, Szűcs, & Dankó, 2010; Alsharari, Dixon, & Youssef, 2015; Vajda, 2019).

According to Pandey (2005), for example, the success or failure of strategic performance measurement systems depends on the following organizational prerequisites:

- top management commitment and support,
- ability to determine critical success factors (objectives),
- translation of critical factors into measurable objectives and measures (metrics),
- linking of performance measures to rewards,
- installation of a simple monitoring and tracking system,
- setting up a sound communication system to harness the advantages of the system inside the organization,
- enhancement of allocation of resource and linking of strategic planning to new performance management system.

The author also highlights that SPM systems need to be changed and focus on intangibles and intellectual capital in an enhanced manner compared to recent practice. In addition to focusing on the non-financial performance dimensions of the firm, creating a better understanding of strategy and business model, linking strategy to day-to-day operations, or introducing professional tools and practices for performance review and feedback – these are all important requirements for a modern strategic performance management system.

Another study classifies the influencing factors on successful SPM implementation into two groups (Islam & Kellermans, 2006):

- Organizational factors, including elements such as norms, pressure from customers or competitors, and the availability of necessary organizational resources.
- Individual-level factors such as perceived ease of use, perceived usefulness, or the management's awareness and intentions to use the SPM system – all these may play a crucial role in success.

As the authors state, both socio-psychological, economic and resource-based factors can significantly influence SPM systems, and cause them to deviate from their original goals and functions.

Finally, in his already mentioned model, De Waal (2004) describes and highlights the following – mostly behavioral – factors with a significant role in increasing the probability of any successful strategic performance management system implementation and change:

- understanding of organizational members regarding the goals of the strategic performance management system,
- positive attitude of organizational members towards performance management,
- the SPM system is aligned with the responsibilities of employees,
- existence of a performance and development-oriented organizational culture,
- clear leadership focus on performance management.

The author also claims that leadership is one of the most important factors, and important leadership-related attributes – such as Accountability, Appropriate leadership style, Action-oriented communication, Integrity, Ability to lead, Content, and the Aligned division of responsibilities – have critical impact on the implementation and use of strategic performance management.

Altogether, amongst other factors leadership support is a critical factor in implementing and using performance management system in organizations. This plays an even more important role when the object of measurement, for instance intangibles and human capital, is hard to be measured and more effort needed from both the management and organization. Since the probability that a performance management system fails is significantly higher if (1) the perceived subjectivity of measurement is high, or (2) perceived ability of the system and trust in metrics to capture performance is low (Ittner, Larcker, & Meyer, 2003), the leadership needs to invest more effort to integrate intangibles and human capital into corporate SPM system.

The impact of subjectivity and role of leadership support in implementing and using performance management tools designed to capture intangible strategic resources in organizations have been studied by various scholars from both practical and theoretical aspects. Briefly, majority of scholars have discussed and agreed that one of the most relevant practical challenges of performance management is integrating intangibles and human capital performance in an effective, efficient and beneficial manner, is their 'intangible' character and the missing practical experience in defining of proper 'objective' indicators to measure and monitor performance of intangibles (see, for comprehensive overview, for instance, Harangozó, 2007; or Serenko & Bontis, 2013). From many aspects, this is normal though. Since KPIs are tools to support corporate management in strategy execution and provide them with relevant information on status of intangible resources

and activities, they must be aligned with the context and business model, as well as the strategy of the firm. The strong embeddedness of intangible strategic resources and human capital into context makes it challenging to understand and compare organizations with different context, size, strategy or business model. One next step forward could be for instance to reach a deep understanding of a selected organization, and build a comprehensive research model accordingly. This latter might be analyzed by using quantitative statistical methods and tested in a broader a sample.

This paper is focusing on the first step at this stage though, and aims to provide brief but practical insights the way intangibles (and especially, human capital) are integrated into corporate performance management of the firm. The selected case study organization is a leading financial service provider in Hungary³, where human capital is considered as a crucial strategic resource with high relevance for senior management and strategy execution. The longitudinal and explorative case study research has started in 2008 and has continued for more than 10 years by now. In addition to the various managerial interview rounds (2008, 2010/12 and 2017/18), all strategy and performance management documents have been also analyzed, and most of the organization has also filled a qualitative survey (2018) where the focus was to understand corporate SPM practices and the way how human capital performance is measured and managed by the firm. The results of the survey were also discussed in a focus group to gather additional information and stories, and reach a better understanding of context and role of leadership.

Case study – Human capital's integration into corporate strategic performance management at a leading financial service provider

Based on literature in such a knowledge-intensive organization like the financial service provider in our case human capital specifically shall play an important role in strategy and performance. After consolidating the results of the last 10 years' empirical data collection (incl.

3 in-depth interview rounds in 2008, 2012 and 2018, as well as qualitative survey filled by all members of the firm and focus group with the management in 2018) at the case study organization, the following strategic resources are identified as the Top 5 most critical success factors:

1. Professional knowledge and experience,
2. Motivation,
3. Market appearance and network,
4. Organizational culture and leadership,
5. Access to market information.

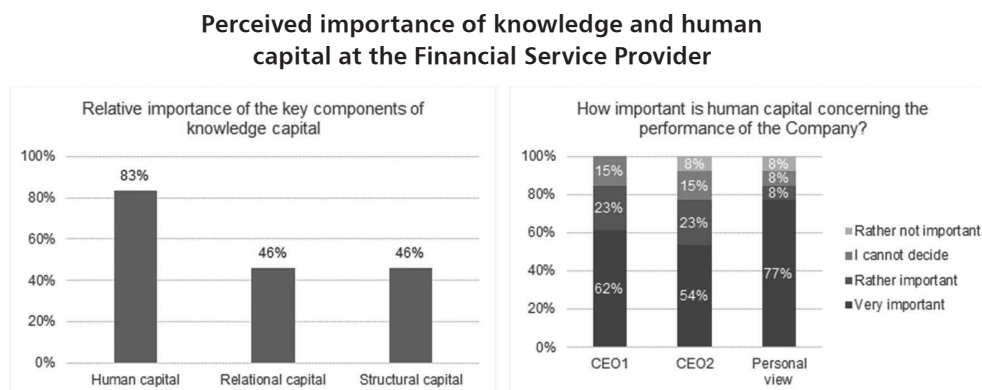
The first and second dimensions are directly, while the fourth is indirectly linked to human capital (this is also highlighted at the Figure 4. summarizing the results of the qualitative survey).

If human capital is perceived and communicated as a key strategic resource, the next step is to analyze how is it covered by the firm's performance management systems. Since the Financial Service provider introduced a balanced scorecard (BSC) based corporate strategic performance management system in 2007, the first focus point has been that. As the Table 3. summarizes, the corporate SPM system of the Company has consisted 10 strategic KPIs to capture and monitor human capital performance. This is one third of the 31 indicators in the corporate BSC in total.

If we compare Table 3 to Table 2 above, where the usually measured strategic performance dimensions of human capital are listed according to literature review, it is clear how strongly the Company's corporate performance management system focuses on effectiveness and efficiency dimensions of human capital rather than Skills and competencies, Attitude and loyalty, Diversity or HR stability and growth. This is a result of the firm's strategic focus on these two in general, but also strongly influenced by data availability and low ability of the firm to measure the other four dimensions.

In addition, there is a contradiction at the case study organization between the important and regularly monitored strategic performance dimensions of human capital (see, Figure 5.).

Figure 4.



Source: own analysis based on Survey (2018) – cross-checked with interview and focus group results

Table 3.
Human capital indicators integrated into corporate
SPM of the Financial Service Provider

Category	Static (stock) performance dimensions	Dynamic (flow) performance dimensions
Skills and competences		• No of trainings (per employee) ⁽¹⁾
Attitude and loyalty		
Diversity		
HR stability and growth		
HR effectiveness	• No of conference presentations (per employee) • No of publications (per employee) • Planned knowledge sessions conducted in distribution network (No, %) • Provided training days per distribution FTE • Training satisfaction of distribution network • Satisfaction of distribution network (support, operations) ^{(1) (2)}	
HR efficiency	• Coverage of new incentive system (%) • No of transactions per FTE ⁽¹⁾ • No of corrections and cancellations per FTE ⁽¹⁾	

Source: based on own analysis

– Note: ⁽¹⁾ Applied for Back-office only.

⁽²⁾ It also strongly impacted by system/ IT quality)

According to the organizational members personal view, Attitude and loyalty, HR stability and growth, and Skills and competencies are more important and should be measured and integrated into corporate SPM more actively,

rather than HR effectiveness and HR efficiency which are in the focus of the corporate BSC. The perceived level of measurement of these three human dimensions is lower than the organization members would recommend it.

Besides, there is also a difference in focus in case of the two CEOs as well. During the team interviews and the focus group session the following additional details were highlighted:

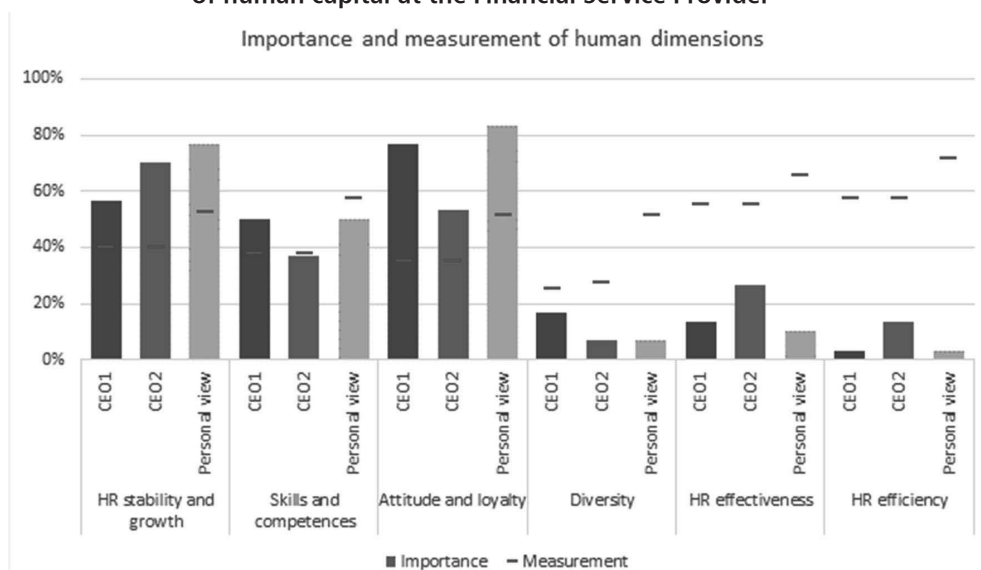
- During the time of CEO1 *Attitude and loyalty*, *Skills and competencies* and *Diversity* were relatively more important, while
- For CEO2 *Stability and growth*, as well as *HR Effectiveness* and *HR Efficiency* have been more critical.
- In both cases *HR Effectiveness* is more important than *HR Efficiency*.
- In both cases, *HR Effectiveness* and *HR Efficiency* are the most measured human dimensions.

Finally, in the interviews with them the top management of the firm has usually emphasized *Stability and growth*, *Skills and competencies* and *HR Effectiveness* as the most important human dimensions for successful strategy execution and performance of the organization. This also underlines the conflict between communicated and measured dimensions of human capital, as discussed in the earlier chapters. Shortly, even if both the organization and its management perceive these latter human dimensions as the most critical ones for the firm's success, HR effectiveness and HR efficiency indicators are easier to be measured, so the Company tends to implement and use them more actively.

Low data availability and perceived reliability of human capital indicators is only one reason of the contradiction between the high communicated importance and low level

Figure 5.

Perceived importance vs. measurement practice of the various performance dimensions of human capital at the Financial Service Provider



Source: own analysis based on Survey (2018) – cross-checked with interview and focus group results

of integration into corporate performance management integration. At least four additional organizational and contingency factors have also significant impact at the case study organization:

- First of them is the *senior managers' leadership style and attention on corporate strategic performance management system*. The first CEOs (CEO1) authoritative leadership style (based on Goleman, 2000), and interest in professional and formal management systems. This gave a push to corporate BSC and performance management, and to use it as a tool to mobilize people and organization towards strategy. The recent CEO (CEO2) is a dominantly pacesetter leader with additional characteristics of affiliative leadership. His leadership characteristics and focus and interest in a formal and comprehensive SPM system, the overall performance management practice in general but also for human capital has moved from the corporate level to two specific components, namely management-by-objectives system and a mainly financial performance-focused bonus calculation system. This latter focuses more on people than the firm, and create the room for the CEO to manage its people without a formal corporate performance management system.
- Second, *the perceived functionality and maturity of the performance management system itself* have a significant impact on its use in general and for monitoring intangibles. For both CEOs, enhancing decision-making function of corporate performance management has been an important factor. In addition, for the previous CEO (CEO1) generating psychological guidance was also important when implementing a formal corporate SPM system. For the recent CEO (CEO2) performance measurement is also relevant. Since the overall maturity of SPM is perceived low at the case study organizations, to satisfy his need for performance measurement without putting the pressure of a whole corporate SPM system on the organization, two components of a performance management function are actively used by the recent CEO, namely the bonus and management-by-objectives system. These are also strongly focusing on intangibles performance and human capital.
- The third factor is related to *the availability and use of the most relevant management functions at the firm*. From a strategic and human capital perspective, the two most relevant corporate functions are (1) Strategy and (2) Human Resource Management. According to the case study analysis both has low maturity at the firm and have a significant impact on the use of strategic performance management system in general, and the way of human capital's integration into it.
- Finally, the case study analysis also highlights *the importance of change management and the attitude*

of the firm towards the performance management system. Regarding this a clear pattern can be identified at the case study organization which had a significant impact of the use of SPM in general and for intangible purposes. At the beginning despite the organizational members fear and stress from new, the strong trust in the CEO and the positive curiosity positively supported the active use of corporate performance management system, and made it as a social norm at the case study organization. The timing of the new SPM system had also a supportive role at the beginning, until the times when the impacts of the global financial crisis came in 2008/2009. Being a financial service provider, the Company had to manage this on a day-to-day basis which shifted the focus from intangibles and human capital to the financial measures and markets. The personal involvement of organizational members has decreased, together with their trust in the applicability of the system itself. Because of all these components to use of the corporate SPM tool has decreased significantly and got to be replaced by the above-mentioned two performance management components – i.e. management-by-objectives and bonus system – only. These appear though to be functional for the case study organization and its management to monitor performance intangibles and human capital.

Discussion

Altogether, corporate strategic performance management systems are designed and used in organizations to capture the key success factors and critical strategic resources of the firm and support the management in developing and monitoring their dynamic and static characteristics in a regular and structured manner. Based on both theoretic and practical experiences, SPM systems are designed in alignment to the context and strategy of the organization, to support management in its decision-making processes with relevant information on performance of the firm. Nevertheless, to implement such systems is not easy task, especially if we consider the changes in value creation and performance, especially the increased role of intangible strategic resources in recent times. The classic strategic performance management systems usually struggle to handle and integrate intangibles. Why is this the case and how leadership of the organization can influence this, that has been discussed in this paper.

The answer to this question is complex indeed, and it is hard to step forward from the current state of *'through disillusionment' of ICM perspective* without better understanding the role of management and organizational factors in successful implementation of performance management tools used to capture intangible strategic resources and human capital. In general, to capture the strategic intangible resources of the firm, their measurability and data availability are also much lower than in case of classic financial, market related or operational indicators. This creates several difficulties

in identifying and specifying the most critical key performance dimensions of intellectual capital, and measure them by appropriate indicators in general.

In addition, various leadership and context related factors may have also significant impact on how intellectual capital management tools are implemented, and how one of its key components, human capital, is integrated into corporate performance management system. This has been the focus on this paper and the longitudinal case study research conducted at a leading financial service provider in Hungary. According to results of this explorative case study research, even if the organization perceives human capital as an important and critical strategic resource of the firm, organizational factors such as lack of data availability for human capital indicators, missing trust in the performance management tool itself, or an extra need for leadership to focus and handle external contingency factors (in this case, financial crisis for instance) can easily neutralize and substitute the senior management's original intention to implement and use a comprehensive performance management system and integrate human capital into it. This is aligned with the previous performance management studies and scholars (see, e.g. Simons, 2002 or Anthony & Govindarajan, 2009) and appears to be even more relevant in case of intangibles and human capital (based on the case study results at least).

One of the most important factors influencing the effective and efficient performance management of human capital is leadership attention and support indeed. Practically, even if the overall corporate SPM system is designed properly it can easily fail in the organization. Nevertheless, if the senior management of the firm wants to monitor and manage its human capital performance effectively and on a regular manner, it will find a solution. Our case study organization is a good example for this, especially if we consider that the CEOs have replaced corporate BSC with two separate management tools to manage human capital and its performance in a transparent but also motivating way. The management-by-objectives process in a combination of a proper bonus calculation and incentives toolset can function as a successful performance management framework, even if no comprehensive corporate strategic performance management system is used in the organization.

These results are highly context and organization related components indeed. What is functional in our case study organization, it could be completely dysfunctional in another case. So, to test our case study results and reach more generalizable insights, further research is necessary. Based on the deep understanding our one case in the last 10 years, our research questions and model can be updated and studies in a broader sample. The broad sample could mean a direction with wider quantitative statistical analysis, or a pattern with extended number of interviews in various organization and cases. Dependent on the researcher's perspective, but both can lead to additional and more generalizable results during the potential next steps of this explorative research project.

Limitations and future research directions

As highlighted in previous sections, the generalizability of the results derived from this case study research is limited. This was not the goal of it indeed, rather achieving a deep understanding of a specific organization and its human capital performance management practices. Human capital is embedded to strategy and context, so are the related strategic performance management practices.

One of the potential directions for future research is *to develop and implement a more quantitative research model with broader statistical analysis and methodology*. Such a research could focus on a sample of companies from the same sector (here: financial services), or overall an even broader selection of organizations from various industries where human capital is significant based on relevant literature. Both ways apply classic statistical methods and lead to more generalizable results: in the first option with deeper understanding of a specific sector, while if the second model is implemented, that could deliver results to be potentially used for multisectoral comparisons (e.g. financial sector versus education, consulting or others).

Another direction can be *to integrate additional organizational behavioral factors* rather than leadership only. This latter was a conscious choice in this research, however, the potential impact of other "soft" factors such as corporate culture, attitude, team or power might be also integrated into the case-study based explorative research model (see, for instance, Harangozó, 2007).

Finally, *analyzing role of leadership in other firms from the same industry or context, and comparing each local result to each other*, would also enrich the researcher's understanding of how leadership influences the way human capital is handled in an organization and integrated into corporate performance management. If the number of organizations is significant enough, it may also lead to more valuable practical lessons-learned for similar organizations.

These are only examples of future research directions, by using this research as the basis. The ways forward are not limited to these ones.

Notes

¹ For a comprehensive overview of definitions, see Harangozó (2007).

² Since the most relevant Hungarian literature mainly follows the international mainstreams regarding intellectual capital, no additional Hungarian authors have been listed above (for more details on Hungarian scholars and research results, see e.g. Juhász 2004; Szabó, 2005; Boda, 2008; Stocker, 2012; Martin, 2013 or Tirnitz, 2015).

³ Based on the request of the Company's top management, the name and additional details of the firm must be handled anonymously.

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