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## USE OF MANAGEMENT INFORMATION IN HOSPITAL DECISION-MAKING

The research presents the scope and use of management information in health care institutions. The area has diverse international literature, so the article limit to logic of hospital operation, result of role conflict, economic and clinical factors in decision-making. In the research qualitative methodology was used for data collection: managerial interviews and in case of decision support, homogeneous focus group interviews.

The top managers typically put emphasis on financial information, and examine mostly the historical data, with negligible future scopes. The head of department (physician) decide on the basis of professional and use non-financial indicators. The use of management information in decision-making has more diagnostic style, only a few managers apply interactive controlling systems, basically in the absence of strategic thinking.

The author proposes to strengthen the use of controlling systems, which most important elements are the development of institutional internal communication and economic and managerial skills.

**Keywords:** health care, hospital, controlling, management information, decision-making

In the early 2000s, Scandinavian and Western European authors started to examine hospital management information systems. The movement and reforms of New Public Management (hereinafter NPM), which target are the market-oriented operation (Drótos et al., 2007) and radical improvement of public administration performance (ie. efficiency and effectiveness) (Bodnár et al., 2011), generated to apply the management techniques of business sector. The central element of NPM reforms is the application of accounting information; therefore, accountability and responsibility are key words (Nyland – Pettersen, 2004). The NPM brought radical changes in the field of financial/accounting systems and increased the transparency and flexibility of public sector (Rosta, 2012).

Many international researches were made in the field of healthcare management control and management accounting, which negotiate the scope and using of managerial information, logic of management, or even the role of conflict, the phenomenon of special sectorial decision making. In this paper the use of management information in health care organizations, usually hospitals, clinics, and centres was examined. The previous Hungarian research (Krenyá cz, 2017) presented how Hungarian healthcare system modifies the management tools in hospitals: most of the hospital managers have financial approach (with a strong focuses on liquidity and debt) and massive bailouts (Kornai, 2009) became natural and expected. Based on this research, I studied the use of Hungarian hospital management information with the following research questions: *Do the Hungarian hospital managers need past-oriented and financial data for decision making? How do the top managers and medical managers use management information?*

For the research questions, I accepted and applied the broad scope management information definition of Bouwens – Abernethy (2000) and I adopted the terminology of interactive and diagnostic perspective

from Simons (1995), who first examined the use of managerial information through an ‘innovation and control’ perspective (see below).

In the first part of the publication, I define the hospital characters and summarize the results of international literature then introduce the qualitative methodology. At the end of this paper, I present the results of the research and the conclusions.

### Use of management information and decision making in health care institutions

#### Definition of hospital characters and institutional hierarchy

The lowest (first) level in hospitals hierarchy of decisions is the meeting between clinical staff and patients, the next level is the departmental level, where leaders meet with their colleagues, then the relationship between the department head and clinical leadership. Moving up on the hierarchy, the logic changes from the team-oriented, knowledge sharing, collective focus on patient care to a more individual focus, managerial perspective (Nyland – Pettersen, 2004).

The hospital key decision maker, on highest level, is the manager (director), the medical or clinical director, nursing director and financial leader. According to the definition of Kuntz – Scholtes (2008) the doctors are practitioners, the manager is not currently practicing his professionals; the categorization focus on roles, instead of educational background, due to the different way of thinking originating from activities (Schultz, 2004). (Table 1)

The clinical activity based on professional guidelines, doctors are strongly committed to professional values, so the clinical discourses separate from the economic area of the hospital. The strategy and budget documents have low express on clinical managers, who participate in the

preparation, but less use it (Pettersen – Solstad, 2014). According to Ferreira-Da-Silva et al. (2012), doctors will accept the economic criteria for clinical decision-making, but the professional, medical, ethical criteria still remain at a higher level.

Table 1.

Factors of decision-makers

manager	clinical leader and his role	
decision-making in the interest of the organization	decision-making in the interest of individuals	participation in budgeting processes (based on previous period) long-terms plans, strategies and analyses are less used (cost, capacity, medical practice) planning of future activity or analysis of medical practice hardly used
accountable to multiple stakeholders	accountable to profession	
decisions led by organizational goals	decisions led by professional rules and norms	
group decisions, political environment, bargaining, compromise	normative and autonomous decisions	

Source: Kuntz – Scholtes (2008) and Pettersen – Solstad (2014)

The Hungarian law names the members of the hospital *top manager team* (hereinafter TMT): the general director, finance director, medical director (supervises and coordinates the medical and pharmaceutical activity, controls the operation of departments), and the nursing director (monitoring and coordination of care activities). The *middle managers*, identified as medical managers in the literature review, are leaders of professional department. The medical manager is mediator between top manager and clinicians, and link between the strategic, central decisions on investments and wages and the operational decisions on clinical activity. They communicate in both directions, so in their behaviour it is perceptible the ‘budget mask’ and – communicating with colleagues – a ‘clan masks’ (Nyland – Pettersen, 2004).

### Diverse logics in hospital operation and the resulting role conflict

Healthcare professionals follow several types of logic simultaneously in their daily work: first, the medical professional norms and values internalized in professional decisions, daily clinical practice (Llewellyn, 2001), and the doctors, professional staff and nurses focus on norms and values focused and see their work as carers (Kuntz – Scholtes, 2008). This can lead to ‘clash of cultures’ (Abernethy – Stoelwinder, 1995), because the administrative culture is built on the logic of consequentiality (rational choice), the clinical culture of doctors and nurses is built on the logic of appropriateness (how human action is to be interpreted) (March – Olsen, 1976, cited by Nyland – Pettersen, 2004). The medical activity is governed by professional and ethical logic and professional discourses which are based on communicative rationality (Pettersen – Solstad, 2014).

In their categorization, the clinical managers are facing at least three types of accountability: managerial, professional and personal accountability and, ‘managers tend to focus on the clinical indicators, which are in line with the enterprise logic’ (Torjesen, 2008, cited by Pettersen – Solstad, 2014). Torjesen (2008) introduces another kind of logic, which covers the political dimension of the hospital context and so ‘managers balance the professional logic and the enterprise logic with the political logic’.

According to Nyland – Pettersen (2004), the clinical responsibility is a collective responsibility; managerial responsibility, higher up in the hierarchy, is based on personal moral and norms. Despite the managerial importance of economic performance, ‘the budget deficits have had no negative effect on the evaluation of the clinical department managers’ performance. Furthermore, budget deficits were seen as a means of getting more resources from the owner and were in reality, considered as flexible budgets or soft budget constrain. Kornai (2009) says that the decision-maker is waiting to be saved in case of a low ex ante budget and then the excess of expenditure will be paid by some other institution typically by the State. As he composes ‘the stronger the hospital manager’s position is in relation to the hospital’s superior organizations, the insurer providing the funds and the institutional owner providing the subsidy, the greater the hope of rescue’ (Kornai, 2009)

‘Physicians’ belief, medical ethics do not allow resources to be wasted, however the economic cost in the decision-making process only occurs when the patient’s clinical situation is safeguarded. This means economic efficiency is subordinate to clinical criteria, i.e., in case of a conflict between economic and clinical criteria, the physicians’ priority is applying clinical criteria’ (Ferreira-Da-Silva et al., 2012). The medical-oriented perspective and quantitative focus on the economic point of view is a strong dilemma for doctors (Malmose, 2014), and involving medical professionals in commercial decision making generates a role conflict that has a detrimental effect on medical performance (Abernethy – Stoelwinder, 1995). This conflict can be reduced if the budgeting process is clearly and transparently linked to organizational objectives (Abernethy – Brownell, 1999).

The relationship between the budget and the medical profession is close and based on communication on the top management level. The further down in the hierarchy and closer to the clinical decisions, the looser the couplings are between budget and action (Nyland – Pettersen, 2004). As at lower levels in the hierarchy, close to the doctor–patient relation, looser couplings between formal budget plans and action are expected. This can be improved if the managers involve the physician more strongly in the decision-making (Goldstein – Ward, 2004, cited by Kuntz, 2008). Because goals and plans are external factors for doctors, it could lead to a strong resistance against the use of management information (Abernethy – Stoelwinder, 1995).

During the research of accounting information and clinical decision-making, Ferreira Da Silva et al. (2012)

found that therapeutic protocol (result of team consensus) and hospital forms (defined by high level hierarchy) are seen as two cost controlling tools, which reduce the doctors' autonomy, but the physicians recognise their economic, organisational and professional advantages of these tools. The involvement of physicians in designing economic controls facilitates their acceptance. Physicians have an approximate idea of costs, originated from external source, for the prescribed diagnosis and treatments. This limited to direct and explicit costs. However hospital and even service costs and revenues and their accounting assignation are frequently ignored by doctors because of their perceived irrelevance when compared to medical information. The clinical performance indicators (e.g. average duration of hospital stay) are acknowledged.

### Scope of used management information

The broad scope management information is crucial for managerial decision making (Mia – Chenhall, 1994), organizations are facing complex situations, high environmental dynamism and strategic uncertainty. Bouwens – Abernethy (2000) define *broad scope of management accounting information: has external focus, future-oriented, and non-financial, which offers a wider range of solutions considered to managers*. The typical narrow-scope information (traditional management accounting, which is internal defined, financial and past-oriented) is supplemented for this purpose. The wider range of information supports managers to better understand the relationship between activities, processes and strategic outcomes.

According to Strauss – Zecher (2013), the authors (Merchant – Van der Stede, Anthony – Govindarajan and Simons) of three top-ranked textbooks provide similar definitions of management control systems, the first two authors represent 'command and control' perspective. According to 'innovation and control' approach definition of Simons (1995), management control is 'the formal, information-based practices and procedures used by managers so as to maintain or alter the patterns in organizational activities'.

'Controlling business strategy model' of Simons (1995) separates the diagnostic control systems used to motivate, monitor and reward achievement of specified goals and interactive control systems used to stimulate organizational learning and emergence of new ideas and strategies. The diagnostic perspective is a usual organizational point of view, which examine unusual incident and potential problems with quantitative data and analyses. But interactive control focuses on dialogue and formal, informal communication with helping to concentrate to the uncertainties and to fine-tuning the strategy. One of the most popular tools is the data analysis in the report, but there are four important characteristics which set the interactive control systems apart (ICFAI, 2006):

- focus on constantly changing data that are of a strategic nature,
- the strategic nature of the data warrants frequent and regular attention from all levels of management,

- data generated is best analysed in face-to-face meetings which include employees at all levels, and
- system stimulates regular discussions relating to the underlying data, assumptions and action plans.

In the interactive perspective, the managers focus on communication and monitoring of organizational processes, while diagnostic perspective focuses on output and has strong performance measurement (Ostergren, 2009). The interactive use of the management control system gives a better understanding of the strategy and understanding of cause and effect relationships between performance indicators and results (Tuomela, 2005).

Ostergren (2009) identifies characteristics of the two control systems. The clinical managers, used the control systems in interactive way, have direct contact with other classes, fewer activities are decentralized and have intense relationship with financing department. In these institutions, the consensus solution with the feeling of 'siting in the same boat' is important. If one department has deficits, one of the other departments gives some of their resources to the department in crisis. The leaders have a lack of knowledge, not only within accounting, but also with regard to strategy and human resources. The institutions, used controlling in a diagnostic way, are more decentralized organization with perception of more autonomy and balance of budget is in focus. Contact with the financial department is less intensive, which require accounting knowledge from managers. They became 'hybrid clinician managers': have experience in budget systems and budgetary processes and use their autonomy in decision-making. But clinician managers need time to build knowledge, structure, and culture in the new system.

According to research of Naranjo-Gil – Hartmann (2007), the use of budget in interactive approach lead to higher organizational performance in dynamic strategic environment; the low level of strategic change matches with diagnostic use of management information. The interactive use is essential for dynamic strategic change, while it supports the innovation (Naranjo-Gil – Hartmann, 2007; Naranjo-Gil et al., 2008). They found a positive relationship between the medical professional leadership and interactive controlling use and non-financial management information system (hereinafter MIS) and positively correlated the strategic change, interactive use of MIS and the heterogeneity of top management. In addition, interactive MIS can influence the individuals' behaviour and improve the management team's commitment and socializing (Gómez-Luiz – Naranjo-Gil, 2011).

The managers prefer the formal top-down control (Naranjo-Gil – Hartmann, 2006), focus on general and economic parameters of the organizations, and less emphasis on basic operation indicators (Benveniste, 1987) and innovation of the system (Young et al., 2001). Due to informal control preference of doctor-managers, conflict is generated between the leaders. However, the heterogeneous TMT has a positive assessment in the literature. The benefit of top management team with varying backgrounds and skills is the access to different

source information (Kuntz – Scholtes, 2008). For summarizing,

- heterogeneous top management has wide-range, more committed in the search for opportunities and provides a broader portfolio in the responses to environmental demands and has more ability to detect strategic opportunities and to and identify the strategic need for change,
- in strategic change, diversity is beneficial in terms of the backgrounds, such as age, experience, tenure, and education (Carpenter, 2004), but in the creativity, the age and the tenure is less important (innovative perspective and diversity of information),
- heterogeneity of TMT has more different opinion regarding the strategic change, resulting the creation of more alternatives (Wiersema – Bantel, 1992),
- heterogeneous TMTs appear to be more inclined towards organizational innovation and diversification, while they require a broad portfolio of strategic perspectives (Bantel – Jackson, 1989).

Several Hungarian literature (for example, Antal – Dobák, 2010; Bakacsi, 2004) discussed the managing and operation of groups or the impact of group roles, but analysis of the heterogeneous composition of TMT and its hospital relation has not been implemented nor the use of controlling.

## Methodology

The previous research (Krenyácz, 2017) presented how Hungarian healthcare system modifies the management tools in hospitals. Built on these results, this research focuses on the management information that supports managers in decision making (which is a choice between the alternatives of action) and analyses the scope and style of management information, used by managers. In this focus I examined the research question from the managers' point of view. For deeper recognition and detailed presentation, I made individual and focus group interviews, the middle managers, top managers and decision supporters (chief financial officer and controller) were asked from different hospitals. I tried to develop a questionnaire, but it was rejected because of the strict control of Hungarian hospital maintainer. Consequently, the research has limitation: managers and decision supporters or controllers distort the reality, even though it is not conscious. They try to fulfil the expectations of an observer or the interviewer, as well, and to show a favourable picture.

The sample includes different types and sizes of institutions and private hospitals, paying particular attention to the response of universities. Community health centres, regional hospitals, national institutions, universities and rehabilitation centres are in the sample. For the selection of the institutions, the statistical analysis of healthcare management control system was taken into consideration (Krenyácz, 2015). The *Table 2* shows the interviewees' information about different hospital (Nota

bene, most of the managers rotate between the institutions and their opinion is shaped by the experience of several institutions). Three NHIF-financed but profit-based enterprises were interviewed, two of which are state-owned.

Table 2.  
Ratio of surveyed institutions according to the role and the owner of the hospitals

Owner of the institution	Total number of institutions	Ratio of interviewed institution
Municipal health institution	14	0,0%
State health institution	100	11,0%
University Hospital	4	25,0%
For-profit institutions	24	12,5%

Role of institution	Ratio of interviewed institution
Community health center	5,9%
Community hospital	6,3%
National hospital	33,3%
Specialized hospital	12,5%
Regional center and co-center	33,3%
Multi-profile hospital	17,4%

A total of eight personal interviews were made with managers of hospitals (citation with MI notation) and one homogeneous focus group interview (FGI) with decision supporters. To the better understanding of management information, experts (EI) who know whole healthcare sector were also asked.

The advantage of the focus group interviews is the more efficient data collection, except the careful preparation (Becker, 2006) and more information can be gained by using synergies between group members (Héra – Ligeti, 2006). Focus groups have a strong social influence on group (Vicsek, 2006), which is more dominant in the homogenous group of decision supporters (mainly controllers). The implementation of the focus group research unit was enormous challenge because of the overladen hospital managers; some colleagues' skype accession solved the problem for the second occasion. But the focus group study was indispensable: 'the deep understanding and knowing of potential features may offer and it may reveal such aspects that the researcher does not think' (Vicsek, 2006). The focus group was small (five persons), as the interviewees have experience from several institutions. Moreover, they are – according to their self-declaration – highly motivated and committed to managerial decision support. Characters of the focus group:

- homogenous group with two represented areas (finance and controlling), which are closely linked,

- participants have experience from various hospitals (different location, size, structure, management),
- dedication and forming strong, definite opinions have all been assumed based on the questionnaire,
- open and inquisitive team, but with participants typically women (this may be true in the profession as well).

During individual and group interviews, semi-structured interview situation was generated and ‘technique of funnel’ was applied – structure was increased thus using the advantages of strong and weak structured questions. Besides, additional questionnaires were used before the focus group discussion for better understanding of the research topic and the respondents' views (Vicsek, 2006). The results of previous and current study weren't presented in the questionnaires; the purpose is to think about the topic. It supported the identification of key leaders, definition of the information points in the hospital and characterization of management information. Two main questions were shared 1) for what do top/middle managers use the accounting information? 2) What kind of information do top/middle managers require?

The interviews were built on each other: starting with expert interviews (1.5 hours) followed by a focus group (1.5 hours). With the expansion of this knowledge, the interview questions of hospital managers were specified. The length of interview decreased from 1.5 hours to 1 hour, due to recurring information. The interviews were typed, after having read them several times a quick report was prepared to keep as a guideline during the final analysis.

Based on the text from the experts' interview major categories were marked with open source coding in Verbi MAXQDA 12 software, and then these were divided into subcategories during the encoding (axial coding). I returned to the initial coding, as long as new categories were not introduced by the re-encoding. For checking the coding infracoding was applied. The categories of coding are presented in *Table 3*.

Table 3.

Codes in the research

Categories	Subcategories
Defining	decision maker decision supporter
Scope of information	middle management top management
Use of information	middle management top management diagnostic interactive
Motivation system	–
Role of conflict	–
Management	attitude of management organizational specialities void of ‘system approach’

## Empirical findings

### Decision-makers and decision supporters in Hungarian hospitals

The role of financial director, medical director and nursing director is changing depending on the size of hospital, local conditions and the attitude of managers but the smaller hospitals are typically led by the director and the financial director or medical director. ‘The nursing director has very partial role’ (EI). The top managers often work closely together with directors of priority areas (e.g. strategic director or chief legal officer), and sometimes they also delegate powers to them in decision-making.

At mid-management level, heads of professional departments have little power to make decisions; in general they oversee the work of the department i.e.: coordination of patient administration, determination of the performance volume, management of curing equipment and medicines, so basically internal cost distribution. The head of the department is responsible for the curative care and related administration, the ethical standards and training of doctors and nurses. In theory, the leader monitors and evaluates the patient-, performance- and economic-data, but the intensity of this activity depends on the needs and commitment of the general director.

*‘We have a manager, who looks at the controlling report each month – performance- and cost-wise – and examine all itemized coverage then asks for comparative data from the previous period and asks for justification in case of changes ... Let's see, let's talk about it. (FGI)*

The results of additional questionnaire and focus group interview confirms that decision support of hospitals depends on professional heterogeneity, institutional size, attitude of managers, but it is typically scattered by function in the institution and/or is been next to top managers. Some institutions have/had stand-alone central decision-support department and staff. According to the managers asked, decision support is identified as controlling; surprisingly, even in those institutions where this function does not work. However after further thoughts about functions, they will also add other functions like financing, budgeting, engineering, information technology, legal or public procurement not to mention the weakest areas such as labour and human resources management and decision support.

### Scope of information of top management and department leaders' thoughts

Due to healthcare financing, continuous debt and the ‘struggle with unpaid bills’ (Krenyácz, 2017), the focus on future trends is reduced and leaders are trying to maintain the operation with actual data from the past.

*Financial focus.* Financial data has the most weight in decisions and the management focus is on annual planned performance, budget, liquidity and financial situation. The role of revenue data is excessive; the leaders

are continuously monitoring performance which in turn affects their decisions. The managers feel that cost data is invalid ('blind flight') but recognizing the importance, they try to explore the department- and patient-level costs.

*'The financial information, however, can no longer be omitted from our decisions. The underfinancing, the continuous rise of debt service, the lack of value follow-up, the price increase generated by economic crisis all cause deficit. If you do not pay attention, the institution can easily become inoperable. However, this should be done in a way that patient care does not get damaged and the institutions fulfil the protocol-based professional criteria and comply with requirements of the health act.'*(MI)

Those hospitals which use a well-functioning coverage calculation, their decision making are not limited by the financial data. In several hospitals there are customer satisfaction measurements, medical and professional employee satisfaction measurements or Balanced Score Card analysis. Nevertheless, the leadership can decide only on the basis of financial data. A typical example is cost reduction methods such as energy investment, heating modernization, restructuring and in other questions, not concerning the patient care.

*Past-oriented data instead of future-oriented data.* Mostly the historical data is examined through a lens that highlights measures improving management, top management examines typically retrospective data and use its implications in daily operation.

*'Regarding future concepts, we can always rely on past data; by reviewing them and after deducting the consequences we can expect better performance and optimized management.'* (MI)

*'Our days are unfortunately spent by mapping the past but there are already intervention areas where we have achieved rapid information services and thus we have an opportunity to intervene. But most of the activities are the follow-up.'* (MI)

The continuous changes in legal and financial environment require managers to solve the everyday and past problems (revenue encodings repair, a more exact understanding of costs, etc.). Some management use information fully: not only the past-oriented information but also consider the future as well. For example 15 years ago, analyses of Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) investments were future-oriented.

*'Those who did the controlling well – in the early 2000s –, had forward-looking information. Today unfortunately only retrospective data service works. Present is compared to the past.'* (FGI)

*'We have professional development plans, development concepts, so we deal with the future too but basically with the present. We make decisions at the present, but normally use the recent*

*numbers, so for some actions or conversions we usually look at the performance data of the past 1 year or 6 months.'* (MI)

Currently, forward-thinking occurs once a year within the framework of the planning and because of the significant financial perspective, only the continuous forecast of performance and financing is important for the management.

*Significant short-term and weak long-term thinking.* The use of future-oriented information is already a kind of long-term thinking but this is more typical in profit-based institutions, where savings are invested into investments reducing operational costs. From investments major improvements are long-term; while minor ones are always very short term, a year maximum, depending on the results.

*'So my strategy is simple: the renovation of real estate for the next five-years is in my head. We talked about the principles and the great improvements with the divisions but about the medium and small improvements we always talk during the previous year, depending on budget.'* (MI)

The lack of resources, insecurity, continuing change of legislation and financing all encourage public hospitals to think short-term. Furthermore, there are institutional development plans but the realization always changes according to the sources: if there is a project for energetic modernization then that will be the focus.

*Integrating internal and external data in decision-making.* In the hospitals, typically, creation and use of internal data occurs which are more focused on the past and cover financing and performance. Out of the external benchmark data, the ones prepared by experts and National Health Insurance Fund will get to top management, typically once a year during budget planning. This gives an opportunity to compare revenues and costs of various professional units and to encourage them for more efficient use of resources.

The wide range of information is generally limited to professional decisions where the *department leader* is concerned. They must be involved in the classic planning (if the hospital does it) and they will also receive feedback on their performance with variable frequency. The management information sent to them is of wide range but it also is dominated by non-financial indicators: performance data, patient data, case-mix index, bed occupancy, SNH. Due to the financial focus of the top management, reports are complemented by economic indicators and data, financial balances, revenues, costs, commitments and sometimes benchmark data.

*'The benchmark is probably the only tool that can be annoying to department leaders. In the benchmark profession meets money: high drug and personnel costs are incomprehensible for them. The comparative unit costs have to be taken into account.'* (EI)

Some interviewees mentioned that monthly reports to the physicians about their performance and coverage of interventions are general practice but due to the absence of incentives, it could work effectively only in profit-based hospitals. The reports to physicians in public hospitals are solely limited to performance or income: patient data, interventions, number of reported cases, bed occupancy, surgical numbers and time, length of stay before and after surgery, average indicator of physicians etc. Regarding cost, department managers are interested typically in the costs of blood, drugs and so implantation.

### Use of management information in decision-making of department leaders and top managements

#### Use of information by top management

The use of information depends on personal factors (age, family status, personal motivation and work commitment), professional factors (work experience, professional and personal perspectives, adopted ethical rules) and organizational factors (co-culture, management control system and interaction with superior leader) (Ferreira-Da-Silva et al. 2012). The use of the information is *'highly dependent on managers and they work in a broad medium'*. According to managers and decision supporters, the lack of economic and managerial education of doctors is a very serious problem.

*'There are/were very few non-medical top managers, 10 or 20 hospital general directors in 20 years.'* (E1)

*'At medical universities management sciences are also taught but not at a level that is necessary to manage an organization. In addition, 95% of physicians did not go to medical school to learn management. However without this knowledge 70% of leaders are incompetent. This is not because they are not good people but because they have no idea what is expected of them, plus they do not know basic techniques, methods and tools, and therefore they do not create situations where efficiencies could improve.'* (M1)

In hospitals operating a controlling unit top managers continuously rely on information and proposals of controller; middle managers provide and receive data and then base their decisions on them. However the use of management information *'is very dependent on people'*.

*'How often do top managers use internal information for decision-making? Always. I have to prepare numbers and he always remembers it, every time. If next time, two decimals are wrong, he knows immediately this was not it the last time. He clearly remembers.'* (FG1)

*'Whoever has even a little economics in his veins in the top management, I think they will use it. Those who have not, will not necessarily use it because*

*they do not see into it ... So in one institution there is a very strict budgeting while in the other I just started to develop it because there was nothing.'* (FG1)

Depending on the attitude and management knowledge of top management, the management information produced by controlling can be widely used, i.e.: to optimize revenue and performance. In general, the medical director plans manually, usually monthly or quarterly, the expected performance from the departments.

*'We use the revenue side of controlling; units and performance are constantly monitored and we take these into consideration in case of decisions... but only on the revenue side. The expenditure data is not valid so we do not use them. Unfortunately this is blind-flying.'* (M1)

*'The main agenda of medical leaders' meetings is performance ... in in-patient and out-patient care. The units can, on daily frequency, ask for control on their daily status but they will be informed weekly during departmental meetings.'* (M1)

Those managers who use the information for improvement of the professional portfolio (while by knowing the coverage the management of hospitals can be heavily influenced) are thinking like this:

*'I start to play with the professional portfolio of the department and forbid the physician to carry out certain operations. Of course not the indispensable ones, and i.e. laparoscopic surgery with good coverage cannot be forbidden.'* (M1)

*'I need to see what portfolio I will compile. As, coverage-wise, I know the profitability and coverage-generating capability of the profession I can rearrange the professional portfolio according to what should be increased and what not. In addition I often undertake professions with bad coverage because of their patient indicator role. The great art is to maintain expensive professions e.g. endocrinology or internal medicine, which are absolutely unprofitable, but they generate patients and send them onto radiology and ultrasound both of which has a positive coverage. You should be able to optimize this like a master.'* (M1)

*'budget is given... the professions might be rearranged... with a lot of resistance ... due to termination of supplies and professions with a deficit... There is no top management that would dare this.'* (E1)

The processing, analysing and interpretation of benchmark data is a special tool of top management to keep the operation of departments in hand. After understanding internal and external benchmark, management generally selects departments to be examined more thoroughly.

*'They also have a picture not merely about the bad management of a department compared to a national benchmark but also about caring longer or diagnosing more, using more expensive drugs, or buying more expensive and more innovative products.'* (EI)

*'If you change these to unit cost in the benchmark and compare them, doctors will then have to start thinking about it and they will say that they are not like others... so you can annoy them... Gynaecologists do not only hear that they are uneconomic or even more uneconomic than others, but they will also find the main problem: too many doctors, too few patients, imperfect administrations, too much therapy, too long length of stay...'* (EI)

To ensure optimal use of scarce financing and targeted project sources managers rethink hospital structures and try to operate them more economically and efficiently (e.g. optimal positioning of professions, use of modern techniques) within their budget and other capabilities.

*'We use quite a large structure and there is often a need for analysis to rehouse a clinic to another location, with smaller number of beds. How then will that affect the economic balance of the clinical centre?'* (MI)

*'How central operation can be develop and reorganize? This is what is needed to know what to put the emphasis on during annual budget planning.'* (MI)

The issues of patient safety and quality barely emerged at top management level, which leads us to the conclusion that, on one hand, these areas are the responsibility of medical leaders and, on the other hand, managers don't collect data about them.

#### **Medical leaders' use of management information**

The top managers of public hospitals define financial expectations (achievement of defined revenues and expenses or keeping coverages) for department leaders. The controlling helps physicians' work with administration, treating budget rows and with monthly or quarterly feedback. The use and communication of these reports vary.

*'There's a very broad spectrum. There are hospitals where data is uploaded onto the intranet monthly and there are ones that print and post them to the departments. They make it available. Some hospitals prefer to keep the summary and if they see problems, then a random class discussion will be held, highlighting the critical points ... that is dependent on the institution.'* (EI)

Due to the top management needs, medical leaders monitor performance and/or accounting and benchmark data, and intervene if necessary. The achieving of planned

performance has special emphasis: the performance indicators are available (online) and every week or fortnight data is provided by controlling. For doctors, professional information and performance are important, but they also need to monitor the use of medicines and materials, which do not necessarily occur.

*'If they are within budget, department leaders are glad, but otherwise they do not deal with it... there is a soft budget constraint everywhere... department leaders mostly try to analyse and explain past data... controlling deals only with the actual cost processing...'* (FGI)

On the level of department leaders, professional choices dominate but leaders are involved in planning and they also receive feedback on their performance. To what extent the economical and managerial aspects are taken into consideration depends on the personality and expectations of top management.

*'The financial and economic consequences typically are not considered in clinical decisions.'* (MI)

*'But there are well-respected, famous chief medicals, which (still) use controlling and pay attention to the performance of the department. There are also the ones who use it less. This is a topic of constant debate.'* (MI)

*'It is rather the visions of the leader that have greater importance... to think perceptively and build the department with conscious organization regarding staff recruitment and to take into account the future changes in obligatory care per territory.'* (MI)

Due to the existence of exclusive responsibility of patient care and the lack of economic responsibility on department level, the data is ignored. The job description of leaders does not contain the responsibility for departmental effectiveness and apparently there is no requirement in the system (see below in role conflict). For the use of controlling data and to strengthen management approach, physician leaders need education and skills training, on the one hand and, on the other hand, a motivation system is needed to be built and professional liability should be associated with economic responsibilities.

*'The departments do not have any choices, the leaders are not responsible. The one main reason for this is the lack of a motivation system.'* (MI)

*'Lead physicians can only be persuaded to use financial/budgeting information and information related to performance by a financial motivation system.'* (MI)

In these institutions, the planning is not just about revenue and cost planning, but also about the planning of capacity and continuous monitoring. Beside the information of performance and coverage, the physicians receive their plan and actual data of surgical capacity. Professional

discussion of cases occurs at weekly or monthly meetings but management information are discussed quarterly so numbers can be integrated into the professional thinking.

### *Role conflict of medical leaders*

Due to the physician-patient work, professional decisions and patient safety is the primary consideration in departmental decision making. Medical leaders who manage their 'department as a company' experience the phenomena of conflicting roles. This is confirmed by the fact that

*'leaders elected by someone other than their superior look into their colleague's eyes in a way... that they want to be looked at, to maintain a working community which is more conflict-free.'* (MI)

The compliance to physicians and limited economic environment generate tension in doctors with management approach. In case of these role conflicts:

*'The leader favours the medical profession and gives up the economy principles and expectations required from them. In case of conflicting roles the professional side appears as stronger; their decisions are influenced by these aspects. Moreover, because of their practice, they can have personal interest, which is contrary to the expectations formulated for a manager.'*(MI)

According to controller and top manager opinions conflicting roles do appear and for them it is very important to emphasize that 'the economical and organizational management has to be part of the managerial appointment. They should not only be the boss in the operating room.' Expectations for departmental management and management approach are clearly rising towards lead physicians from the top management and controlling part.

### *Rather diagnostic than interactive perspective in management control*

The hospital management control is typically used in a diagnostic manner, which typically comes from the fact that in the absence of planning and controlling means follow-up data analysis and evaluation. The department selected for more detailed analysis is examined and discussed at medical meetings and conferences. The interactive approach was appeared in hospital where the departments were actively involved in institutional budgeting. Today,

*'the manager needs data and analysis; he does not have much time to talk informally. In general, the top manager is very busy, and if he has time... immediately and now... and he asks...'* (FGI)  
*'Top managers ask and I have to give at least three options out of which he decides.'* (FGI)

Interactivity often depends on the tasks:

*'managers ask controlling for any idea (on starting an activity or buying assets) and cooperate in a plan affecting their future but otherwise during everyday operation of the clinic, I think, the diagnostic way is more commonly used.'* (MI)

*'The introduction of the controlling system was very interactive because the aim was to understand the organization and to see their costs. A lot of things emerged; for example accounting errors... and then we resolved them... finally somebody is looking at these. ... The compilation of data was interactive; obviously controlling reacted to these sensitive areas, where to provide more precise data.'* (FGI)

In today's financial environment, the strategic thinking is very rare, the innovative approach is insignificant. There are best practices, waiting to share, the department leader is actively involved in the strategy planning and budgeting, and the top manager does not deal with operational tasks but he focuses on the future and management of hospitals by way of quarterly financial reports. Révész (2016) confirms that 'in Hungary the institutional budget planning does not start from the strategic or medium-term objectives'. It seems that in the hospital sector also, the involvement of department leader in strategic planning is crucial. The lack of identified managerial goals and values is the barrier of the effective use of controls in hospitals (Abernethy – Stoelwinder, 1991) so the platform of strategic planning and budgeting provides opportunity for middle and top managers to communicate, to think together and to improve the joint work – with the co-departments and the financial/controlling unit – and to highlight the need for management information.

## Summary

The results of international research show that managers prefer diagnostic controlling systems and financial information. The top management with medical-professional composition will be more inclined to apply non-financial information and more interactive controlling device in decision-making (Naranjo-Gil – Hartmann, 2006). This is explained by the doctors in managerial positions (focusing on professional norms and values) tend to efface cost information. The further down in the hierarchy and closer to the clinical decisions, the looser couplings are between budget and action, clinician managers define control processes as an informal and 'hidden' processes (Nyland – Pettersen, 2004). The hospital managers should understand the role and motivation of doctors (Kuntz – Scholtes, 2008) and should encourage them to use the economic information. Doctors are basically willing to accept the economic criteria in clinical decision-making, but professional, medical and ethical criteria will always remain at a higher level (Ferreira Da-Silva et al., 2012).

In this research the scope and used of management information at various (top and middle management) levels was examined in Hungarian financial-oriented healthcare sector (Krenyácz, 2017). In this environment, I was looking

for the answer to that Hungarian hospital managers need past-oriented and financial data for decision making and how they use management information. For all this I used information categorization by Bouwens – Abernethy (2000) and definitions of diagnostic and interactive control from Simons (1995).

Because of the special characteristics of the Hungarian hospital sector, the managers essentially need past-oriented and financial data for decision making, but we can find best practices and well-operated management control system. The individual and focus group interviews proved that top managers typically put emphasis on financial information, and mostly historical data is examined through a lens that highlights management improvement measures (currently cost-reduction at the most). Thus the first research question is answered but it can be supplemented with other conclusion. In future-oriented hospitals it appears some kind of strategy and development plans but long-term thinking is rare. In this context, the role of the owner/maintenance raises another question: since the development of strategies is not supported by a unified framework for the hospitals, the managerial need for strategy, even if there is one, is overshadowed by a lack of resources.

The second question is how do the top managers and medical managers use management information? The use of data in decision-making has a classical diagnostic aspect and means follow-up data analysis and evaluation. The interactive approach was appeared in hospital where the departments were actively involved in institutional budgeting.

The medical leaders tend to make professional decisions. The data sent to them often contain short-term economic balances, revenue and cost data, but typically non-financial indicators are dominant (e.g. number of cases, hospitalization length, bed occupancy, emergency cases etc.). The department leaders often do not understand the management information or do not recognize their importance besides they have role conflict. According to controller and top manager opinions, it is very important to emphasize that economical and organizational management has to be part of the managerial appointment; consequently the economical expectations of lead physicians are clearly rising. In many institutions the physicians still do not understand the role and content of controlling reports, for which the only solution is the joint work of economic and medical units. Several top and middle managers question the validity of data, typically costs but the answer is, again, the development of controlling systems. There is more opportunity in controlling but to explore them, widening and sharing knowledge and the adoption of the systems are all essential.

With the knowing of use of management information we can understand the thinking of management and medical leaders and improve the operation of hospital. The analysis of debts is a current governmental topic which is examined in international and Hungarian hospitals as well, with few tangible results. We could examine,

with statistical methodology, the composition, economic competence, power or political activity of top management team and it may show the debt-related correlation. In medical decision-making, the key issue is to understand thinking of medical leaders but every medical profession has its own typical characteristics. The identification of this dissimilarity could be an actual and very interesting research, which result could support the integration of economic aspects into medical thinking.

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# WHAT ARE THE POTENTIAL END CUSTOMERS OF THE HEAT MARKET LIKE?

## THE CUSTOMER SEGMENTATION CHALLENGE ON THE HEAT MARKET

Due to the increasing role of the digitalization and the emergence of new consumption patterns, end customers became empowered decision makers. They show the tendency to trust less the professionals and rather consult their social environment by their purchase decisions. As a consequence, marketers – who apply a 2-step sales strategy, by focusing on the professionals at the first place – are challenged in their customer segmentation. It is essential for marketers to get a deeper insight into the underlying motives and motivators behind the end customer attitude towards heating products, as installers fulfill less and less the mediator role in the purchase process between end customers and heating manufacturers.

In this paper the authors treat the heating market as a special case, where they put the end customers in the focus of the research – instead of the heating technology they adopt – and investigate the characteristics of the potential end customers, their needs, expectations and purchase motivation. The authors carried out a two-step explorative research with homeowners in Hungary, which they consider as the first step in the investigation of the end customer characteristics from a marketing managerial approach. The results show that in general end customers are mainly driven by financial and functional factors in their customer behavior and plan the purchase deliberately instead of facing an emergency situation, which means that heating manufacturers have a lead time to reach end customers with tailored offers.<sup>1</sup>

**Keywords:** end customer characteristics, purchase process, customer behavior, heat market

The building industry is affected by several aspects due to diverse EU directives and legislations on one side and the change in the consumption pattern of individuals and households on the other side. The heat market<sup>2</sup> merges the characteristics of end customers' demand for an optimal room climate with the influencing role of installers and the interest of manufacturers, and the diverse governmental, political and legal measures that set the framework for today's market operation.

Due to the complex market mechanism, the high technology intensity and investment characteristic (bought for 15-20 years) of the heating products, the numerous heating brands with low differentiation and the compulsory governmental regulations all mean that the installer – as mediator stakeholder – is an essential participant of the value chain.

To overcome this barrier, heating manufacturers built up a 2-step sales strategy, where manufacturers sell heating products via installers to end customers. Despite the fact that end customers are the paying customers and final product users at the same time, manufacturers have less or no direct contact to them, which is in itself a paradox situation (Wüstenhagen et al., 2008).

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2 The heat market refers to the part of the HVAC (Heating, Ventilation and Air Conditioning) market, where manufacturers produce and sell heating technology to customers to ensure indoor temperature and warm water comfort. This paper refers to the residential heat market, where heating products (heat generator appliances or boilers) are sold to single households. In this study all types of heat generating appliances are considered, regardless of fuel type and energy sources.

To increase efficiency, manufacturers focus on establishing a stable and loyal partnership with installers and other professional stakeholders (e.g. architects, planners, energy consultants, etc.) to make product recommendations to end customers, as the convincing voice of the manufacturers' technologies and brands. This strategic approach leads to a fragmented target group approach and to a customer segmentation challenge at the same time, where manufacturers are focusing primarily on the installers and consider them as their prior paying customers, however the end customers are the final users of the heating products. Based on this approach, manufacturers drive their sales and marketing strategy, fragmented between more stakeholders, with less or no emphasis to the end customers at the same time.

Meanwhile, according to the latest megatrend researches, end customer behavior and consumption pattern is going through an elemental change, which heating manufacturers shouldn't disregard. The emergence of the virtual business processes (connectivity, e-commerce), the increasing role of health consciousness (the appearance of new health styles, health-techs, etc.), the new consumption patterns (sustainable consumption, hybrid consumption) the pressure of time (willingness to pay an extra charge for a better and faster service and execution) all influence the customers' environment and result in the change of end customer purchase attitude and decision-making pattern (Rauch et al., 2010; z-Punkt GmbH Foresight Company, 2008).

According to our opinion, the digital revolution and the still emerging role of the Internet – that has a great impact on the end customers' behavior and decision-

making pattern- challenges the today's segmentation approach of heating manufacturers: users acquire, share and exchange information with other users all around the World. As a result, end customers are not spending time anymore with consulting with professionals in stores but taking time to search on the Internet learning about products. As Wang et al. (2013, p. 337.) sees: "individuals are relying more on the members of their social network to influence and guide their purchase intentions instead of relying only on authority, experts, professionals, classic media and mass advertising". End customers conduct *social search*, which is a "process of finding information online, with the assistance of social sources (e.g. family, friends or unknown person)" (Morris et al., 2010). The reason behind this modified information search behavior is the increasing role of social networks in the decision-making process and the complex nature of the product.

But what does this mean for the heat market? As the end users of the products (the end customers) are empowered as active decision-makers – as they are turning to their social environment (other users of the products) to exchange information instead of consulting professionals along the purchase process – manufacturers mustn't leave end customers out of sight in the future as now they do.

As Bartels et al. (2006) argues, the recommendation of installers is not always corresponding the demand of the end customers; furthermore it might mislead end customers with advices that are "not to maximize their utility". Based on this asymmetry, if manufacturers want to be a part of the market competition by fulfilling market demand and increasing market share, they have to shift the focus and resources of their sales and marketing strategy from professionals directly to their paying end customers. For manufacturers it is essential to understand their end customers, their attitude towards heating products in the whole product lifecycle (from purchase to use) to offer tailored solutions that worth talking about in their social environment.

We consider the empowerment of end customers as a call for manufacturers and other marketers to consider the adaptation of their segmentation strategies on a practical level and as a research gap to fill in the scientific literature of the heat market. As only a very limited set of former researches put focus on the description of the end customers, in the first step this paper attempts to carry out an explorative research, to investigate the end customer needs, attitudes and underlying motivation of the purchase of a heating product from a marketing managerial point of view. Our goal is to get a first insight how the end customers are like that heating manufacturers know so less of.

Table 1.

Review of former scientific models based on end customer decision-making with heating products

Researcher	Model	Technology
Stolyarova et al. (2015)	Choice experiment, household preferences, (willingness to pay)	All heating systems
Qiu et al. (2014)	Diffusion model, role of perceived risk	Energy efficient household appliances, installation of energy efficient retrofit technologies
Rouvinen (2013)	Choice experiment	Wood-pellet heating systems
Philips (2012)	Choice experiment	Heating upgrade measures
Achtnicht (2011)	Choice experiment	Energy efficiency measures, innovative heating systems
Christie et al. (2011)	Adoption model, social influence	Energy efficient technologies, solar water heaters
Claudy et al. (2011)	Diffusion model, willingness to pay	Microgeneration technologies
Sopha et al. (2011)	Diffusion model	Wood-pellet systems
Farsi (2010)	Choice experiment	Energy efficiency systems
Kwak (2010)	Choice experiment	Heating renovation measures
Mahapatra et al. (2010)	Diffusion of innovative heating systems technology, customer needs and attitudes	Innovative heating systems, comprised of bedrock heat pump, district heating, wood-pellet boiler
Scarpa (2010)	Diffusion, willingness to pay	Micropower systems
Tapaninen (2009)	Diffusion model	Wood-pellet systems
Banfi (2008)	Choice experiment	Energy efficiency systems
Caird et al. (2008)	Adoption model	Renewable energy systems
Mahapatra et al. (2008)	Diffusion model	Innovative heating systems: district heating, heat pump, wood-pellet boilers
Wüstenhagen et al. (2008)	Diffusion of innovation, from adopter point of view	Micropower systems
Mahapatra et al. (2007)	Diffusion of bioenergy systems	Wood-pellet boilers
Keirstead (2007)	Diffusion model	Photovoltaic systems
Mallett et al. (2007)	Adoption model (social acceptance)	Solar water heaters
Faiers et al. (2006)	Diffusion model, influencing role of grants	Solar power systems
Kaplan (1999)	Diffusion model	Photovoltaic systems

## Literature overview

As *Table 1* presents, only a limited set of studies investigated the heat market, where end customers were involved by making a decision (for purchase or adoption) for a novel heating technology. All of these choice experiment models approached from the heating technology perspective, where the success of adoption was investigated by the identification of the most relevant influencing factors that affected adopters along the diffusion process. We found that former studies focused on the diffusion of innovative heating products (e.g. micropower systems, Wüstenhagen et al., 2008; wood-pellet systems, Mahapatra, 2007; Rouvinen et al., 2013, solar water heaters, Mallett, 2007; Christie et al., 2011), investigated the customers' willingness to pay for energy efficient measures and novel heating technologies (Kwak et al., 2010; Claudy et al., 2011; Scarpa et al., 2010), analyzed their risk perception (Qiu et al., 2014), etc. The common point of view in all these researches presented in *Table 1* is that they considered the end customers as adopters/non-adopters of a specific, innovative heating technology that has to be sold on the heat market. Furthermore, these researches treated the description of the end customers as a side effect of the choice and adoption models. This leads to the conclusion that the identified end customer characteristics by adopting e.g. heat pumps might not be applicable for the end customers, who prefer to stay with conventional / condensing gas boilers or for those, who adopt e.g. wood-pellet systems.

Only the minority of former researches identified some end customer characteristics and highlighted their specific needs, still only as a side topic of diffusion models. For this reason, we found only a very limited set of studies that dealt with the description of end customers and can be linked to the segmentation strategy of end customers.

Already in his earlier study, Stern (1985) tried to describe customers of energy efficiency decisions (not specifically for heating renovation) and found that they are not only rational economic actors, but energy users, who are:

- investors and willing to maximize their net financial value over a long term,
- consumers, whose choice reflect desires for personal benefits that are not financial,
- people, who are expressing personal attitudes and social values,
- people, who reflect the influence of friends and associates,
- consumers, who want to minimize effort and avoid future problems and inconveniences.

Stern emphasized the relevance of the financial and functional factors in the customer characteristics, furthermore the importance of the social environment (face-to-face communication of family, friends and other social contacts) in their decisions regarding energy efficiency, but not explicit to the end users of heating products.

In his later study Stern (2014, p. 43.) broadened the characteristics of end customers based on their energy choices that affect their household, such as:

- the place of living (where the household members work, shop, go to school, etc.),
- the choice of the home with its energy demand (with its size for space heating, the energy efficiency of the appliances, such as installed heating, etc.),
- the purchase of major appliances and the decision on energy efficiency improvements.

In this sense, end customers make a decision by choosing their homes according to the energy demand; they are willing to pay for the heating. In our opinion this supports the long-term investment characteristic of the purchase decision of heating products, but might not bring manufacturers closer to understand the mindset of their end customers.

We found some former researches that segmented end customers into different groups by identified factors in their characteristics. Sernhed (2008) investigated the energy supply of utilities to end customers (regarding district, electric heating and water heating systems) on the Swedish market. She argued that households in energy environment can't be considered as homogenous group of customers, households of district heating differ in their:

- socio-demographic factors (e.g. age, income, education and age of house),
- physical factors (e.g. living space, current heating device, age of boiler, etc.).

Furthermore, Sernhed (2008) found that district heating suppliers don't use the opportunity to collect information and to describe their potential customers based on diverse social factors, rather by the physical factors. This study also pointed on the fact that companies – in this case heat suppliers – don't deal with the social factors of end customers characteristics, their needs and attitudes based on they might offer specific, tailored services.

Michelsen et al. (2013) researched the underlying motivation behind the adoption of diverse residential heating systems (conventional versus innovative heating technologies) and clustered the potential end customers into the following groups, based on the adopted heating technology:

- *convenience-oriented customers*: the largest group of customers, who care more about comfort and less about economic factors in favor of the sustainability of their habits; they are more likely to stay at the conventional heating technology,
- *consequence-aware customers*: they are adopters of new technologies, considering financial benefits and costs and long-term consequences (e.g. energy prices and sustainable lifestyle); they are willing to purchase on the basis of energy efficiency, choosing innovative heating systems, such as pellet boilers or wood burning appliances,

- *multilaterally motivated customers*: they consider aspects from both other clusters mentioned above: comfort must be paired with financial benefits and long-term consequences. Each factor is not equally important; relevance depends on the individual. Heat pumps and wood burning appliances are mostly chosen in this cluster.

This study also approaches from the adoption of diverse heating technologies and offers an end customer segmentation based on their innovativeness with heating technologies. They differed the rather conservative customers (comfort oriented and care less about economic factors), who stay with conventional heating technologies from the rather innovative customers (open for new heating technologies, they are triggered by financial benefits and energy efficiency, on a long-term) who adopted the novel technologies. They found that most of the customers are described by the convenience-oriented characteristics.

Wüstenhagen et al. (2008) identified 3 different end customer segments by the adoption of green energy products. They differed the dark-green customers (potential customers for all types of eco-innovations, who are ready to adopt technologies with higher operation costs and special fuel types) from light-green customers (ready to adopt environmental sound products with higher initial and operating costs if the perceived benefits are clear) and mainstream customers (not interested in environmental issues, they are adopting simple products or conventional technologies). This approach emphasizes the difference between customers based on their sensitivity regarding financial factors.

The above presented segmentation approaches share the common view that the identified end customer

relation to heating (underlying motivation for purchase, needs, heating habits, etc.) and market the products and heating technologies that maximize their utility. We consider this approach as a gap in the scientific literature of heating products and a potential research area from a marketing managerial point of view.

### Theoretical framework

As already mentioned in the literature overview section, we found only a very limited set of corresponding former researches that deals with the characterization of end customers of heating products, but dependent of the heating technology to be adopted. In this sense, there weren't any former constructs, theoretical frameworks and models we could have relied on by building our theoretical framework, or based on which we could have formulated propositions or testable hypothesis.

In order to organize and to structure the characteristics of potential end customers of the heat market – based on which an explorative survey empirical survey could be conducted – we reverted to the fundamental “7 O” marketing model of Kotler (1998), presented in *Figure 1*. We consider this classic marketing model – in default of any other frameworks or constructs we could have relied on – as a starting point, along which the initial assumptions of end customer characteristics could have been set up. However, the detailed description of the heat market (organization) and the special characteristics of the heating products (objects), furthermore the decision-making process of end customers (operation) are important elements of understanding the end users of heating products, this paper is not treating these fields of work as we want to keep our focus on the specific end customer characteristics.

Figure 1.

Field of works in the end customer characterization

Occupants	Objects	Objectives	Organization	Operation	Occasion	Outlets
Who are the customers? What are their personal attitude to heating? What are needs heating products must fulfil?	What are the special characteristics of heating products they are purchasing?	What are the underlying motivation, needs, expectations behind the purchase?	Who are the participants of the purchase? Who are the relevant stakeholders? What are their interest, motivation, risk by the purchase?	How does the purchase happen? Which are the most consulted communication sources?	When do they buy? Only if it breaks down? Is there any seasonality in the purchase occasion?	Where do they buy? Who is influencing the place of the purchase? Online shops?

characteristics are varying by the product (technology) they were investigating. This means that the end customer characteristics might be applicable only for the adopters of the same heating technology. According to this approach, manufacturers should segment their end customers based on the heating technologies that have to be pushed for sales on the heat market.

In our opinion, heating manufacturers should approach from the end customers at first by understanding their

*Occupants*. According to the latest consumption trends, end customers are trying to achieve a more sustainable lifestyle, which leads to the emergence of the LOHAS customer group. LOHAS stands for Lifestyle of Health and Sustainability, and is a market segment focused on health and fitness, the environment, personal development, sustainable living and social justice. (LOHAS Group, 2010) The LOHAS Group (2010) defined six market sectors for this new customer segment: besides personal health,

eco-tourism, alternative transportation, natural lifestyle and alternative energy, the segment of green buildings (importance of home certification, energy star appliances, sustainable flooring, renewable energy systems, wood burning alternatives, etc.) is also playing a role in the modern consumption. Furthermore, according to Lehota et al. (2013) these customers inform themselves briefly before they make a purchase decision and they are ready to influence the opinion of their family and friends.

As heating products are closely related to energy consumption aspects and environmental consciousness (financial factors, energy efficiency, etc.) we assume that green building plays an important role in the lives of the end customers, furthermore the potential end customers of heating products could be described by (any of the following) LOHAS characteristics, defined by Cortese (2003):

- they worry about environment,
- they want products to be produced in sustainable way,
- they spend more money to advance what they see as their personal development,
- they are willing to pay a premium for products and services they considered sustainable.

*Objectives.* End customers are such final product users, who consider the purchase of heating products as investment decisions, heating technology must be reliable and energy efficient, technology on renewable energy must pay off (Wüstenhagen et al., 2008).

We assume that end customers are driven by financial factors, not only by the investment costs (purchase motivation) but also by the running costs (price of energy by the usage). Furthermore, we assume that further, not known financial factors could motivate end customers for purchase.

As Farsi (2010) emphasize the risk perception is the central element of energy efficient renovation measures, we assume that end customers perceive financial risk along the purchase (if the product is working properly, if quality problems occur, etc.) as they have to make a decision with a complex, unfamiliar technology. Claudy et al. (2011) found that end customers perceived social risk as they were insecure how adaptation of a new heating technology might be perceived by their social surroundings. As this finding refers to a certain innovative heating technology, we assume that in general end customers don't perceive social risk by the purchase process.

The complex purchase process and the diverse perceived risk factors might lead to the assumption that the heating products are high-involvement products, which means that heating products are carefully chosen by end customers, information is actively acquired and evaluated. As Wüstenhagen et al. (2008, p. 15.) argues, despite the fact that heating systems have high investment and operating costs, they evoke mainly functional expectations and the potential for emotional marketing has only been marginally explored. We assume that if only the high investment costs and the complex purchase process would be considered,

then heating products would be high-involvement products. But if we consider the harmless operation phase, where only the functional needs should be satisfied, the heating products are low-involvement products. Based on this assumption, involvement of heating products might be understood in the situation, where the end customer is located. In this sense involvement of heating products might be situational, "which deals with specific situation that stimulate end customers to involve with products or services" (Rehman et al., 2012, p. 600.).

*Occasion.* When it comes to the question when and based on which motivation end customers purchase a certain heating technology, there are several aspects to be identified by former technology-centric adoption models. Some researchers found the *socio-economic factors*, such as aging (Mahapatra et al., 2008), household income (Kasanen et al., 1989), number of children (Wilhite et al., 1999) or *economic factors* such as high operation, maintenance and fuel costs (Mahapatra et al., 2008; Caird et al., 2008). Others emphasized the influence of *energy saving from the perspective of environmental consciousness* (Keirstead, 2007; Caird et al., 2008) or the motivating role of *governmental subsidies and grants* (Michelsen et al., 2013; Wallace et al., 2010). Other former models found that the breakdown of former heating product motivates end customers for purchase (Mahapatra et al., 2008; Hallin, 1989; Stolyarova et al., 2015). The findings vary by the kind of the heating technology that former researches were investigating.

Based on this limited set of former models, we assume that the occasion and the motivation for the purchase is linked to each other. This means that the occasion of the purchase happens rather in the heating season, where the heating products is breaking down or when end customers are facing the increasing heating costs and energy prices. Still, we think that end customers are such conscious decision-makers, who are planning the purchase of a heating product instead of facing an emergency purchase situation.

*Outlets.* Based on the conducted literature review, we found no former studies, which analyzed the most consulted place of purchase. Contrary to the leading role of the Internet, due to the complex nature of the heating products – we assume that end customers buy less in online shops, rather in professional stores, where they can consult professionals. Otherwise we assume that end customers purchase directly from the installers.

Based on the limited set of corresponding literature regarding the end customer characteristics, their drivers and underlying motivation for purchase, we initiated some pre-assumptions, presented in this section. We think that in the first step, an explorative research has to be conducted with end customers in order to reveal technology independent, end customer characteristics. This paper introduces the methodology and results of this research, which we consider as a first milestone and initial step in the investigation of end customer attitude towards heating products.



own with a heating product at least once in the past: either they bought a new heating system (due to new built) or renovated their existing heating system (by extending it with an alternative heating solution). In order to get to know the customers of the heat market, to get a deeper insight into their characteristics, behavior, expectations and attitudes towards the heating products, first of all respondents were asked about their personal lifestyle and main values, presented in *Figure 2*.

As the left element in *Figure 2* shows, interviewees mentioned the *importance of their relations with the people around them*: with family, friends and their close social environment. In context with the purchase of the heating product it refers to a careful, joint-decision making that were made within the family or with the support of friends, as one couple said: “*the exchange of opinion and experiences between brothers is important...*” Some of the respondents have stable and lasting friendships, as one couple said: “*there is an opinion leader in our circle of friends, who is very up-to-date and well informed about different topics and products*”.

The words *conscious, careful, attention* also may refer to the lifestyle of the respondents in context with their *environment*. Interviewees reported that they care about their personal health (nutrition and sports) and about their environment by *conscious energy and gas consumption, waste separation, energy efficient household appliances, lightbulbs, walk or ride bike instead of using car, etc.* As one couple said: “*we do our best to live environmental conscious...*”. This refers to the LOHAS values that end customers are reported to be important in their lives.

In context with heating products respondents care about their *energy consumption and sustainability* (central element in *Figure 2*) by considering alternative heating solutions in case of heating renovations, like pellet boilers, tile stove, condensing boiler, etc. As one couple said: “*we were thinking about to install a solar panel to use regenerative energy in order to reduce costs, but it was way too expensive and the return on investment wasn't reasonable*”. Respondents reported that green building (energy efficient and sustainable materials, products) are playing an important part in the renovation of their homes, but they are not willing to pay a premium price for these products, especially if they don't see the return of their investment. Furthermore, respondents reported that *warmth and warm water comfort* (their technical execution) plays an important role in living space. Respondents found it important that the heating should not ruin the interior design of the living space, but still it evokes mainly *functional expectations*. There was one couple who said: “*if I could buy a stylish boiler I would place it in the living room...*”

Due to the increasing energy prices (main energy source is gas, it has a good coverage but decreasing heating quality and it is expensive), respondents are not only looking for alternative heating solutions but they control their heating system by *regulating* the radiators if they are not at home or during the nighttime. The heating is turned on mainly at special occasions (family celebrations, Christmas, etc.) to

make the house heated cozy and warm and the regulation is done by the respondent married couple. In our opinion this refers to the financial and functional factors (risks) respondents perceived by the use of the product. They are motivated to renovate the existing heating system with products that are easy to control and where the running costs can be held on an efficient level as they perceive the price of energy high.

The word *childhood* (central element in *Figure 2*) stands for the *memories* respondents recalled about heating products, as one couples said in context with energy efficiency and conscious energy consumption: “*as an alternative solution we thought about the wood heating technology because the feeling of crackling fire reminded us of our childhood*.” Interviewees had no problem with preparing and refilling the boiler with wood or pellet, they saw it as a self-evident task that reminded them to their childhood. The word *coziness and comfort* (central element in *Figure 2*) refers to their homes and to the room climate, respondents expect from the heating product. It is not only about the warm water and the warmth, but the comfortableness and the security of supply, which means that end customers might expect from heating products to fulfill higher level of needs at the same time. We think that heating products fulfill not only physiological needs (warmth and warm water), but also safety (security of supply, home, family, etc.) and might fulfill or support needs for love and belonging (family, time spent together, comfort, special occasions etc.).

Interviewees were asked which of the following words they can associate to a new heating product, namely which expectations does a new heating product must fulfill. Diverse tastes, sounds, needs were specialized and the following characteristics were the mostly agreed: available, reliable, ergonomic, special occasions, aesthetical, trust, energetic, though, etc., which might refer to the product personality “competent” (reliable, intelligent, successful) that end customers associate to heating products (Aaker, 1997).<sup>3</sup>

Respondents were asked about their purchase attitude, particularly about their *motivation for purchasing a new heating system* (right element in *Figure 2*). As only *one couple* reported that their heating broke down and needed an urgent solution, other respondents deliberately planned their purchase (most of them perceived the need already the heating season before) that lasted 3-6 months long. The rising energy costs seemed to be the main motivation for the purchase, governmental subsidies were found to be less attractive due to the unfamiliar application process and the insecure outcome (if the application succeeds at all, amount of subsidy). Respondents conducted active information search and turned to diverse information sources (family, friends, online portals, blogs and forums,

<sup>3</sup> According to Aaker (1997, p. 347.) the personality of a product or a brand (“set of human characteristics associated to a brand”) enables consumers to express their (ideal or special) self. Aaker (1997) defined a brand personality framework with the following personality dimensions: sincerity (honest, down-to-earth, wholesome), excitement (daring, up-to-date, spirited), competence (reliable, intelligent, successful), sophistication (upper class, charming), ruggedness (tough, outdoorsy).

installer, architect, etc.) for cross-checking the gained information, where online (social) sources played an important role.

Respondents found the purchase process complex and complicated, furthermore they perceived *functional risk* (if the new heating product will work properly, if it won't break down, if it can be regulated effectively, etc.) and *financial risk* (if the product worth its price, quality of a cheaper product, of an unknown brand, cost-efficiency, etc.) along the purchase process. None of the respondents agreed to perceive social risk along the purchase process or by the use of the product.

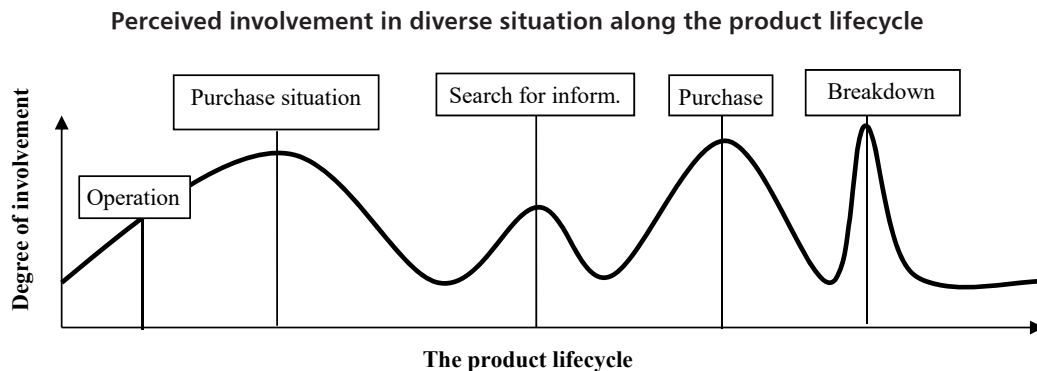
Regarding the *place of the purchase*, end customers purchased on their own looking for the best price alternative. None of the respondents purchased from the installer, but where the installer suggested. None of the participants purchased via online sources or online shops.

Interviewees showed different degrees of *involvement* depending on the circumstances or the situation they are at.

are applicable. Green building prevails in heating renovation by energy efficient renovation or heating systems extension, but respondents are not willing to pay a premium price for sustainable products (important financial factor). Respondents reported to be conscious, active decision-makers turning to many information sources.

- Respondents recalled childhood memories with heating technologies, the learning process with heating products starts at the early age, which might influence their decision-making with certain technologies.
- Heating products might fulfill higher level of needs beyond physiological needs, such as safety needs or belonging.
- Financial factors prevail in the investment and running costs (regulation) of the heating products, in the increasing energy prices, the return on energy efficiency investments, furthermore in the available governmental subsidies.

Figure 3.



As Figure 3 shows, in the phase of *harmless operation*, respondents showed a low-involvement attitude as the heating product fulfilled the functional needs (warmth and warm water), however they might have realized the high energy costs and the inefficient operation. At the phase of *purchase situation* (decision is already made for a new heating product), by the intensive information search and validation respondents showed a higher degree of involvement by acquiring the right information from the most credible information sources. By the *purchase phase*, the perception of functional and financial risk evoked the high degree of involvement. Once the heating product is finally purchased, in the phase of operation the degree of involvement shows a lower degree again. In case of the couple, who reported the breakdown of the boiler, the involvement was suddenly very high to get the heating system repaired as fast as possible, since they had no warm water and heating for a couple days.

Based on the analysis of the results, the following key findings can be summarized, which we relied on by the conceptualization of the qualitative online questionnaire:

- Respondents are considering themselves environment conscious, most of the LOHAS characteristics

- Respondents perceive financial risks due to the increasing energy prices and functional risk regarding the unfamiliar complex technology.
- Respondents expect from a new heating product to be reliable, intelligent, available, etc. that might refer to the perceived product and brand personalities.
- Respondents deliberately planned their purchase due to the rising energy prices, governmental subsidies didn't trigger the purchase.
- A screening technique is required by the online questionnaire in order to reach the potential end customers of heating products. Purchase takes 3-6 months, need for a new heating can be perceived a heating season earlier.

#### Results: Quantitative research – online survey

Based on the key findings of the in-depth interviews, the online questionnaire was conceptualized to make quantitative ascertainment of end customer characteristics.

#### Characteristics of the respondents in the sample

The average age of the Hungarian respondents were 37,8 years, where male respondents were represented by 56% and female respondents by 44% in the sample. 40% of the

respondents have a marital status and live with their children in one household, single or young couple household are represented in the sample with the nearly the same extent (37%). 7% of the respondents have a senior household, where children already moved out. The half of the respondents have a high school or secondary school certificate, 49% obtain a university degree (1% reported to have no certificate).

Nearly 60% of the respondents bought their very first heating product in the past 5 years, 25% in the past 6-10 years (17% earlier than 10 years) and all respondents either bought a new heating product in the past 18 month or planning to do so in the coming 18 months. Regarding financial status, 73% of the respondents have a monthly household income below 150.000,- HUF and 49% of the respondents reported to be under financial depth. Nevertheless 40% of the respondents are saving money for renovation and 38% have savings for emergency situations around the household.

As the results of the qualitative interviews showed, respondents considered themselves *environmental conscious*, which prevailed in more fields of their lives. At first, the LOHAS characteristics were checked on the qualitative sample, presented in *Figure 4*.

As results show, every fourth respondents said that they were health conscious, worry about environment and want products to be produced in a sustainable way. But when it comes to the willingness to pay a premium price for these products, only the minority of the respondents agreed. Except for alternative energy financing (e.g. renewable energy credits, green pricing) the majority of the respondents agreed that diverse attributes of LOHAS segments prevail in their lives: mostly in personal health (e.g.: natural and organic products, nutritional products, dietary supplements, etc.) and in natural lifestyle (indoor and outdoor furnishing, compact fluorescent lights, organic cleaning supplies, etc.). 54% of the respondents agreed that green building prevails in their lives in such fields as home certifications, energy star appliances, wood alternatives and renewable energy systems.

As the results of the qualitative interviews showed, end customers perceive certain *needs and expectations* towards heating products, we tested on a quantitative sample. Results show – presented in *Figure 5* – that the majority of the respondents agreed that heating and warm water comfort plays a role in the interior design, which confirmed that heating products must not fulfill only functional needs but have to have an acceptable appearance when it is placed in the living space.

After that, respondents were asked about the level of needs that a heating product must fulfill in their lives. Respondents found rather important the security of supply and the health of the body (ranked on the first place), followed by the actual physiological needs (warmth, warm water). Higher level of needs such as coziness, comfort, and carefree stay at home are rather not important needs a heating product must fulfill. Otherwise if the heating would not work, warmth and warm water must be missed the most, security of supply is rather a less important need to be fulfilled.

Regarding the expectations towards the heating product, the majority of respondents (56%) associate their optimal heating product as a competent, intelligent and successful person. In our opinion this means that respondents expect from the heating product an intelligent and reliable operation, where they perceive the security of the supply by fulfilling needs regarding comfort and financial factors.

We learned from the interviews with married couples that they created their own heating rituals, mainly based on energy efficiency and cost saving. The heating system must be easy to control and regulate. Based on this finding, respondents were asked about their *attitude towards heating*. Results in *Figure 6* supported this finding, namely that only 8% of the respondents quoted that they are not regulating their heating system, which refers to energy conscious attitude.

35% of the respondents said that they prefer a constant but acceptable room climate the whole day, according to our opinion due to comfort factors.

Figure 4.

#### LOHAS characteristics and the role of environmental consciousness

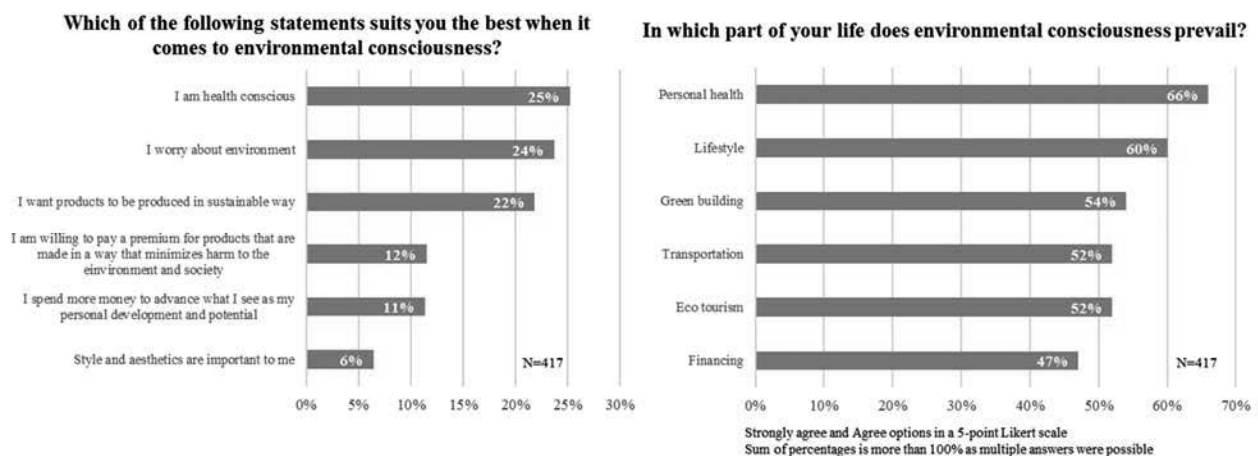
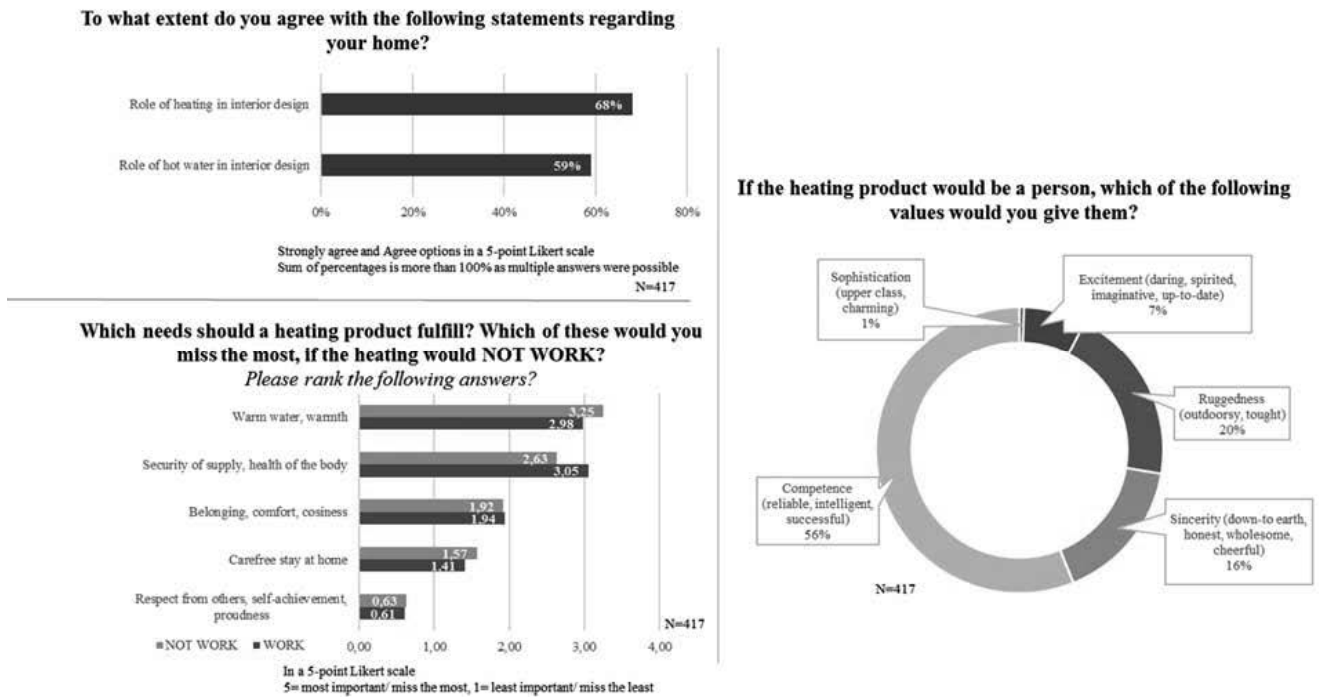


Figure 5.

Needs and expectations towards the new heating product



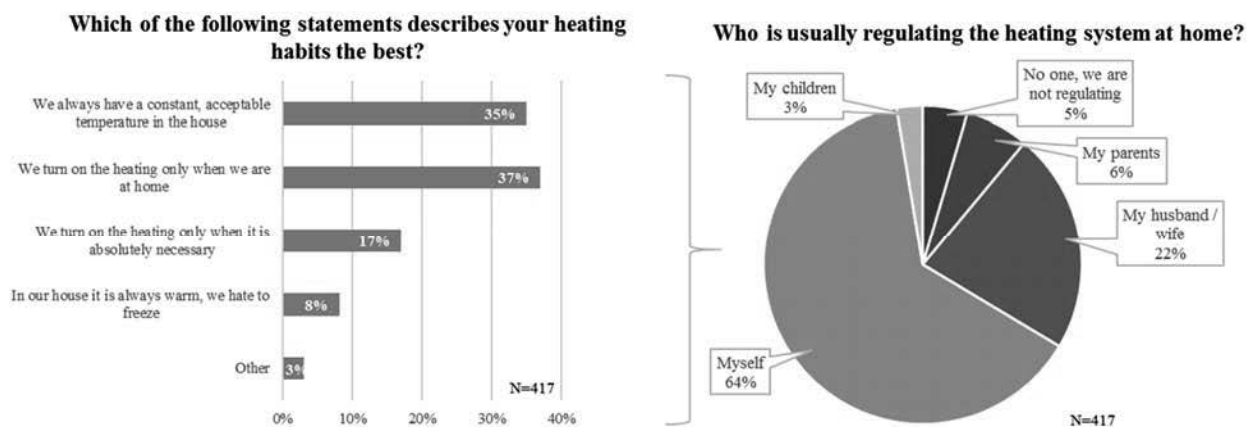
Only the minority (8% of the respondents) said that in their house it is always warm and they hate to freeze, so they probably heat with minimal or no regulation. The majority of respondents (54%) said that they are only heating when they are at home or only when it is absolutely necessary. According to our opinion, these respondents are driven by financial factors.

the majority of the respondents are single and/ or young couples with children in the household. Only a minority of the respondents (5%) said that they don't regulate the heating systems at all which corresponds to the energy and cost consciousness of customers.

In the next question group respondents were asked about their *motivation to purchase* a new heating product.

Figure 6.

Heating habits



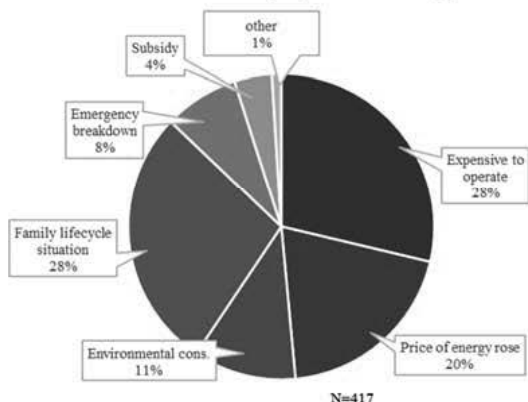
Respondents were asked, who takes over the role for heating regulation in the household. As Figure 6 shows, 95% of the respondents quoted to regulate the heating system, either themselves or their spouse, which corresponds to the demographical characteristics that

As Figure 7 shows, the quantitative results support the qualitative findings, namely that the end customers are deliberately plan the purchase of heating products, only 8% of the respondents faced and emergency situation, where immediate purchase was needed.

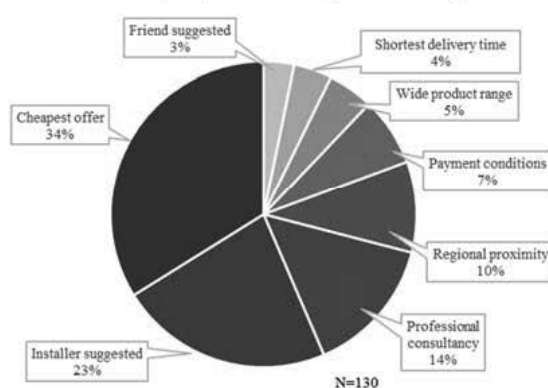
Figure 7.

Purchase motivation and decision

What was the reason for buying a new heating product?



Where did you purchase the product finally?



The majority of the respondents, 53% was motivated by financial factors (existing heating product is too expensive to operate, the price of energy rose, available subsidies), 28% quoted that they extended the existing heating system due to any kind of family lifecycle situation (e.g. parents moved in, birth of children, increased income, etc.). Only 11% of the respondents were motivated by environmental consciousness.

Regarding purchase motivation, respondents were asked about the motivation to choose the place of the purchase. 41% of the respondents decided by financial factors such as the cheapest offer and attractive payment conditions, the suggestion of the installer is on the

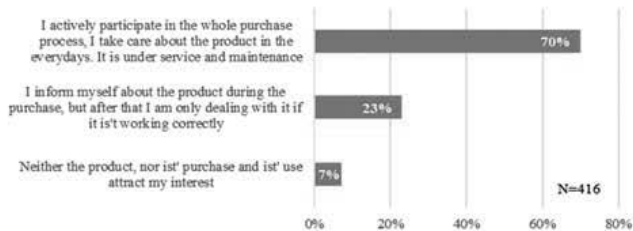
second place, quoted by 23% of all respondents. Such services as delivery time (4%), wide product range (5%) or regional availability (10%) were less important factors by choosing the place of purchase. None of the respondents quoted the online shop as the place of the purchase. The low quotation of professional consultancy (14%), the suggestion of the social environment (3%), or of the suggestion of the installer (23%) refers to the ascertainment that the place of the purchase is independent from these influencing information sources and rather the purchase price counts.

Finally, respondents were asked about their *past purchase perception and attitude*, presented in Figure 8.

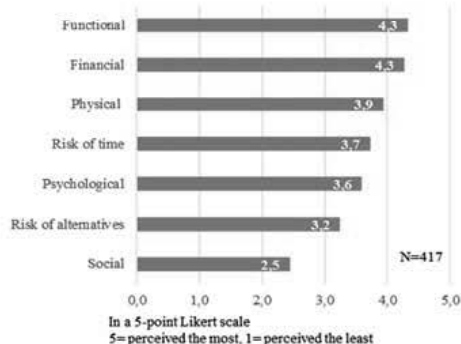
Figure 8.

Past purchase evaluation: perceived risk, innovation behaviour and involvement

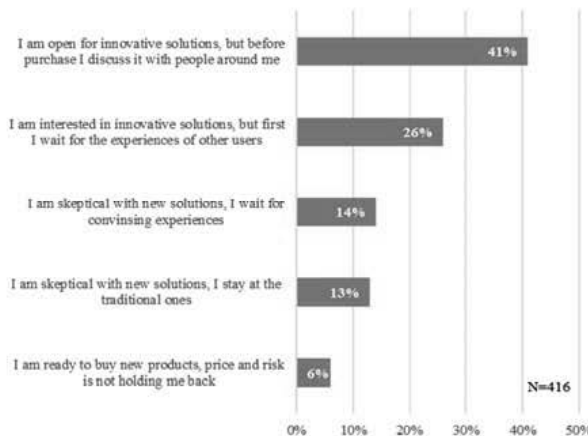
How would you evaluate your attitude along the purchase process?



Did you perceive any uncertainty along the purchase process?



Which of the following statements describe you the best with special regards to heating products?



The in-depth interviews showed that end customers actively participated in the purchase process and made a conscious purchase decision, which was supported by the quantitative sample. The majority of the respondents (70%) quoted that they were active participants of the purchase process and they take care about the product also in the every-days.

Regarding risk perception, respondents agreed to perceive functional and financial risk along the purchase process, furthermore they agreed to perceive rather physical, psychological and time risk. The quantitative sample confirmed the perception of other risk types besides financial and functional risk that respondents perceived with heating products. Nevertheless, social risk was rather not perceived by the participants, which supports

the findings of the qualitative questionnaire. Last but not least, participants were asked about how they perceive their innovativeness (no concrete heating technology was named) regarding heating products, presented in *Figure 8*. 41% of the respondents consider themselves as early adopters, which means that they are open to novel heating solutions but they exchange information with their social environment before the decision-making. A further 40% of the respondents sees themselves as the early or late majority when it comes to heating products: they are skeptical with novel heating technology; they need convincing experiences of other users. Only the minority sees themselves to be either an innovator (6%) or a laggard (13%) customer, supposedly due to the high investment and functional costs.

Table 2.

Summary of assumptions and results

	Assumptions based on the scientific literature	Key findings of the in-depth interviews	Key findings of the online questionnaire
LOHAS characteristics	Green building plays an important role in the lives of the end customers. They can be described by the LOHAS characteristics defined by Cortese (2003).	Environment consciousness prevails in natural lifestyle, personal health and green building: conscious energy consumption, alternative heating solutions, heating regulation.	Every 4th respondent consider themselves health conscious and worry about environment, but there is no willingness to pay a premium for products that don't harm environment The majority agreed that environmental consciousness prevail in green building
Needs and expectations		Memories recalled from childhood that shapes needs and expectations Personality: similarities to competence and ruggedness: reliable, trust, energetic, tough	Need to be fulfilled by a working appliance: security of supply Need to be fulfilled in case of breakdown: warmth and warm water Heating perceived as a competent, intelligent and successful person
Heating habits		Warmth in the whole house only at special occasions, due to high energy prices	Heating habit: only when necessary and when they are at home The most majority is regulating the heating: themselves or spouse Heating product plays a role in interior design
Purchase motivation Occasion	Financial factors are the main underlying motivation of the purchase. Assumingly financial factors prevail in other aspects of the customer attitude.	Deliberately planned purchase, 3-6 month long Need perceived already in the heating season before Motivation: rising energy costs increases need for heating renovation Extension with renewables: investment must pay off Conscious, active decision-making, joint-decision in the family	Deliberately planned purchase Motivation for purchase: mainly financial factors (old technology too expensive to operate, rising energy costs, governmental subsidies) Environmental consciousness don't motivate customers for purchase
Place of purchase	End customers purchase in professional stores or directly from the installer. Despite digital purchase preferences, no online purchase assumed.	Cheapest offer Where the installer suggested	Cheapest offer No influence of installer, social environment or other services, e.g.: shorter delivery time, attractive payment conditions, excellent service, etc. Online shop wasn't quoted by any of the respondents
Post purchase attitude	End customers perceive financial risk as they are not familiar with the complex technology. Social risk might be perceived by the adoption of specific heating technology.	Purchase perceived as complex and complicated Perceived functional, financial risk Situation based involvement	Active participation in the purchase process, high-involvement in the product use phase Perceived risk: functional and financial Rather perceived risk: physical, psychological, risk of time and alternatives Not perceived risk: social Early adopters: exchange in the social environment is essential before decision

## Discussion

The goal of our first, explorative research was to investigate the characteristics of the potential end customers of heating manufacturers that former researches treated as a side topic. We found it essential to put the empowered end customers in the focus of the research and to investigate their purchase motivation, needs, expectations and after purchase attitude, independent from any kind of heating technology existing on the heat market. Based on the scarcely available literature, pre-assumptions were made (see theoretical framework), based on which the 2-step research was conceptualized.

Table 2 presents an overview of the pre-assumptions and the key findings of the explorative research.

Both research steps pointed on the fact that respondents are characterized by *financial factors* in diverse contexts, when it comes to heating products. It prevails in the environmental consciousness, which prevails in diverse fields or respondents' lives but they are not willing to pay a premium for these products. Respondents consciously save money for renovation and for emergency situation around the house, however every second respondent is under financial depth. Financial factors prevail in the heating habits: almost all respondents are regulating their heating system due to high energy prices, only the minority of respondents place convenience factors over economic ones. Furthermore, financial factors are the main underlying motivation for heating renovation: either for extending the existing heating system or to change the boiler. The purchase is perceived as an investment, where the financial advantage (return on investment) must be clear. Despite the fact that financial benefits are important motivators of the purchase, government subsidies don't trigger need for purchase.

Besides economic aspects, *functional factors* were also mentioned that shape end customer characteristics. Regarding needs and expectations, heating products were found to be fulfilling mainly *functional needs* and they should fit into interior design (if it is placed in the living space). Respondents perceived a new heating as a reliable, competent and successful person, which refers to the high functional (quality) expectations towards the product. According to our opinion, this means that heating product should work that intelligent and stable that could be customized to specific customer heating habits and should be flexible and easy to regulate with regards to cost effectiveness.

We found an interesting result that end customers could recall information with heating products (technology, fuel) from their childhood with influence their preference for certain heating technologies along the purchase process. According to our opinion this might refer to a learning process that starts in the early age with heating products. We consider this finding a potential further research area concerning the characteristics of a potential end customer of heating products.

Reflecting to the literature overview, we share the view of Stern (1985) in certain aspects. Our results support the characteristic that end customers of heating products

are investors, who are looking for long-term benefits by the purchase of heating product. We also found that end customers are expressing their attitudes and values and involve their social environment to exchange information from certain aspects. We also found that end customers perceive diverse types of risks along the purchase process, which also supports the finding of Stern (1985) regarding energy environment decisions that customers plan for long term and want to avoid future problems and inconveniences.

Michelsen et al. (2013) found that end customers are mainly convenience oriented customers, who care more about comfort to sustain their habits over economic factors, as they studied the adoption of innovative heating technologies over conventional ones. We found that financial factors are the most important drivers that prevails in the needs, expectations and underlying motivation of end customers, besides the functional aspects. Furthermore, Michelsen et al. (2013) identified the consequence-aware as the second largest group, who are willing to adopt novel heating technologies based on energy efficiency, which we found one of the least motivating factor by the purchase of a new heating product. According to our opinion, this finding shows that heating technology centered investigation might not be applicable generally to the potential end customer of manufacturers.

## Conclusion and recommendations

We consider this two-step explorative study – presented in the paper – as the first step in the research of end customer characteristics from a marketing managerial approach. The key findings of the empirical research, presented in section 4 and section 5 helped us to get the first insight into the end customer characteristics: needs, expectations and underlying motivation behind customer attitude.

We understood that the purchase process is complex, where end customers are active decision-makers and consciously plan the purchase of a new heating product instead of facing an emergency breakdown. According to our opinion, this is important information for manufacturers as end customers don't purchase unpredictably, but show a heating-season dependent interest and have a lead-time of 3-6 months before the final purchase decision. This means, heating manufacturers have the possibility to get into contact with customers, who are considering to purchase a new heating product in this or in the coming heating season. We think that it is essential for manufacturers to set up an optimal marketing mix by locating the end customers in their purchase process and to apply the appropriate communication channel and the right content of information.

We assume that the information need of a customer, who are open to learn about new heating products is different from the ones that are close to the purchase decision. In order to learn more about this customer segmentation approach, we see the essential the further investigation of end customer purchase attitude and decision-making. Furthermore, it is important to see,

what are the information and communication channels, influencing contact person that end customers consult along the decision-making process, irrespective of the heating technology end customers might adopt in the future. We see this customer journey-based segmentation approach as a complete new research field in the investigation in end customer attitude towards heating products.

The in-depth interviews with married couples pointed on the importance of relations and the social environment in the decision-making process of heating product. We see this area as potential research field to investigate, in which extent does the social influence prevail along the decision-making process of end customers towards heating products.

Last but not least, the results of the in-depth interviews indicated the diverse degree of involvement end customers perceive along the purchase and use of the heating products. We intend to investigate the question of involvement on a quantifiable sample to make ascertainments on a larger end customer sample.

Regarding the extension of the scientific literature review and the potential theoretical framework building, we consider to analyze other markets where marketers face a similar, 2-step purchase process. We see similarities in the pharmacy industry, where manufacturers produce medication to end customers but sell their products via pharmacists and doctors, who have the responsibility and the power to make recommendations for or against certain products, technologies or brands. Furthermore, we see similarities with the car industry, where manufacturers sell their products via dealers and less directly to the end customers.

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# THE INFLUENCE OF IDEOLOGIES ON CHINESE MANAGEMENT CHARACTERISTICS AND ITS RELEVANCE IN CROSS-CULTURAL MANAGEMENT BETWEEN CHINA AND THE EUROPEAN UNION

A CONCEPTUAL PAPER

In this paper, the authors give an introduction to the four most important ideologies impacting culture and the way of thinking in China today, i.e. Confucianism, Daoism, Legalism and Buddhism.

First, the authors provide an overview of the historical period where these ideologies originate from, and explain how their concepts were interpreted by the social elite. In the next chapters, they examine each of the ideologies separately. Confucianism is the best known Chinese ideology worldwide, in relation with business it is mostly dealing with questions of business ethics, while Daoism addresses behavioral questions and Legalism examines the methods of leadership from a rather totalitarian point of view, all of them specifically related to Chinese management. Buddhist economics deals with comprehensive economic questions, but it can be used for developing more sustainable management practices.

Although the authors examine their current impact on management in China, this paper logically paves the way for further research areas such as the impact of Buddhist economics on Chinese management, or the correlation between the embeddedness of these ideologies and a leader's preferred managerial role or management style.

**Keywords:** Chinese management characteristics, cross-cultural management, Confucianism, Daoism, Legalism, Buddhism

The examination of ideologies in researches related to Chinese management is usually conducted from a historical perspective. This paper aims to pave the way for a broader research overcoming the historical perception and linking the ideological influences on Chinese managerial behavior with cross-cultural management concepts to support the economic cooperation of the People's Republic of China and the European Union.

Chinese<sup>1</sup> capital has an increasing importance in Hungary and in the other countries of the European Union (see Figure 1 and 2.): the overall value of the imported products from China to the EU (Eurostat, 2018), as well as the amount of foreign direct investment from China to Hungary (KSH, 2018) has almost doubled during the past ten years, while the exports of the EU to China are triple of the 2016 amount. With the Belt and Road initiative<sup>2</sup>, Chinese influence is expected to grow exponentially. Chinese firms are becoming strategic partners of Hungary with large-scale investments targeting the country. The growing number of Chinese organizations inevitably results in increasing interactions between the people of China and Europe. Chinese leaders and managers take part

in cross-cultural preparation trainings to get acquainted with the European culture, business practices and other cultural differences, but it is equally important for us to have a basic knowledge of the Chinese business culture to make the cooperation more effective. Since each organization has its unique way on responding to internal and external challenges, considering the characteristics of the other culture and attempting to adapt to it can be crucial for managers engaged in multinational activities (Fekete – Dimény, 2012).

Figure 1.  
The amount of export and import products between the PRC and the EU, 2006–2017



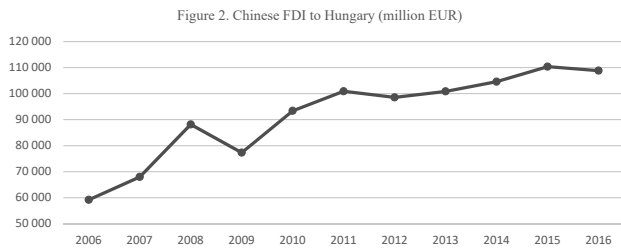
Source of data: Eurostat

As the Chinese and European approach to business and management is inherently different, the understanding of the Chinese way starts from the historical and ideological background of the country. Considering this, the aim of this paper is to provide a basic insight to the most influential ideologies of China.

<sup>1</sup> In this paper, when addressing contemporary issues of China, we always refer to the political unit of the People's Republic of China, excluding the special administrative regions of Hong Kong and Macau as well as the Republic of China (Taiwan).

<sup>2</sup> The Belt and Road initiative was prompted by President Xi Jinping in 2013 in an attempt to emphasize the openness of the Chinese economy and to support its integration with the development of the world economy. (Chan S., 2017) Du and Zhang (2018) found, that after the 2013 announcement of the initiative, Chinese firms became more willing to engage in mergers and acquisitions, with Western Europe being one of the main destinations of investments in both infrastructure and non-infrastructure sectors (Du – Zhang, 2018).

Figure 2.  
The amount of Chinese foreign direct investment  
in Hungary, 2006-2016



Source of data: KSH

For the better understanding of the concepts, it is important to be familiar with the historical periods each ideology comes from. Historically, Confucianism and Daoism originate from a socially and politically transforming country, while Legalism can be traced back to an era of wars (Salát, 2009). This historical background defines the ideologies, while all three of them aim to solve the problem of their respective historical era, Confucianism and Daoism emphasize the importance of virtues and depict the qualities of an ideal leader (Gilbert, 2002) (Xu, 2009), Legalism is more pragmatic, as it attempts to give specific, practical advice on how to defeat the enemy and remain in power (Fu, 1996). Buddhism is the most important ideology of foreign origin in China, missionaries from India used land (different paths of the Silk Road) and maritime (from the Western coast of India towards Canton) pathways to reach China. The time of the first appearance of Buddhism in China is dated around the beginning of the 1<sup>st</sup> century, which was an era of revival, social, political and economic prosperity (Hamar, 2004).

The historical introduction is followed by the description of each ideology, their main concepts, theorists, the context and the social group the ideologies can be best applied to – which also highlights its contemporary relevance and possibilities for the fields of further research.

To see the economic significance of these theories, we are going to review the works of contemporary researchers who examine the relation between the concepts, or certain parts of the concepts, and today's management theories and practices.

### Historical background

This chapter provides an overview of the historical situation in which the ideologies to be discussed were conceived: it is important to note, that all of the ideologies were born during a relatively unstable era after a long time of social and political stability. The most common characteristics of Chinese management (such as centralized control, collectivism, harmony, paternalistic leadership, flexible strategies, family businesses, strong organizational networks and the importance of business connections) can be traced back to the early thinkers and ideologists of China (Rarick, 2009) before and during the early years of the country's first unification.

The first centuries of Chinese history are only documented based on transliterations of ancient myths, for the existence of which there are no evidences, but as tradition they are an important factor for the country, and still have great importance in Chinese philosophy. The legends include mythical figures such as the Yellow Emperor (Huangdi 黄帝), who is believed to have invented some important tools (for example the axe, the mortar or well drilling), or Fuxi 伏羲, who taught people to hunt, to fish and to cook meat. One of the last heroes of the period were Yao 尧 and Shun 舜, who were the archetypes of the Confucian 'superior man'. The first dynasty proven to have existed was the Shang dynasty 商 (18<sup>th</sup> – 11<sup>th</sup> century BC) (Fung, 1997). The aristocratic social structure was formed during these times, the destabilization and transformation of which, at the end of the Zhou dynasty 周 (1046-221 BC), provided the basis for the formation of the most important ideologies. While the first roots of Confucianism<sup>3</sup> date back to a historical period of social stability (the Western Zhou 西周 period, 1046-771 BC), and the development of the Confucian philosophy and Daoism started in an era of social transformation and economic prosperity (Chunqiu 春秋, 722-481 BC), the first representatives of Legalism lived in an era of wars, social and political unrest with the main purpose of the economy being to serve the military (The Warring States 战国 403-221BC) (Salát, 2013).

After the Warring States period, the country was unified by the Qin dynasty 秦 (221-206 BC) and Qin Shi Huangdi became the first emperor of China. He governed the country based on rigorous Legalist principles and strict regulations which resulted in his great unpopularity, therefore, shortly after his early death in 206 BC, the Qin dynasty has fallen. To avoid a similar fate, the first emperor of the succeeding Han dynasty started the consolidation of his predecessor's legacy with the easing of regulations and tax burdens. The power of the central administration remained weak, but the country started to regain its strength and political, social and economic stability. This was the time where the first written evidences of Buddhism originate from, and starting from this period, the first religion and ideological school of foreign origin started to gain reputation and popularity in China (Fitzgerald, 1989).

### Confucianism

#### Historical background

The name, which most of the Western world uses to address this ideology, originates from the 16<sup>th</sup> century, when Jesuit missionaries Latinized the name of the founder of the philosophical school (Kongzi 孔子 or Kongfuzi 孔夫子). In China, however, it is called *ru* 儒 (or *rujia* 儒家), originally referring to a certain group of literates. Only later, when Confucianism (or Rusim) was recognized as a prominent school, has this ideology become identified with Confucius and his disciples. Confucius and his disci-

<sup>3</sup> The first sections of the Book of Changes (Yijing 易经), the Book of History (Shujing 书经) and the Book of Songs (Shijing 诗经) originate from the Western Zhou period.

ples belonged to the social group of *ru* (mentioned earlier in this paragraph), whose occupation was the studying and teaching of the “six classics” (Book of Poetry, Book of History, Book of Rites, Book of Music, Book of Changes and the Spring and Autumn Annals) (Yao, 2000). The teachings of Confucius are the foundations of the Confucian school, however, they were not created by him, his teachings were based on lessons he draw from Chinese history. Therefore, Confucius is regarded as interpreting, preserving and mediating the ancient heritage of China and, together with his disciples and followers, synthesizing it into a system of principles, virtues and ideologies suitable for different aspects of life, society and politics (Hofstede – Bond, 1988).

As in the background of Confucian teachings was an intention to contribute to the consolidation and to the restructuring of social and political circumstances, it can not only be regarded as an ideology of human life, but it is also an important theory of power and authority. The first unification of China was achieved based on legalist principles, and in this era (Qin Dynasty 秦, 221-206 BC) Confucianism was suppressed. Confucianism started to gain reputation again during the ruling of a Han Dynasty 漢 emperor, Dong Zhongshu (191-115 BC), and gradually, it became the official ideology of the country. The *Taixue* 太学, or the Imperial Academy was established 124 BC, which served as the educational institution for prospective government officials and bureaucrats (Salát, 2009).

### Modern implications

Warner (2010), seeking the conception of Confucian HRM, finds, that with China being the first country to base its bureaucracy on education instead of bloodlines, with a solid Confucian foundation of civil service enduring through different historical circumstances and rulers, contributed greatly to the theory and practice of not only Chinese, but also to the Western management and bureaucracy (Warner, 2010). Until its abolition in 1905, the Confucian Four Books and Five Classics served as the basis of scholar official classes and the imperial exams of the examination system, which meant that those aspiring for highest ranking offices had to study these works in great detail (Csikszentmihalyi, 2005).

The most important principles of Confucianism are about preserving traditions, possessing good human qualities and adhere to the rules of social hierarchy (Fitzgerald, 1989). The ideal person, which everybody, especially leaders should strive to be, is called *junzi* 君子, or ‘superior man’. The Confucian concept of *junzi*, or superior man is described as follows: “Is it not a pleasure, having learned something, to try it out at due intervals? Is it not a joy to have like-minded friends come from afar? Is it not gentlemanly not to take offence when others fail to appreciate your abilities?” (The Analects, I/1, cited by Lin and Ho, 2009). This idea is able to support the cooperation of people from different cultures working together in multinational corporations and provides a solid foundation for harmonious relations among the members of a diverse community on the long-term (Lin – Ho, 2009).

Hofstede and Bond (1988) pointed out, that beside the three cultural dimension applying to both East and West (Power Distance, Individualism/Collectivism, Masculinity/Femininity), there are two dimensions which are unique to the East and West respectively: Uncertainty Avoidance and Confucian Dynamism. The latter consists of values rooted in the teachings of Confucius: searching for Virtue, as opposed to seeking the absolute Truth in uncertainty-avoiding cultures. (Hofstede & Bond, 1988) These virtues are the necessities for one to become a *junzi*: *ren* (仁, benevolence, humaneness); *yi* (义, righteousness); *li* (礼, proper rite); *zhi* (智, knowledge); *xin* (信, integrity). *Ren*, or benevolence is the most important among them, and it can be associated with several qualities an ideal person has to hold, such as caring, perseverance, self-restraint or modesty. Chan (2008) attempts to define the relationship between business ethics and profit making in the Confucian value system. He notes, that even though in some cases profit making in Confucian works is associated with inferior personality or a ruining effect on the county, they don't completely disparage business activity. Confucian thinkers argue that one should strive for human virtues (benevolence, righteousness, humanity, development of personality) instead of their wealth. However, this should not be interpreted as a necessity for complete cease of business activities, it rather suggests that one should find the balance in striving for profit and human virtue. The social harmony is a result of respecting social hierarchy which, according to the Confucian teaching, consists of five relationships and is described by ten morals (Kósa, 2013). Two of these relationships are inside the family, while the remaining are related to society, and all of them describe connections between superiors and subordinates: father's endearment, son's filial devotion, elder brother's gentleness, younger brother's respect, husband's fidelity, wife's compliance, senior's benevolence, youth's submission, ruler's kindness, and subordinate's loyalty (Child – Warner, 2003). As Hill (2006) argues, the key Confucian principles have significant impact on Chinese leadership style, interpersonal relations and individual values. The paternalistic leadership style and the regarding of the corporation as family, as well as the preservation of hierarchy and avoiding self-interest can all be traced back to the principle of *li* and to the rigid system of connections (Hill, 2006). The roots of the paternalistic leadership, which is a hierarchical leadership method common in overseas and mainland Chinese family businesses, are in the traditional Chinese family structure, which is also defined by classical Confucian values. The father – son relationship is extended to superior – subordinate relationships of the company, where the superior has to guide, protect and care to the subordinate, who, in return is expected to be loyal and deferential (Farh – Liang – Chou – Cheng, 2008).

Chan (2008) argues that Confucian values and business ethics puts greater emphasis on hierarchy, *guanxi* and social harmony. The practice of *guanxi* (interpersonal relationships or connections) is based on the Confucian principles of reciprocity and interdependence and involves mutually beneficial social interactions (Chan G. K., 2008).

Harmony in a company refers to every participant knowing their place and role while complying with order and practicing benevolence towards each other (Wang – Chee, 2011). The outcome of the research of Wong et al. (2010) also supports the idea that hierarchy and the role of *guanxi* between subordinates and supervisors has an outstanding importance in Chinese management (Wong – Wong – Wong, 2010).

Wood and Lamond (2011) examine the presence of Confucian values in business ethics and how to reach self-regulation through them. They conclude, that business leaders in China today still consider being a *junzi* as the standard of personal integrity, which can be achieved by developing self-regulation. The Confucian practices to achieve this include rites and ritual, music, self-examination and mentoring. The virtue of rite (*li*) and rituals of the organization can help define the communication between people and strengthen their loyalty and integrity to the organization. Music can play a role in building unity (e.g. by starting the day with a song together) or developing interpersonal relationships among business partners or colleges (e.g. karaoke singing). The Confucian practice of self-examination includes one's reflection and consideration of everyday events, behavior and attitudes which is also an important educational practice of developing ethical managerial skills. Employee orientation, education and career development would not be a sufficient way of mentoring in an organization, according to Confucius. It should rather include encouraging active discussions, with offering encouragement and corrections to the opinions of the participants (Wood – Lamond, 2011). A prerequisite to benevolent leadership is also the self-cultivation, and if one possesses this ability, they will be able to shape and to lead others (Yang – Peng – Lee, 2008).

## Daoism

It is important to note, as the two concepts may differ from each other, that when describing Daoism in this paper we always refer to the Daoist philosophy, as opposed to religious Daoism.

### Historical background

Traditionally, the author of the most important work of Daoism, the *Daodejing* 道德经 (Classic of the Way and Virtue), is Laozi, however, there is no clear evidence supporting this, and it is widely accepted that the *Daodejing*, which is also called *Laozi*, is a collection of works of several different authors. Laozi was working in the Archives of the imperial court during the Zhou dynasty, but seeing the power of the dynasty decline made him leave the court. According to the tradition, during his journey he wrote down his thoughts about *dao* 道 (lit. 'way') and *de* 德 ('virtue') when he met a guard at the border who asked him to leave his wisdom for them before he leaves. After leaving, there is nothing known about him (Kósa, 2013).

The *Daodejing*, and the teachings of Daoism are interpreted in multiple ways. An important interpretation is that it was intended for the ruling class of the late Zhou pe-

riod to offer suggestions for the moral and political problems of the era. In this regard, Daoism disagrees with and criticizes Confucianism, claiming that is not effective in solving the problems of society, moreover, the Confucian suggestions are harmful for the already disorganized social order. (Chan A. K., 2000) Also to the contrary of the proactivity of Confucianism, Daoism emphasizes *wu wei*, or non-action, and does not support hierarchy as much as Confucianism (Warner, 2010).

During the Qin dynasty (221-206 BC), both Confucianism and Daoism were prohibited to teach or to study. The revival of Daoism started only during the late Han dynasty, when the religious Daoism has also emerged. Parallel to Confucianism becoming an official state ideology, Laozi became the founder of a new religion, which, however, had little in common with Daoist philosophy (Fung, 1997).

The most important principle of Daoism is the *dao* 道 (the Way) itself. It refers to a natural, universal way of life, the way everything should be and the natural rules that control the universe, such as the change of seasons. It is also associated with the pursuit of the perfect order, where every controversy (such as life and death) can be resolved, and for which the sage should strive (e.g. *yin* 阴 and *yang* 阳). Even though the *dao* has overcome the concept of *yin* and *yang*, it is still somewhat closer to the *yin*, or female principle, which is characterized by softness, femininity and water-like qualities. An important quality of the sage ruler is the *wu-wei*, or non-doing, which means that the ruler identifies himself with the *dao* and instead of pursuing his own goals, allows the *dao* to be manifested through him (Kósa, 2013).

### Modern implications

An effective way of adapting Daoism to leadership is the water-metaphor. According to Laozi, the best human qualities are similar to that of water, so every people, especially leaders, have to pursue these water-like qualities, namely altruism, modesty, flexibility, transparency or honesty, and persistency. The leadership style of people should be also similar to water – gentle but persistent. When striving to achieve a goal, leaders should bear in mind how water is very soft, yet it can attack and form hard things due to its power and persistency (Lee – Han – Byron – Fan, 2008).

As it can also be seen from the above, according to Laozi, the Daoist leader is invisible (Helle, 2017). He should understand and predict the environment and help the organization adapt to it and maintain harmony. According to the findings of Jung et al (2010), the invisible leadership style is the less risk-taking, the less communicating, the less likely to articulate vision or monitor operations, relatively unlikely of authoritative behavior, but also not showing as much benevolence as the other leadership styles examined in the study (advanced, authoritative, progressing) (Jung – Chan – Chen – Chow, 2010). The importance of the concepts of the invisible leadership in modern Chinese organizations is also supported by the study of Wong et al. (2010), who find, that the trust of workers towards the management and towards the organization can-

not be clearly distinguished, as they conceive these two entities very similar (Wong – Wong – Wong, 2010).

The other important aspect of Daoism is the concept of *de* 德, which refers to a humanistic behavior, a character of virtue. According to Daoist principles, humans should be humble and modest, and shouldn't have too many desires because those who have desires, are not content, they don't know where their boundaries are. These might seem, to a certain extent, similar to Confucianism. However, Laozi has despised on Confucian values of humanity and righteousness, because these virtues mean that one has lost *dao* and *de*, where *dao* is superior.

Harmony, the balance of *yin* and *yang* is an essential part of Daoism, it should be priority for leaders to preserve this for the organization to be successful. *Yin* can be understood as the receptive, structural part of the organization while *yang* is the active, creative, functional part (Durlabhji, 2004). According to Wang and Chee (2011), the Daoist organization should be decentralized, with great autonomy to its departments and little interactions between them. The long-term policy is unchanged and aims to provide comfortable living for itself and its people, it maintains little communication towards outsiders and has a low public profile (Wang – Chee, 2011).

## Legalism

### Historical background

Legalism is both similar to and different from the other ideologies. It is similar, because its goal is to solve the social and political problems of its era, but it is also different, because instead of looking for experiences of the past, it believes that for the unprecedented problems, new, radical solutions are required. After the fall of the Zhou Dynasty, wars between the states became more and more frequent, which required a solid administrative background with the concentration of power to deal with the increasingly complex tasks. Governors started to implement the practical and effective ideas and were looking for people supporting them with such suggestions (Fung, 1997).

Legalism is also different from Daoism or Confucianism because it is not an organized philosophical school, there were no masters, teachers and disciples. Legalism is a term given by succeeding generations to a certain group of people, thinkers, advisors, who were engaged in similar activities and were dealing with related problems based on similar values. It was Han Fei who can be considered the founder of the school, he attempted to collect and improve the teachings of his predecessors according to his system. It is due to his work, that the works of numerous Legalist thinkers were preserved. At first glance, one could think that Legalism has no roots in Chinese history and cultural tradition, and after it supported the unification of China and the emergence of the Qin Dynasty (221-206 BC), it disappeared completely. In fact, there were several statesmen during the *Chunqiu* period (722-481 BC), who can be regarded as the forerunners of Legalism because of their pragmatic regulations, and, after the fall of Qin Dynasty, during the early years of Han Dynasty, Legalism contin-

ued to exist as an independent school, before its integration into Confucianism and becoming an important part of state ideology (Salát, 2013).

Because Legalism originates from a period of social and political instability and frequent battles between the concurring states, its principles are also different from those of other Chinese ideologies, they seek practical answer for the most urgent problem of the period: how to deal with the changing social structures and how to defeat the other states in order to rule the whole country. Basically, it attempts to give specific guidance on matters of leadership and organization methods, but from a totalitarian point of view (Fung, 1997). One common feature of the Legalist thinkers was the aim of their work: to defeat other states and to stabilize the position of the governor. From this aspect, Legalist principles are the exact opposite of Confucianism, Daoism or Buddhism. If war, punishment or betrayal serves the purpose of the governor, then these are more than acceptable methods to use. Legalism is very rigorous and shows no mercy to anyone, it was the first concept which placed law equally above everybody (Fu, 1996). According to their idea, there is no difference between civils and nobles, relatives and strangers, law imposes the same verdict on everyone regardless of their social status. This perception is an important legacy of Legalism. Three famous Legalist thinkers, Shen Buhai, Shen Dao and Shang Yang were the first to emphasize the importance of the concepts of *shu* (tactics), *shi* (power) and *fa* (rules or law). The three concepts were later synthesized by Han Fei. Obtaining and preserving power is one of the foundations of ruling, because it allows the ruler to impose his will on his subordinates, using different tactics. The ruler must use the power of law for the population, which imposes punishment on people harming the country and rewards them in case of being useful (Salát, 2013).

### Modern Implications

Legalism was an important ideology behind China's ruling, but usually it was combined with Confucian values, especially in times of social and political order and prosperity. In periods of turmoil and unrest, Legalism appeared more frequently than Confucianism. The theory can also be applied to modern organizations. Most importantly, as opposed to Confucianism, Legalism builds on the basic thought of all human behaviors being driven by self-interest. According to this belief, an organization following Legalist principles should establish a profit-driven culture, make sure, that every employee's duties are clear and not overlapping with each other, the self-interest of people is satisfied by clear goals, and that every person, regardless of their position, is treated fairly and rationally (Wang – Chee, 2011).

In Legalism, or institutional theory (Wang – Chee, 2011), the position of a leader is defined by the three main concepts, *shi* (power or authority), *fa* (law) and *shu* (tactics). The first to obtain is power, once a leader has power, they can start using law and (management) techniques to govern subordinates. The basis of power is position (*wei*), however, according to Hanfei its rather considered as a

prerequisite to power, but is not sufficient to maintain it, one must have talent and capability to achieve organizational goals, which also includes assigning capable people to key positions.

One of the tools to manipulate subordinates is *fa*, or rules and regulations. According to Hanfei these should be initiated by the leader, however, the origin of the law is supposed to be the *dao*, as the fundamental principle and main driving force of the universe. The task of a good leader is using this to decide about right and wrong and establish the rules accordingly. This concept also underlines the importance of institutions in society and defines the relationship between people and the state, similar to the perception of homo-economicus or classical capitalism, where people are direct subordinates of the state without family ties or other subjective factors influencing the decision making (Sárvári, 2017). The other tool of the leader to manipulate its people and achieve organizational goals is *shu*, or management technique. This includes the above mentioned assigning of capable people to key positions, as well as following the projects and controlling the results and evaluating contributions and granting rewards (Hwang, 2008). This perception of the single leader who directs his subordinates is a characteristic of individualistic societies, in collectivistic societies the common interpretation of the function of a leader is that he is solely responsible for any failures of the organization, but the successes of it are attributed to the whole collective (Dickson – Castano – Magomaeva – Den Hartog, 2012).

## Buddhism

### Historical background

Buddhism is one of the most important religions in China, and as opposed to the ideologies addressed above, it stems from outside the country and it developed its basic principles independently from Chinese history before arriving to China (Tōkei, 1996). During the first few hundred years of Buddhism in China, it received significant impacts from Chinese ideologies, mainly from Daoism. This is the reason why the terminology of Buddhism and Daoism is similar, for example they both use the concept of *youwei* (doing) and *wuwei* (non-doing). In fact, rather than claiming the values of Buddhism being misinterpreted in China, we can say that a Chinese “version” of Buddhism was created by synthesizing it with traditional Chinese ideologies (Chan W.-T., 1958). The Doctrine of the Mind and the School of Emptiness both had significant effect on the Chinese way of thinking. After the Doctrine of the Mind started to be suppressed, and from the merging of Daoism and the School of Emptiness, the Chan Buddhism came into being (Fung, 1997). As Chan Buddhism is the biggest school of the religion in China (Hamar, 2004) and the limitations of this paper do not allow to address the numerous other schools of Buddhism, in the following we always refer to Chan Buddhism.

According to the main principle of Buddhism, karma means the actions or deeds of the beings of the universe, which necessarily results in a consequence in the near

or distant future. So, the life the individual is built from the succession of the *karma* (which is the cause of everything) and the impacts caused by the *karma*. This is not only interpreted to the life of people, but also to the whole universe, therefore, an action in the life of a sentient being can also result in causes in their subsequent life. This is the cycle of successive existence (Samsara), which is the basis of the sufferings of sentient beings. According to Buddhism, the suffering stems from the ignorance of people and their desire for and insisting to living, which makes them unable to quit the eternal cycle of births and rebirths. The liberation from this cycle means realizing *nirvana* (Fung, 1997).

### Modern implications

Buddhist economics was first mentioned by Schumacher (1973) and it became a popular discipline since then. Its foundations are the values of Buddhism, and, as opposed to the homo-economicus, it describes the economic agents as (1) having only limited rationality, (2) being interdependent to each other and (3) aiming to minimize losses. The Buddhist approach distinguished two kinds of goods, those, which (1) satisfy human needs, and those, which (2) satisfy customer demand beyond basic human needs. The insisting or desire to consumption is considered as a cause of suffering, therefore Buddhism doesn't accept this consumption pattern and defines economic effectiveness as satisfying basic human needs with optimal use of resources (Kovács, 2016). The ethics of Buddhism is in synergy with the concepts of sustainability and responsibility, the study of Du et al. (2014) finds a positive effect of Buddhism on corporate environmental responsibility. The study of Nemesicsné Zsóka (2006) also supports this idea, it found, that the environmental values an organization possesses also manifest themselves in the organizational culture, which (Nemesicsné Zsóka, 2006), which suggests, that a corporation with Buddhist values could be more likely to implement a responsible environmental strategy.

The purpose of a Buddhist organization must be in line with the Buddhist idea of the meaning of life, therefore, every function of the organization (execution, communication, strategy, R-D etc.) need to have a common goal of securing the spiritual development and harmony of the employees and stakeholders of the organization. This vision implies that materialism is only acceptable until it supports the functioning of the organization, the ethics followed by the organization and its people will not accept power-seeking or self-centered behavior, as these would have an isolating effect on the individual and an overall negative effect on the organization. Hence, managers and leaders of the Buddhist organization must have developed inner space and awareness towards their employees so that they can support the realization of the well-being and harmony of the people and the organization. They must reach a great quality of presence to be able to help the people with professional and personal struggles and to encourage them to work autonomously and constantly monitor themselves according to Buddhist values (Borden – Shek-

hawát, 2010). According to Kovács (2014), implementing Buddhist elements in current management practices could be a feasible solution to today's global issues. The practice of meditation and improving mindfulness supports leaders in both adequate self-reflection and in being more effective in problem solving, decision making, avoiding mistakes and improving overall efficiency. By fostering compassion towards all sentient beings (i.e. the employees), the managerial body can transform into a group which supports sustainability on personal, organizational, social and environmental level without pursuing its own interest (Kovács, 2014).

Muyzenberg (2014) identifies three main concepts of Buddhism which can have an impact on organizational performance. The three laws of nature (1) underline that just like everything in the universe, organizations also depend on other organizations and external factors and they also have an influencing effect to the outside world (*interdependence*). Therefore, they should act accordingly and make the right choices considering how it affects others. Moreover, because everything has a *cause and effects*, and the effects will become causes of other things in the future, these form an endless chain in which each organization has to take responsibility for the changes caused by them. This is further emphasized by the law of impermanence, which points out that there is nothing which wouldn't change over time. For businesses, it is important to consider these factors while making decisions, it is essential to understand the causes of their situation and to assess the alternative solutions according to the desired effect. The concept of emptiness (2) refers to similar phenomena. In Buddhism emptiness can be translated as a universal interdependence of everything, which can be applied to sentient beings as well as organizations. For the latter it means, that they should not consider themselves independent, as it can lead to big problems if they don't recognize their dependence on human or natural resources. The dependent origination (3) refers to the 12 concepts of what happens in the mind: ignorance, mental formations, consciousness, mind-and-body, six senses, contact, sensation, craving, clinging, becoming, birth and decay-and-death. It is important to be conscious about these states of mind to avoid those leading to unethical actions (e.g. craving) (Muyzenberg, 2014).

## Summary and implications

The most important Confucian values are respecting traditions and adhering to the rules of social hierarchy, and possessing the five virtues: *ren* (仁, benevolence, humanness); *yi* (义, righteousness); *li* (礼, proper rite); *zhi* (智, knowledge); *xin* (信, integrity). However, the theorists of Daoism place *dao* and *de* above the Confucian values of *ren* (humanity) and *yi* (righteousness). The Daoist qualities of altruism, modesty, flexibility, transparency or honesty and persistency can also be measured to determine the impact of ancient culture on managerial behavior.

The five relationships and their adequate behaviors (father's endearment, son's filial devotion, elder brother's

gentleness, younger brother's respect, husband's fidelity, wife's compliance, senior's benevolence, youth's submission, ruler's kindness, and subordinate's loyalty) can be extended to a corporate level to define the relations between leaders and subordinates. Another important aspect of business where Confucianism can be applied is business ethics, where Confucian values can show directions for leaders to become more effective by the five virtues, and to find balance between striving for profit and for human virtues.

Legalism attempts to give specific guidance on matters of leadership and organization methods with outstanding importance of law and regulations. Legalism was the ideology which formulated one of the most important and longest standing concepts of China, the superiority of law and its equal placement above everybody, regardless of social status. An organization following Legalist principles should establish in a profit-driven culture, make sure that every employee's duties are clear and not overlapping with each other, the self-interest of people is satisfied by clear goals, and that every person, regardless of their position, is treated fairly and rationally. A Legalist leader must consider the three main concepts: *shi* (power or authority), *fa* (law) and *shu* (tactics).

The basic thought of Buddhism is that the suffering of sentient beings stems from the ignorance of people and their desire for and insisting to living, which makes them unable to quit the eternal cycle of births and rebirths, and that everyone should strive for having less desires to liberate themselves from this cycle and to reach *nirvana*. This principle is also an important part of Buddhist economics, which defines economic effectiveness as satisfying basic human needs with optimal use of resources and identifies desire to consumption, or insisting to consumption as a cause of suffering. A Buddhist organization needs to have a common goal of securing the spiritual development and harmony of the employees and stakeholders, and will not accept power-seeking or self-centered behavior. A Buddhist leader helps his people with professional and personal struggles, encourages them to work autonomously, and constantly monitors himself according to Buddhist values. Buddhism is also in synergy with the concepts of sustainability and responsibility, and implementing Buddhist elements in current management practices could also be a feasible solution to today's global issues, as studies have shown, Buddhism has a positive effect on corporate environmental responsibility.

According to cross-cultural management studies, the ability of cooperation of different cultures can be measured in different dimensions, such as individualism and collectivism (Ralston – Egri – Stewart – Terpstra – Yu, 1999) or avoiding and competing behavior in conflict management (Morris – Williams – Leung, 1998). To integrate the values of the ideologies and measure their impact on modern management, we assume that Confucian and Daoist values mostly influence the conflict avoiding behavior of the leader, while the impact of Legalist values is more detectable on the level of individualism and collectivism.

## Conclusion

The summary highlights that most of the ideologies address the ideal human behavior and the qualities of an ideal leader. Based on this result, we believe that the most relevant fields of business administration to associate the ideologies with are leadership and management theories, and in particular the theories of different leadership styles.

Among the Chinese ideologies, Confucianism seems to be the most, and Legalism the least researched topic in connection with Chinese management characteristics. In fact, since some concepts of Legalism gradually integrated into Confucianism, these two are often examined together. The presence of Daoism in Chinese leadership methods is the most difficult to examine, since, even though Daoism also addresses the qualities of an ideal person, its rather dealing with problems of wider perspective, such as the meaning of life or the way life should ideally be conducted.

Buddhism is different from the other ideologies in multiple aspects. First, its development cannot be associated with social and political changes in China which was the motivation for the development of the other philosophies. Its first appearance in China is also dated several centuries later than the foundation of the Chinese ideologies. However, due to its global reputation, in relation with economics, it is the most researched ideology among the ones addressed in this paper. We should note that researches on Buddhism and on Buddhist economics are not necessarily specific to China, so it is a possible area of further research to define the impact of Buddhism on Chinese management and leadership practices.

In consideration of the context of the work, the authors concluded that fruitful collaboration between European companies and the increasing number of Chinese managers in Europe (and in Hungary in particular) could be supported by more precise research data. These data should shed light on the correlation between management styles and/or managerial roles, and the deepness of a manager's knowledge on these ideological principles.

Therefore, we have defined the following directions to be basis of further research:

1. Examine the impact of the specific cultural characteristics of certain geographical sub regions of China on the interpretation of cultural heritage and its impact on management practices.
2. Examine the impact of the status of the decision maker on the involvement of their cultural beliefs and values during decision making – as Kazainé Ónodi (2010) pointed out, involving personal values into decision making is dependent on the status of the stakeholder (Kazainé Ónodi, 2010).
3. Determine the impact of policies of Mao Zedong and the creation of the PRC on the presence of classical ideologies in the modern Chinese mindset through a comparison with the Republic of China (Taiwan).
4. Establish the framework for a qualitative research on the leadership styles of Chinese managers

engaged in cross-cultural management with the European Union after the assessment of the possibilities of integrating the four ideologies into a common influential system or dealing with them separately.

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## WHAT DOES FINANCIAL INTERMEDIATION THEORY TELL US ABOUT FINTECHS?

Technology and the widespread usage of internet have gradually changed the design and delivery of several banking services. Internet and mobile banking has become the self-service delivery channel, while new information technologies have lowered the barrier of entering the finance industry.

These changes have fueled the entrance of new type of banks and financial institutions in the financial sector. The common characteristics of these new entrants that they adopted an internet-only strategy and rely on online and mobile networks to meet the customers' transaction and financial needs. The rise of new internet-based players is a global trend, reaching developed and developing economies alike. This study discusses the role of these new entrants in the financial market in the context of the financial intermediation literature. It focuses on two particular segments of the Fintech sector: online marketplace lenders and neo-banks. The main questions the study is addressing is what role Fintechs are playing in financial intermediation and whether these players are complement or compete with commercial banks. Are these players disintermediating commercial banks or do they play a rather supplementary role in the financial intermediation?

**Keywords:** FinTech, financial technology, financial intermediation, competition

The proliferation and advancement of technology, especially the use of the internet and mobile phones, is leading to fundamental changes in how companies interact with customers. Technology and the widespread usage of internet have gradually changed the design and delivery of several banking services. Internet and mobile banking has become the self-service delivery channel that allows banks to provide information and offer services to their customers with more convenience. At the same time, the ubiquity of the internet and new information technologies have lowered the barrier of entering the finance industry by reducing the initial investment and the transaction costs.

These changes have fueled the entrance of new type of financial intermediaries, Fintechs in the financial sector. The common characteristics of these new entrants that they adopted an internet-only strategy having little or even no branch system and relying on other networks – mainly internet and mobile – to meet the majority of customers' transaction and financial needs. The rise of new internet-based players is a global trend, reaching developed and developing economies alike.

The question arises whether do Fintechs have the potential to compete with, or replace them in the financial intermediation. This study aims to discuss the role of these new entrants in the financial market in the context of the financial intermediation literature. The paper focuses on two segments of the Fintech sector: online marketplace lenders and neo-banks. While online marketplace lenders aiming to disintermediate traditional banks in credit process, neo-banks providing deposit services for customers in a low-cost operating model. Both types of entrants claim to bring ambitious changes for the financial industry: to 'disrupt' long-established traditional commercial banking business models. Although these players have gained significant media attention recently, the academ-

ic literature to understand the role and operation of these players is limited.

The main question the paper is addressing is what role online marketplace lenders and neo-banks are playing in the economy from a financial intermediation theory perspective. Are these players disintermediating commercial banks or do they play a rather supplementary role in the financial intermediation?

The structure of this paper is the following: First, it introduces the foundations of the literature of financial intermediation theory and reflects on the implications of technology and Fintech innovation on the financial intermediation. The main purpose of the chapter is to get an understanding what the fundamental role of banks in the economy is. In the second section, the paper infers the key differentiating factors with respect to the function of banks versus other financial intermediaries. In the last section, the paper assesses whether the reduction of transaction costs and information asymmetries caused by the development of information technologies create opportunity for new type of financial intermediaries and business models. The question addressed by this section is whether online marketplace lenders and neo-banks are able to compete with banks and potentially replace them or are they rather complementary to the existing financial intermediation activity of traditional banks.

### The role of banks and the implication of technology

This section focuses on to summarize the core literature on the existence of financial intermediaries. It is claimed that banks exist to solve or reduce market imperfections, such as: differences in the preferences of lenders and borrowers (in terms of size, maturity, liquidity, risk), presence of transaction costs, shocks in consumers' consumption

and asymmetric information (which gives rise to both adverse selection and moral hazard). Standard textbooks explain banks as an institution that core operations consist of granting loans by deposits from the public (Rochet – Freixas, 2008; Greenbaum – Thakor, 2007). This definition refers to the core activity of commercial banks, namely the simultaneous acceptance of deposits and offering of loans, which distinguishes them from other financial intermediaries. However, banks typically conduct a broader range of activities, which can be subsumed under the following three functions: provide funding liquidity, transform assets, and ameliorate the information problem between investors and borrowers.

By introducing the core literature around these functions, the paper discussed what makes banks ‘special’ versus other entities of the economy. The section also highlights implications of technology and Fintech innovations to the role of banks in the financial intermediation.

### **Banks as liquidity providers**

The role of banks as liquidity providers has been studied by a large literature suggesting that one of the reasons for banks existence is to supply liquidity to borrowers and lenders (Diamond – Dybvig, 1986; Gorton – Pennacchi, 1990; Lewis, 1992; Rajan, 1996; Holmström – Tirole, 1998; Kashyap et al., 2002; Gatev – Strahan, 2006; Diamond, 2007; Tirole et al., 2010).

Diamond and Dybvig (1986) suggest that an important role of banks is to create liquidity, thus banks fulfill valuable activities on both sides of their balance sheets by granting loans to borrowers and providing liquidity on demand to depositors. Banks usually fulfill their liquidity provision function by granting long-term and illiquid loans to borrowers by using short-term and liquid deposits. By offering these services jointly, banks can provide liquidity services to customers and investors who are uncertain about the timing of their future consumption need (Diamond – Dybvig, 1986; Lewis, 1992). Holmström and Tirole (1998) argue that a key function of a financial intermediary is to provide liquidity in the form of loan commitments. Kashyap et al. (2002) also emphasize that banks provide liquidity through loan commitments or credit lines. Loan commitments can give a borrower the option to draw down their loan amount on demand during the period of the contract. These withdrawals are uncertain to the bank. From the perspectives of customers, loan commitments provide liquidity, like demand deposits, whenever they require liquidity unexpectedly.

Traditionally, the transformation service of creating liquidity is to be provided almost exclusively by banks, and, consequently, particularly importance has been at to preserve the ability of banks to create liquidity. Deposit insurance is considered the most effective measure to prevent runs without preventing banks from creating liquidity, and, consequently, bank policy issues should be considered in the context of deposit insurance (Diamond – Dybvig, 1986). It has been shown that deposit insurance enables banks to meet increased credit demand and syn-

chronized draw-downs during episodes of market stress (Gatev – Strahan, 2006).

Liquidity provision, especially providing credit and payment services in the area most affected by Fintech competition. This area has attracted the most investment and companies to experiment and offer new technologies and type of services. Many firms are attempting to create their proprietary payment platforms or to compete in the provision of access to established payment systems with new technology or infrastructure. At the same time, alternative lending players are offering non-bank credit to different actors of the economy.

As Aaron et al. (2017) have highlighted, an important implication of the competition from Fintech players in the liquidity provision is that banks could reduce the amount of bank deposits and their credit to the economy. However, the likelihood will depend on the rate of adoption of the alternative means of liquidity and the reaction and response of banks. The rate of adoption of newer and more advanced technologies may be delayed by the notion that new form of liquidity provision platform require acceptance by both customers and merchants, a problem that has received attention in the literature (Camere et al., 2016; Arifovic et al., 2017).

### **Banks as asset transformers**

Banks not only provide liquidity but they are doing it by transforming the different assets in their balance sheet. By granting loans and collecting deposits, banks provide the transformation of maturity, liquidity, and risk between their assets and liabilities. They simultaneously grant both borrowers with permanent or long-term capital and lenders with liquidity deposit for their asset holdings, deposit that liquid enough to be turned into cash at short notice. To manage this conflicting demand of lenders and borrowers, financial intermediaries such as banks transform the cash flow of firms into a form that lenders find desirable (Gurley – Shaw, 1960; Gorton – Pennacchi, 1990; Casu – Girardone, 2006; Tirole et al., 2010).

Financial intermediaries also address the risks associated with maturity transformation by diversifying funding sources. Risk associated with transformation of default risk can be reduced by obtaining information on potential borrowers and selecting those that have the highest repayment potentials. In this regard, Buckle and Thompson (2004) point out that banks have advantage over direct lender in obtaining useful information on potential borrowers since most of these borrowers use banks’ payment services.

Through their asset transformation activity banks also decrease transaction costs of channeling funds between borrowers and lenders, leading to a more efficient allocation of resources.

An important implication of Fintech advancement is the peer-to-peer lending models and the emergence of marketplace lending players. The core objective of these lending platforms is to channel savings from individuals and investors directly to borrowers, hence reducing the costs of intermediation (Yum et al., 2012; Balyuk, 2016).

The fourth chapter of the paper discusses this role of marketplace lending players more broadly.

### Banks as information monitories

The information monitoring and provision function of financial intermediaries is broadly discussed in the literature on information asymmetry, especially in cases when moral hazard and adverse selection problems are addressed.

In general, the role of banks can also be explained by their ‘agent’ function. As Jaffee and Russell (1976) and Stiglitz and Weiss (1981) argue banks have been the institutional solution to the problem of asymmetric information in the credit market between lenders and borrowers. Banks process information and monitor borrowers using specialized technologies. They act as delegated monitors and ensure that firms use the resources allocated to them and are able to mitigate asymmetric information resulting in adverse selection and moral hazard by screening and monitoring borrowers at reduced cost versus individual lenders (Diamond, 1984; Allen – Carletti, 2010).

Banks also have comparative advantage to other financial intermediaries (such as individual lenders or specialized firms, as lending providers) in information production because of economies of scale and scope, which reduce the cost of informational asymmetries. As a result, diversification decreases the cost of delegated monitoring to a financial intermediary and allows banks to provide monitoring service on a lower cost than monitoring done individually (Leland – Pyle, 1977; Bhattacharya – Thakor, 1993). In doing so, banks often establish long-term trust-based financial relationships with their clients, which may further mitigate the negative impacts of adverse selection and moral hazard on the resource allocation process (Mayer, 1988).

Furthermore, in the economy the quality of information is most cases difficult to collect therefore the distinction between good and bad information is not readily available Leland and Pyle (1977) argue that because of the lack of adequate information on quality, the price of information in general will reflect average quality. This will also result in a higher-than-average cost of searching for high-quality information. They argue that in the financial market these problems can be resolved by a bank which uses information to buy and hold assets in its portfolio. In this way, information becomes a private good and not transferable, thus providing an incentive to gather information.

Technology has significantly reshaping the information monitoring role of financial intermediaries. Many Fintech firms are active in information processing, exploiting the amount of information available. These business models usually exploit technology like big data and machine learning. New technologies have brought significant changes in methods to collect, present, and evaluate information. Search costs for credit information have been reduced, and the collection of credit assessment data has transformed covering much wider set of data. This has led to the potential decrease of asymmetric information problem in banking (Yan et al., 2015; He et al., 2017).

### The advantage of banks in financial intermediation versus other financial institutions

The question arises whether non-bank financial and non-financial institutions can replace banks in their role of financial intermediation. While some does not distinguish the role of banks and non-bank financial intermediaries (Allen – Santomero, 1997), others highlight the uniqueness of banks versus others (Bhattacharya – Thakor, 1993; Rajan, 1996; Kashyap et al., 2002; Aaron et al., 2017). Banks have been considered to have important advantages over other financial institutions and non-bank market participants in providing various forms of liquidity services. This section aims to summarize the key arguments why banks have certain advantage compared to other market participants in the financial intermediation.

First, banks are the sole financial intermediaries who can offer the public with liquidity and payment services both through their deposit-taking and lending business. Rajan (1996) and Kashyap et al. (2002) emphasize banks’ advantageous role in liquidity provision versus other financial intermediaries. They argue that the two core banking activities – taking in deposits on demand and originating loans – should be performed by financial institutions as both activities require an institution to come up with cash at short notice. Banks’ advantage comes from the notion that by offering these services jointly banks can resolve the liquidity management problem that arises when loan commitments are drawn down and immediacy is demanded on deposits. Both services require banks to hold balances of liquid assets to provide liquidity on demand to depositors as well as to credit line borrowers. Banks leverages synergy as they combine deposit-taking with loan commitments. They argue that banks have an advantage in providing liquidity because deposit withdrawals and loan commitment drawdowns are not highly correlated.

Second, scale and scope economics argument also requires that the two activities should be performed by the same institutions (Rajan, 1996; Walter, 2003; Aaron et al., 2017). Sources of scale and scope economies include information- technology related economies, risk transformation advantage, reputation and marketing related benefits, innovation related economies, and diversification benefits (Beck, 2001; Walter, 2003).

While new market entrants often scale up rapidly at lower cost than traditional players, exploring the advantages of scale and scope economies will determine the ability of banks to defend their competitive position from Fintech entrants (Boot, 2016). This is especially true for the risk transformation activity of banks. By pooling large funds, financial intermediaries reduce the risk of an investment to the investor. A financial intermediary needs a large fund of deposits and loans to reduce the risk of one particular single customer. By giving their customers products with stable distributions of cash-flows, financial intermediaries can reduce the costs of an investment for their customers (Allen – Santomero, 1997). The function of financial intermediaries as risk-pooling institutions is

especially important in market segments with illiquid assets or long-term maturities. In these segments, the risk and the standard deviation of the returns on investment are very high. It requires high risk premium and a large pool of funds to compensate for this risk (Beck, 2001).

Third, as highlighted earlier, scale economics argument also applies for the information monitoring activity of banks. As argued by Leland and Pyle (1977) financial intermediaries can be seen as information sharing coalitions. Diamond (1984) later highlighted that these coalitions can achieve economies of scale by claiming that intermediaries who perform the monitoring are diversifying their portfolio and are bigger which allows them to finance a large number of debtors. Considering that diversification leads to the increase of the number of bank credits, the financial intermediaries of larger sizes is generating scale economies in the monitoring process as well.

### Fintech challenge for banks – Disintermediation on both side of the balance sheet?

By the technological advancement, other financial and non-financial institutions besides banks became capable to provide financial services to the public. One may argue that the reduction of transaction costs caused by the internet have reduce the barriers to enter the market and eliminates some of the information asymmetries for financial intermediation and creates opportunity for new type of financial intermediaries and business models to emerge disintermediate some of the activities and function of traditional banks. Competition from non-bank players due to the internet is especially relevant for products which are standardized and have a low risk.

Although several Fintech players claim to challenge banks, there are two business models that gained share so far: online marketplace lenders aiming to disintermediate traditional banks in credit process and neo-banks providing deposit services for customers in a low-cost operating model.

The question, however, if these new players on the market are able to compete with banks and potentially replace or are they rather complementary to the existing financial intermediation activity of traditional banks. While the role of online marketplace lenders in the financial intermediation have been addressed by academia (see Yum et al., 2012; Kirby – Worner, 2014; Mills – McCarthy, 2014; Morse, 2015; Milne – Parboteeah, 2016; Balyuk, 2016; Hopstaken et al., 2016), neo-banks and their role and relationship with traditional financial institutions has not yet been addressed.

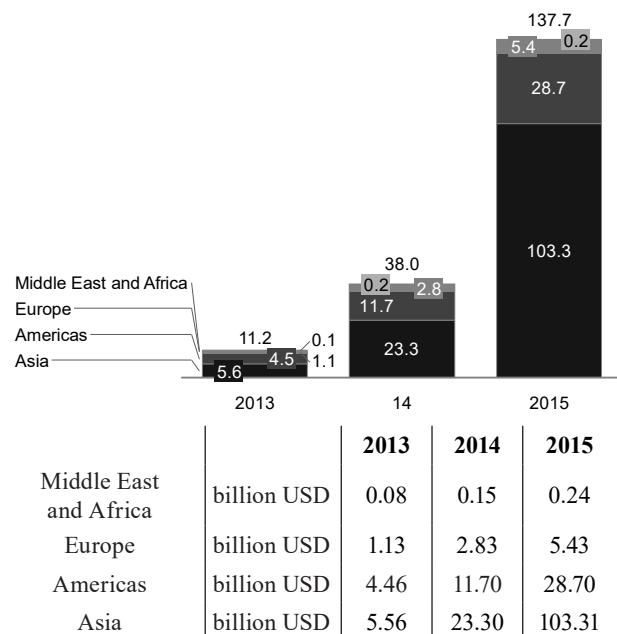
### Online marketplace lending

Marketplace lending is a newly emerging segment of the financial services industry that leverages investment capital and operates data- and technology-driven online platforms to lend either directly or indirectly to retail consumers and small businesses. The segment initially emerged as a peer-to-peer lending, with companies giving consum-

ers and individual investors the ability and the platform to find investment opportunities and provide financing to individual borrowers. As products and business models have evolved, the investor base for online marketplace lenders has expanded and today includes institutional investors, hedge fund, and financial institutions besides individual investors. In recognition of this shift in investor base, the market as a whole has evolved beyond a pure peer-to-peer model (Kirby – Worner, 2014; Mills – McCarthy, 2014).

The history of the online marketplace lending has begun in the United Kingdom with the lunch of Zopa in 2005. Since the launch of the platform, the market has experienced a significant global growth. Many platforms have been launched both in developed and developing countries, however countries show a different market evolution depending on their regulatory and market environment. (Table 1.)

Table 1  
Evolution of online marketplace lending globally



(Wardrop, et al., 2016) (Zhang, et al., 2017) (Zhang, et al., 2016)  
(Gravery, et al., 2017) (Ziegler, et al., 2017)

In Europe, United Kingdom is the most developed market in terms of online marketplace. By the end of 2015, the size of market reached USD 4.41 billion, accounting for 81% of the total European market (Zhang et al., 2016).

In the United States, it is estimated that marketplace lenders accounted for loan originations worth approximately USD 28.28 billion in 2015 with almost 16 million consumer having loans with alternative lending players in the USA (Ziegler et al., 2017; Wolf, 2017).

China's online marketplace lending sector has undergone an extremely rapid growth since the first platform gone live in 2007. The launch of PPDAl, the first online lending platform was followed by the emergence of several major platforms, including Hongling Capital, Renrendai and Lufax. The industry as a whole entered the "fast lane"

and developed rapidly, with multifold increases across all main indicators such as the number of investors, borrowers, platforms and business turnover. While there is yet no verifiable industry-wide data on the volume of online marketplace lending in China, it is estimated that marketplace lending volume reached USD 102.19 million in 2015 with 2,595 online marketplace lenders on the market (Gravery et al., 2017; Morgan Stanley, 2015).

When it comes to the online marketplace lending players, the largest lender is Lending Club operating in the United States, which has granted loans of over USD 22 billion since its launch in 2011. Lending Club is operated by note-based business model for consumers. This is the most commonly used business model in the sector. To apply for credit, credit applicants need to register their credit needs and personal information on the Lending Club website. Lending Club assesses the credit applicant's creditworthiness and determines the applicant's risk rating using its proprietary credit rating system. Credit applicants are classified to different groups on their expected repayment risk. The interest rate applied is determined based on the risk classification of the applicant. Investors of Lending Club can choose which loan they wish to invest in, based on the information provided by the applicant, the size and risk rating of the loans. While the interest payable by the credit applicant cannot be influenced by the investors, they can decide what portion of the loan they wish to finance. When the full amount of the loan is collected, a designated bank grants the loan and sells a note to Lending Club at the amount of the loan. Lending Club then resells this note to its investors. Lending Club does not take any responsibility for repaying the loan, as the obligor of the note is the borrower. In the case of a potential default, the risk is borne by the investor.

Lending Club and the other online marketplace lenders compete with traditional banks in costs and services. Thanks to full-scale operation and the regulatory arbitrage resulting from indirect lending, they can operate with operating costs 300–400 basis points lower than traditional banks. Hence even Lending Club, one of the largest and longest-established players on the market, has been in the red since its launch in 2011, which justifiably calls into question the sustainability of the business model (LendingClub, 2016; Molnar – Adam, 2017).

Online marketplace lending platforms offer a new form of intermediation by enabling the direct matching of lenders and borrowers. Albeit in early stage, online marketplace lenders have developed various business models, with one common characteristic: the platform only act an indirect intermediary between the funding source and the borrower. As a result, they do not take traditional credit risks and therefore are subject of fewer regulations than traditional financial credit provision institutions. This operating model allows them to operate with more capital efficiency and lower operating costs (Hopstaken et al., 2016).

Online marketplace lenders typically differ from each other according to the product type and their business model applied. Online marketplace lenders usually pro-

vide a limited number of product types or show prevailing attention to a specific market segment. They are usually focusing on the less complex loan products, such as personal loans (e.g., Zopa, Prosper, Lending Club), student loans (e.g., SoFi), small business lending (e.g., First Circle, Kabbage), invoice discounting (e.g., The Receivables Exchange, Market Invoice), foreign exchange transactions (e.g., Currency Cloud, Currency Fair, Transferwise), real estate financing (e.g., Lending Home, Reality Mogul).

As commonly argued, online marketplace lenders bring innovation to credit disintermediation on two fronts. One is the launch of online platforms that allow matching borrowers and lenders directly. These platforms allow individual borrowers to request a loan online, and lenders to screen loan applications and decide how much to lend. Although the business model of indirect lending has already existed before, online marketplace lenders have created a public market for consumer debt, creating more transparency around demand and supply. A second technological innovation is the use of fully-automated algorithms to price and underwrite loans to lower screening and transaction costs.

Some argue that online marketplace lending platforms can disintermediate banks in the provision of credit (Morse, 2015; Balyuk, 2016). This is stemming from the notion that these online platforms adhere some of the activities of traditional financial intermediaries. Similar to banks, they are able to act as delegated monitors and to mitigate asymmetric information on the market. They are not just monitoring information, but claim to better reduce financing frictions in the consumer credit market than banks because information streams through several lending relationships. Given the marketplace lending credit process described above, these platforms can improve information as they are leveraging information from a divers set of institutional lenders, lenders that use different proprietary credit risk screening method. As Allen and Gale (1999) highlighted, public markets can be superior to financial intermediaries in providing funding because diversity of opinion is valuable when information is inexpensive. This may apply to online marketplace lenders as well. The combined information screening of different investors may mitigate asymmetric information problem by leveraging the wisdom of the crowd especially in customer segments where signals on creditworthiness of new borrowers are very limited (Yum et al., 2012; Balyuk, 2016).

This paper argues, however, that despite their role to mitigate information, the alternative models of online marketplace lending are rather complementary to, and not competitive with the traditional credit provision of financial institutions. There are three main reasons for that. First, online marketplace lending platforms may, in some extent, disintermediate banks in credit provision, but they cannot compete with banks in the provision of liquidity services. By offering deposit, payment and lending services jointly, banks can provide liquidity services to customers who are uncertain about the timing of their future consumption need. As such, banks are pooling liquidity

that provide customers with insurance against idiosyncratic shocks that affect their consumption needs. Hence, customers can draw deposits on demand and have flexibility in their use of loan facilities. Customers are willing to accept lower rates of return on deposits higher costs of borrowing in return for these liquidity services. While some of the online marketplace lending platforms are offering liquidity services, the scope of these services is limited, mostly because they do not have access to central bank liquidity (Milne – Parboteeah, 2016).

Second, unlike banks, online marketplace lending platforms do not engage in maturity transformation. In theory, platforms do not allow investors to provide investment with a shorter maturity than the maturity of the credit refinanced. As an effect, online marketplace lenders are unable to intermediate between borrowers and investors with heterogeneous preferences. An alarming trend, however, that online marketplace lending platforms are more often allow maturity mismatch, and enable lenders to withdraw money more quickly than borrowers are required to repay loans. As Lord Adair Turner, former head of the Financial Services Authority in the United Kingdom, warned online marketplace lending may be the source of high systemic risk if the initial, simple peer-to-peer lending model is altered allowing complex product, long and complex distribution chains in which the same securities passed through multiple different links, and if securities with long underlying maturity can be re-financed by positions using short-term money market borrowing (Turner, 2016).

Finally, loans provided by the online marketplace lender platforms are rather supplementary to bank loan in the high-risk borrower segments. Researches from countries with developed online marketplace lending sector have addressed this question. In Germany De Roure et al. (2016) and Blaseg and Koetter (2015) have found that previously neglected segments of the consumer credit market, such as high-risk consumers and those applying for small credit lines, as well as businesses facing lack of credit by banks are the potential borrowers of the new online marketplace lending platforms. Chaffee and Rapp (2012) have found in the U.S. that this form of lending has brought funding to individuals “that were underserved by the credit markets even prior to the retraction of those markets in 2008”.

### Neo-banks

The proliferation of internet services and the growing adoption of online and mobile channels among customers have fueled the entrance of new type of banks in the financial sector. The common characteristics of these companies that they adopted an internet-only strategy having little or even no branch system and relying on other, usually non-physical networks – mainly internet and mobile – to meet the majority of customers’ transaction and financial service needs.

Hence, traditional banks are also embracing internet-focused strategy, some of the new intermediaries entering the financial sector, the so called neo-banks are adopting a fundamentally different operating model. Neo-banks have started to operate in developed countries, es-

pecially in United Kingdom and USA in the last couple of years. Neo-banks offer purely internet-based services for customers and putting accessibility in the heart of their service offering. They are called ‘banks’ as they synthesize the offering of traditional consumer bank products, such as current account, saving accounts, payment services and occasionally credit products. On the operations side, however, neo-banks appear to be very different from banks.

A key aspect of their operation is the absence bank license and partnership with other financial institutions. As these players have no bank license, they provide their financial products in partnership with one or several licensed financial institutions that provide back office, core banking, compliance, transaction processing, fraud and risk management along with the ‘white-label’ product. Neo-banks usually deliver only the services and not the products<sup>1</sup>, receives fee income from customers and pays subscription fee for the partner banks.

As of today, neo-banks have a narrow range of product offerings with two different models evolving: One, the solely deposit and payment model where deposits are held by one partner bank (examples include Monese and Osper in the United Kingdom or Simple in the United States). Second, some of neo-banks offer both deposit, payment and credit products. In this case, the two products are under the management of different partner institutions (who are responsible for the credit assessment and underwriting) or the credit product is issued by the neo-bank itself that owes consumer credit license. Although neo-banks are new phenomena in financial intermediation, some of the players have already altered their business model and moved from the indirect intermediation model to direct intermediation by being granted of a banking license.

The core innovation of the neo-bank business model is that it removes risk and lowers regulatory requirements as it usually does not offer credit directly to customers. The indirect product model also simplifies operations through the lack of complex IT infrastructure and bureaucratic overhead. The lower operating costs allows these businesses to pass rent benefits to customer and as an effect, allows a lower price for services. Neo-banks are a completely new type of non-bank financial intermediaries, as they are gathering deposit – although indirectly – without former banking license.

One of the first neo-bank launched in Europe was the Germany-based N26 (previously known as Number26). It was initially launched in a neo-bank business model offering current account, payment and investment management for its customers. N26 have no physical branches, customer can manage all their banking products and services on an online or mobile platform. When launched N26 has no products, but operated in partnership with other financial institutions to offer all its services. Its deposit product was offered in partnership with Wirecard Bank, a bank with full-banking license. All N26 accounts was opened and held by Wirecard Bank and was responsible for fulfill-

<sup>1</sup> One exception is Varo that offers deposit products managed by US Bancorp and gained lending.

ment of all legal and regulatory requirements. N26 partnered with Transferwise, a peer-to-peer payment provider company to allow N26's customers transferring money overseas, as well as Vaamo, a German online investment management and robo-advisory company to allow N26 customer to invest into simple investment products. In July 2016 N26 received a banking license in Germany that changed indirect business model for bank to a direct model (N26, 2017).

Despite the internet-based business models, neo-banks have not reached significant customer number yet. *Table 2.* highlights the customer numbers of some of the largest neo-banks.

Table 2  
Launch year and customer numbers of neo-banks

	Launch year	Customer number
Atom Bank	2016	17,000
Monzo	2015	200,000
N26	2015	500,000
Revolut	2015	1,000,000
Tandem	2015	100,000

The question this paper is addressing whether financial intermediation literature can explain the emergence and offer rational for the existence of these new type of non-bank financial intermediaries. Although there are some arguments that neo-banks are able to disintermediate the traditional banking model in some respects, the main argument of this paper is that neo-banks in theory are not substitutes of banks and can enhance the financial intermediation only under a few conditions.

Neo-banks aim in general is to embrace the technology-driven behavioral shifts and provide technology-driven banking services. Hence, the volume and market share that neo-banks have commanded so far in terms of customer numbers is small and as highlighted above, their offering is founded on basic services, mainly current and savings accounts. Nonetheless, their needs-oriented approach to customers, especially millennials, and their originality makes them worth consideration as potential competitors for the established banks.

First, in general, white-label intermediation model can create value and result in a more effective financial intermediation if the intermediary between the consumers and the product provider can lower transaction cost or monitor borrowers more effectively. In the neo-bank business model, neo-banks act as additional intermediaries for liquidity provisioning and monitoring between the bank and the borrowers. As asymmetric information problems in financial business requires an intermediary with a good reputation, neo-banks can improve intermediation efficiency only if they have good reputation or better expertise than traditional banks. Neo-banks value proposition is that they are able operate with an innovation agility that traditional banks are unable to provide, have a better understanding

of today's technologies and are able to focus on narrow solutions to the exact needs of the customers. Therefore, they can act as a supplement to traditional banks to ensure early reaction to the changing customer behavior driven by technological change.

Second, it can be argued that neo-banks by leveraging internet-based business mode can significantly reduce the transaction cost. It is true that the most important single feature of the internet and business models embracing online and mobile technologies is the reduction of transaction costs. This will lead to enlarged markets and to an extended division of labor. As argued by Niehans (1983) in his paper on transaction cost innovation theory, the dominant factor of financial innovation is the reduction of transaction cost, and financial innovation is often the reaction to the advancement of technology which caused the transaction costs to decline. In the recent years, the reduction of communication costs significantly helped financial intermediaries to reach new markets and customers without building up an expensive network of branches (Corrocher, 2002; Chang, 2003; Sabi, 2014). However, transaction cost reduction of financial intermediation has been also been embraced by traditional banks as well, who introduced several online and mobile banking services for customers both in the developed and developing countries. Therefore, the reduction in transaction costs as an argument alone may not justify the existence of neo-banks.

Third, the delegated monitoring argument only holds for lending, an activity that only a few neo-banks are doing, if neo-banks can monitor borrowers more effectively and the cost of monitoring is higher than the rent paid by the depository bank to the neo-bank. But neo-banks, as newly launched startups, assumed to have neither better reputation, nor better expertise than banks.

Fourth, as neo-banks usually provide only deposit products to customers, they cannot compete with traditional, full-service banks in liquidity provision and asset transformation.

Furthermore, it is important to highlight that the neo-bank business model requires the stringent oversight of regulatory bodies. Even though these players are not licensed banking player, they can affect the financial stability. It is stemming from the notion that there is moral hazard issue if information monitoring mechanism is not mutual. Since neo-banks have no capital and customer deposits are insured by another institution they can be incentivized in risk-increasing strategies.

Despite claiming to act as a competitor for banks in financial intermediation, with their current business model, neo-banks are no competition, but rather a complementation to the role of banks in financial intermediation by reducing the transaction costs to deliver deposits. Their long-term existence is only justified if they can maintain the transaction cost advantage. However, recent improvements in information technology makes the acquisition of information easier for every actor, including banks and that can question the long-term sustainability of this business model.

## Conclusion

This paper discussed the role of new entrants in the financial market in the context of the financial intermediation literature. It focused on two particular segments of the Fintech sector: online marketplace lenders and neo-banks. Both segment has experienced significant media attention on the last few years. Online marketplace lenders in the lending market and neo-banks in the deposit market claim that they can superior financial services to customers than traditional banks. Their superior value proposition is based on the argument that they are able operate with an innovation agility that traditional banks are unable to provide, have a better understanding of today's technologies and are able to laser focus on narrow solutions to the exact needs of the customers.

The paper reviewed the role of these new players of the financial market in the context of the financial intermediation. By reviewing the literature on financial intermediation theory, the three main functions of banks in the financial intermediation of banking services have been introduced: provide funding liquidity, transform assets, and ameliorate the information problem between investors and borrowers. By introducing the core literature around these functions, the paper also highlighted what makes banks 'special' versus other financial intermediaries.

This paper argued that neither the online marketplace lending model, nor the neo-bank model are competitive, but rather supplementary to traditional banks. In case of online marketplace lending, although these players might be able to better reduce financing frictions in the credit market, but they cannot compete with banks in the provision of liquidity services and in asset transformation. Neo-banks role can also be explained a complementary versus competitive market position in the context of financial intermediation theory.

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## BEING AN INVESTMENT TARGET IN CEE COUNTRY ATTRACTIVENESS AND NEAR-SHORING

The Central Eastern European (CEE) region was relatively popular from foreign direct investors' perspective after the fall of the iron curtain e.g. because of cheap labour force and reachable resources in relatively good quality (Balázs et al., 2014). Since then, significant changes occurred in the economy of the region, including the great financial crisis (2008/2009) with effects observable for a long time. This paper surveys an answer defining which CEE countries remained appealing for foreign direct investment (FDI), and introduces the notion of a special investment activity, the so called near-shoring, which is also observable in some of the countries in the region. Near-shoring means that companies – because of different reasons (e.g. high operational costs or increasing labour costs in the country where they are present after an outsourcing process) – move their operation into a third country, which is close to its home location (Stehrer et al., 2012; Stentoft, J. et al., 2015). To deliver this answer, the author has used a simplified model based on the idea of the Global Competitiveness Index from Schwab (2016). This model consists of the three main indicators (labour, macroeconomic performance and investment climate) that companies may consider before initiating an FDI activity in CEE, which can also be a near-shoring eventually. The main finding of the paper is a list of the most relevant countries regarding foreign direct investments.

**Keywords:** CEE, country attractiveness, FDI, near-shoring

In today's increasingly globalized economy, FDI by transnational corporations is considered as a major driver of the economic development of less developed economies, including the CEE (Pavlínek, 2015).

In the last decades the Central Eastern European region was very popular in terms of foreign direct investments of primary Western European firms (Gál – Juhász, 2016). The key attractive elements of the CEE countries have been among others the central location (close to Western European countries) and the cheap and qualified labour force (Schuh, 2013). For investors, the market had significant potential with tens of millions of inhabitants (Tondel, 2001). However, besides these attractive features, the CEE countries also had political and economic instability, poor physical and institutional infrastructure (Tondel, 2001) and some further repulsive characteristics, which are the results and residuum of the planned economy structure (Schuh, 2013).

This study examines the FDI attractiveness of ten countries and introduces a special activity, called near-shoring. The research provides supporting quantitative evidence for the hypothesis that CEE countries can still be attractive for investors ahead of some Western European countries. The paper uses datasets from IMF, World Bank, WEF and Economist Intelligence Unit (EIU) for ten countries: four from Western Europe and six from Eastern Europe. The article is organized as follows: the first part is a general description of the region and its FDI attractiveness in the last decade, the second presents the concept of near-shoring and its relevance to the CEE region. The third chapter describes the theoretical framework of the model with its factors and data, while the fourth discusses the main findings, where the results of the attractiveness model concentrates only on the year

2016 to show the most recent features of the countries. The final part offers some concluding remarks.

### Investing in Central and Eastern Europe

"Central and Eastern European Countries" is an OECD term for the group of countries comprising Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania (OECD, 2001). This paper focuses only on six of these countries, i.e. on the Czech Republic, Hungary, Poland, Slovakia, Slovenia and Romania, because of their common history and central location.

In the CEE region similar tendencies of foreign direct investment were observable after the transition process and in the beginning of the 2000s, because the key investment motives remained the same: Western European investors have entered the CEE region in line with their expanding strategies before the great financial crisis. The motives of the expansion were mainly the *lower production- and labour costs, skilled workers, cheap resources, site availability and suitability, low corporate taxes and availability of investment incentives* (Allen – Overy, 2011; Skanksa – JLL – Dentons – ABSL, 2016). There was a friendly and attractive climate for foreign investments at that time as well.

In general, the business model of the expanding companies to the CEE offered foreign entrants higher return on investments than their home countries, until 2008 (Schuh, 2012). However, despite higher growth rates and lower costs, investors faced several issues in CEE: there was a high risk of doing business because in these transition countries the *institutional frameworks*, the *bureaucracy* and the *court systems* were not as developed

as in Western Europe. Furthermore, the status of weak civil and political rights also prevented countries to become attractive for FDI (Pournarakis – Varsakelis, 2002). The fact, that majority of CEE countries became member of the EU and introduced EU regulations and directives consequently, had positive effects on these kinds of issues. The new regulatory systems had a risk reducing effect in general, and the EU membership is a strong guaranty for a transparent legal environment (Barry, 2002; Popescu, 2014).

In CEE countries' GDP levels there was a fallback characteristic in the year 2009, with the magnitude of the impact varied across countries (European Central Bank, 2010). A year later the economies of the region could catch up slowly and managed to improve their performance, especially in countries with large manufacturing sectors like the Czech Republic and Slovakia (Schuh, 2012). The effects of the crisis threatened the business operations and strategies of the region's companies, and the managers had to deal with them quickly to find solutions for potential changes. Only a handful of firms were planning new long-term strategy measures like M&A or changes in the capital structure. Expenditures were stopped at this time; the liquidity security and cost structure security were on the top of the short-term strategic agenda (Roland Berger Strategy Consultants, 2009). After a "stand-by" mode in the years 2008-2009, companies became interested in market entry and expansions again.

CEE countries strived to attract FDI by developing legislation, rules and procedures and the efforts were successful: from 2009 to 2010 in Hungary and in Poland FDI levels increased by 38% and 40% (Allen – Overy, 2011). *Sizeable consumer pools, skilled labour-force and resources* of the CEE countries remained unaffected by the crisis. The results of an Ernst – Young survey from 2011 with international executives showed that after Western Europe and China, CEE was the third most attractive foreign investment location and the second most attractive for investments in manufacturing. However, investors were also interested in other countries in the wider CEE, like Bulgaria, Croatia, Serbia, Ukraine and Turkey (Allen – Overy, 2011). In the last two years the economic growth in CEE was significant, investment has increased with FDI and EU funds were also playing an important role (Szalavetz, 2017).

Companies operating in the region are mostly global and European players from consumer and industrial goods (Danone, General Electric, P&G, etc.), automotive industry (Audi, Mercedes, Suzuki, Toyota, Volkswagen etc.), especially in the Czech Republic, Hungary, Poland, Slovakia and Slovenia and service providers (T-Mobile, Tesco, etc.) (Schuh, 2012). The automotive sector is one of the most important industry sectors operating in the CEE. It had a turnover of ca. EUR 150 billion and a growth of 170% between 2009 and 2014. There are more than 40 manufacturers present in the CEE, producing over 3.5 million vehicles yearly (ING, 2015).

Recently, the region developed faster than Western Europe, where the EU funds, a strong domestic demand

and low commodity prices also play a crucial role: in 2015 CEE's GDP growth (3.1%) was ca. double that of the Euro area (1.6%) (Skanksa – JLL – Dentons – ABSL, 2016). The Czech Republic, Poland, Romania and Slovakia will stay among the fastest growing economies in the EU in the next couple of years, as stated by the World Bank Group (2015).

## Near-shoring

Near-shoring companies move their offshored manufacturing activity closer to their home countries, because of shorter lead times, easier way of control, cheaper labour- and delivery costs (Stehrer et al., 2012; Stentoft, J. et al., 2015). In Europe the term is used in the context of offshoring to Central and Eastern Europe (Stehrer et al., 2012). *'Backshoring'* or *re-shoring* is used, when companies, because of different reasons (e.g. operational costs, operations management, quality problems, loss of knowledge, extended and uncertain lead times, etc.), move their previously offshored activities back to their original location (Stehrer et al., 2012). The relocation generates FDI and international trade (Sass – Hunya, 2014). Both near-shoring and re-shoring result in job creation in the receiving countries. Furthermore, near-shoring firms in general pay higher salaries, spend more on research and development (Stentoft et al., 2015). Re-shoring and near-shoring – as different types of foreign direct investment – are not only characteristic for larger firms, even small and medium enterprises (SMEs) consider moving manufacturing offshore. For the EU15 countries near-shore locations are especially in the CEE region (Bobirca, 2007). Key levers are: cost advantages relative to Western European economies, close alignment of time zones, capabilities (expertise in IT, engineering and automotive), educated skills and close cultural connectivity (Baldwin, 2016; Coleman, 2015).

Outsourcing and offshoring are major drivers in the global economy, especially in the Information Technology sector (IDG Connect, 2015). IT outsourcing is getting more important in the EU. The UK and Ireland invested a large amount of their IT budget into offshoring, the continental Europe is a "newcomer" in this sense. We can also find examples for offshoring (near-shoring) by Western European manufacturing firms into the Central Eastern European region: in 2011 the AWS Electronics Group – a leading independent electronic manufacturing solutions (EMS) provider – has announced the opening of a new purpose-built facility in Slovakia. New projects and growing orders have enabled the company to expand its operations in CEE. According to the company, costs at the Slovakian facility are comparable with countries in Asia, like China or Malaysia, which results in "back-shoring" activities by some customers from South-East Asia to CEE (AWS, 2014). But we can find further examples in the region: in Poland Sabre and Motorola have near-shored software development centres, while Comarch, Capgemini and HCL are active in the IT consulting field. In Romania IT and business process providers have bases, such Accenture, Capgemini, Genpact, Luxoft and

Wipro (Coleman, 2015). Not just IT skills, but human resources, finance, sales and customer service functions are also being outsourced through near-shoring (Coleman, 2015). “Balancing cost-savings with other benefits, such as access to skills, greater speed to market or improved control over the supply chain, are important variables to consider.” – said Mark Craddock, global business services director at Deloitte (Coleman, 2015).

For the UK the nearest and most suitable near-shoring market is CEE, namely the Baltics, Bulgaria, the Czech Republic, Poland, Slovakia, Romania and also Turkey (IDG Connect, 2015). CEE adopts global service models increasingly: 30% of the top global outsourcing companies are already in the region. According to World Bank’s ‘Ease of Doing Business’ rankings, CEE is ranked ahead of other globally competitive O-O (Outsourcing – Offshoring) regions (Baldwin, 2016). Why could CEE be attractive over other parts of the world as possible offshoring destination?

For both near- and re-shoring firms there is a wide range of investment incentives in the CEE region from the micro to the macro level:

- cheap labour costs,
- qualified workers/available skills (university degree, English-knowledge, etc.),
- good location and infrastructure/improved speed to market and control over the supply chain/better control over the intellectual property,
- low corporate tax rate,
- attractive economies of scale,
- local domestic economic growth,
- political stability,
- nearby time zones,
- cultural familiarities, etc. (IDG Connect, 2015; Coleman, 2015).

According to Coleman, as the labour cost gap between Europe and Far East is getting closer, but the demand for speed and flexibility is rising, near-shoring is one of the viable solutions for many UK firms. If some of the factors above are failing or missing, near-shoring can have disadvantages too. For example, the main challenges for Kabbee (producing software application, which company near-shored its operation from the UK to Kiev) were the lack of proficiency in English. Intensive English lesson should have been provided by the company to its Ukrainian employees (Coleman, 2015).

### Country attractiveness for foreign direct investments

The Global Competitiveness Index (GCI) measures the competitiveness of 138 countries in the world and ranks them every year according to their productivity and prosperity (Schwab, 2016).

Based on this idea I built a simplified model and tried to determine a measurement mix of attractiveness. In general, industry types and company activities define

the crucial factors of FDI, e.g. for manufacturer with high turnover on bulky products, the infrastructure and transport possibilities are important, while for service industries with research and development centers the availability of skilled labour is the key decision criteria (Allen – Overy, 2011).

According to Popescu (2014), a sound macroeconomic environment with low inflation rates results in stronger FDI inflow in CEE countries. He also states that the quality of infrastructure does not influence the FDI attractiveness capabilities of the CEE countries. A report from Allen – Overy states that the 6 most important factors for FDI investors in CEE are the *real estate costs, the taxation system in a country, the labour issues, the transportation, the access to target markets and the economic stability*. Based on the existing literature about near-shoring, for companies the most important indicators are the *skilled and low cost labour, the growth rate of a country, the quality of the infrastructure, the corporate taxation, the legal rights and government policy* (IDG Connect, 2015; Coleman, 2015). Therefore, I also included these variables in my analysis (weights are between 5% and 30%). Based on my model I would like to find the most attractive CEE countries for the investment activities of Western firms.

### Observed countries

The question often arises, how should we consider CEE: as a whole region, or as a group of individual countries? As many countries in the CEE region are culturally highly diverse (Ying et. al., p. 191), I believe that countries should be considered individually rather than as a whole region homogeneously, where also a broad strategy review should consider every possible level: the global, the regional and the national one (Ghemawat, 2005). For this reason, I analyzed the countries of the region separately, but based on the country level analysis inferences also for the whole region can be drawn. I have collected data and applied the model for the following 10 countries:

#### Observed Western European countries:

1. Austria
2. France
3. Germany
4. Italy

#### Observed CEE countries:

1. Czech Republic
2. Hungary
3. Poland
4. Romania
5. Slovakia
6. Slovenia

### Attractiveness model

A.T. Kearney, a global management consulting company, publishes the so called Global Services Location Index (GSLI) every year. The GSLI analyses the capabilities of 55 European countries for offshoring across three major categories: financial attractiveness, people skills and availability, and business environment. Information technology, business process outsourcing and voice services are in the scope, and the assessment is based on 38 metrics (A.T. Kearney, 2016).

Based on the methodology of A.T. Kearney's GSLI and the global competitiveness index, my simplified model consists of the following three main categories with equal weights:

1. labour and employment (33.33%),
2. macroeconomic performance (33.33%),
3. business and investment climate (33.33%).

Each of the categories have 5 to 9 variables with different weights. The following table presents Austria as an example, in my data tables every country has its own calculation.

### Labour and employment

The first pillar, 'Labour and employment' comprises 6 variables: total population, total labour force, total employment, unemployment rate, quality of education and manufacturing labour cost per hour. Based on the previous literature overview, for investing companies the cheap but skilled labour is crucial, therefore the total labour cost and the quality of education are the most important variables in this pillar with 30% and 20% weights in the model. Labour force, employment and unemployment rate, as the second most important variables are weighted by 15% (Table 1).

Adding up each weighted numbers and multiplying the result by the weight of the first pillar (33.33%) we get:  $[(-0.04) + (-0.10) + (-0.11) + (0.05) + (0.17) + (-0.37)] * 33.33\% = -0.13$ .

### Macroeconomic performance

The second pillar, the 'Macroeconomic performance' contains 5 variables: GDP per capita in current USD, the annual GDP growth rate and inflation rate, the current account balance and the FDI net inflow. The annual GDP growth rate and inflation rate are the most relevant variables (30%), because they can reflect the state of the development of an economy and the change in the consumer prices in the observed countries. GDP per capita (15%) is also important, because the variable in general means that higher spending power attracts more FDI. The FDI net inflow (15%) shows the presence of other investors and their invested assets. (Table 2)

### Business and investment climate

The third pillar, called 'Business and investment climate' has 8 variables: the Global Competitiveness Index (GCI), the legal rights index, the corporate taxation, the ethics and corruption, the quality of overall infrastructure, the strengths of investor protection, the transparency of government policy and the local supplier quality. Based on the

Table 1

Indicator Labour and Employment

Indicator	Weight	Source	Year										Standardized Value 2016	Result	
			2010	2011	2012	2013	2014	2015	2016						
<b>Labour and employment</b>	<b>100%</b>														<b>-0.13</b>
Population, total (millions of people)	5%	World Bank	8.36	8.39	8.43	8.48	8.54	8.63	8.75						-0.04
Labour force, total (millions of people)	15%	World Bank	4.32	4.35	4.40	4.43	4.41	4.47	4.52						-0.10
Employment, total (millions of people)	15%	IMF	3.36	3.42	3.47	3.48	3.50	3.54	3.59						-0.11
Unemployment rate (% of total labor force)	15%	IMF	4.80	4.55	4.93	5.34	5.62	5.75	6.11						0.05
Quality of education	20%	World Economic Forum (GCI)	5.07	5.00	4.91	4.95	4.83	4.79	4.91						0.17
Manufacturing labour cost (per hour, USD)	30%	The Economist Intelligence Unit	38.49	43.48	41.91	44.36	45.78	39.21	39.72						-0.37

Source: Author's creation

Table 2

Indicator Macroeconomic Performance

Indicator	Weight	Source	Year										Standardized Value 2016	Result		
			2010	2011	2012	2013	2014	2015	2016							
<b>Macroeconomic Performance</b>	<b>100%</b>														<b>-0.22</b>	
GDP per capita (current USD)	15%	World Bank	46,667.06	51,126.74	48,333.57	50,504.72	51,322.64	43,665.01	44,176.52						1.53	0.23
GDP growth (annual %)	30%	World Bank	1.93	2.81	0.75	0.12	0.64	0.98	1.48						-0.72	-0.22
Inflation, consumer prices (annual %)	30%	World Bank	1.81	3.27	2.49	2.00	1.61	0.90	0.89						-1.27	-0.38
Current account balance (% of GDP)	10%	World Bank	2.94	1.58	1.51	1.96	2.32	1.92	1.71						-0.11	-0.01
FDI, net inflows (% of GDP)	15%	World Bank	-	5.64	5.35	1.28	0.11	0.39	1.37	-	7.18				-1.85	-0.28

Source: Author's creation

Columns 'Year 2010-2016' contain original nominal data from different databases (World Bank, IMF, WEF and EIU) and the column 'Standardized value 2016' contains the standardized values of each variable for the year 2016. 'Result' contains the weighted values, e.g. in the case of the variable Population:  $5\% * (-0.73) = (-0.04)$ .

literature, the legal rights index, the corporate taxation, the quality of the infrastructure and the transparency of government policy making received the highest weights (15%) in the model (IDG Connect, 2015; Coleman, 2015). Ethics and corruption and strengths of investor protection are the second most important factors (10%).

Table 3

## Indicator Business and Climate

Indicator	Weight	Source	Year										Standardized Value 2016	Result	
			2010	2011	2012	2013	2014	2015	2016	2016	2016				
<b>Business and investment climate</b>	<b>100%</b>														<b>0.28</b>
Global Competitiveness Index (GCI)	10%	World Economic Forum (GCI)	5.09	5.14	5.22	5.15	5.16	5.12	5.22	5.11	5.22	1.11	0.11		
Legal rights index	10%	World Economic Forum (GCI)	7.00	7.00	7.00	7.00	5.00	5.00	5.00	5.00	5.00	-0.41	-0.04		
Corporate taxation	15%	KPMG	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	-0.29	-0.04		
Ethics and Corruption	15%	World Economic Forum (GCI)	5.23	4.96	4.31	4.40	4.60	4.76	4.94	1.36	0.20				
Quality of overall infrastructure	15%	World Economic Forum (GCI)	6.42	6.30	6.30	6.24	6.21	6.05	5.91	1.34	0.20				
Strength of investor protection	10%	World Economic Forum (GCI)	4.00	4.00	4.00	5.00	6.30	6.30	6.50	0.51	0.05				
Transparency of government policy making	15%	World Economic Forum (GCI)	5.28	5.03	5.11	5.05	4.77	5.00	5.27	1.43	0.21				
Local supplier quality	10%	World Economic Forum (GCI)	6.26	6.20	6.14	6.07	6.02	5.97	6.04	1.53	0.15				
			<b>Total Score</b>										<b>-0.07</b>		

Source: Author's creation

Table 4  
Results of the calculations for each country

Overall Attractiveness Ranking	
Germany	0.49
Romania	0.24
Poland	0.12
Slovenia	0.11
France	0.08
Czech Republic	-0.01
Austria	-0.07
Slovak Republic	-0.17
Italy	-0.38
Hungary	-0.39

Source: Author's creation

In the case of near-shoring, the location of the target country is very crucial. Therefore, I have included the quality of the overall infrastructure, to understand the

variable of 'Ethics and corruption' shows whether there are still observable signs of the dominance of grey economy with a high grade of corruption and unclear regulatory frameworks. (Table 3)

When we sum up the results of each pillar, we get the final score of a country, e.g. in the case of Austria the total score is the following: Labour and employment (-0.13) + Macroeconomic performance (-0.22) + Business and investment climate (+0.28) = -0.07

As described before, weights of the three main categories in the model are the same, a value of 33.33%. According to the results, the top 3 CEE performers regarding FDI attractiveness in 2016 were Romania (0.24), Poland (0.12) and Slovenia (0.11). Germany, as the best performer in labour and employment (0.22) and second best in business and investment climate (0.24), scored 0.49 in total (Table 4, Table 5).

Table 5

## Country results for each pillar

Labour and employment		Macroeconomic performance		Business & Investment Climate	
Germany	0.22	Romania	0.35	Austria	0.28
Poland	0.08	Slovak Republic	0.14	Germany	0.24
Czech Republic	0.05	Poland	0.07	France	0.16
Romania	0.03	Slovenia	0.07	Slovenia	0.05
France	0.01	Germany	0.03	Czech Republic	0.01
Slovenia	-0.01	Italy	-0.07	Poland	-0.03
Hungary	-0.02	Czech Republic	-0.08	Romania	-0.15
Italy	-0.08	France	-0.09	Hungary	-0.16
Austria	-0.13	Hungary	-0.20	Slovak Republic	-0.16
Slovak Republic	-0.15	Austria	-0.22	Italy	-0.23

Source: Author's creation

physical connectivity between the near-shored operation and the original country. The variable from the World Economic Forum measures not only the transport infrastructure but the electricity and telephony infrastructure as well. Countries in CEE as ex-Soviet countries were notorious about their black and grey economies after the transition process from planned to market economies; therefore, the variable of 'Transparency of government policy making' has a special relevance in this region. The

## Findings of the model

One reason behind the attractiveness of the CEE region can be the difference in wages: although wages have risen significantly in recent decades, they still remain lower than in Western Europe. Hourly wages in Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia are much lower than in EU-15 countries. It has been attractive for new investments and helped to further improve the com-

petitiveness of the countries. Parallel to the wage-advantage, CEE provides other benefits, such as good location and relatively high quality in general (Popescu, 2014).

Therefore, as the results of the model show, Central and Eastern Europe could still remain an attractive area for Western European businesses for new supply relations or setting up low-cost production facilities even after the financial crisis of 2008. A lot of CEE countries in the model like Romania, Poland, and Slovenia performed better than the Western European countries of France, Austria and Italy. The largest markets of the regions are Poland and Romania, but in Romania there is a weak institutional development with lack of transparency. The stable economic situation in Poland paired with the tax incentives and the close cultural affinity with the UK make the country an attractive investment target, including near-shoring. The world's biggest tech companies, like Microsoft and Google, also built outsource centres there (Coleman, 2015). Romania had outstanding growth rates recently (4.82% in 2016) and the corporate taxation rates of 16% can also be considered as the lowest rate in the region. The weak position of Slovakia can be explained by the relatively unfavorable ethics and corruption environment, suboptimal strength of investor protection, higher unemployment rate and below-peers quality of education. In the case of Hungary, the muted GDP growth dynamics of 2016, the relatively low supplier and education quality and the limited transparency of government policy making are the key drivers behind the worse-than-expected model results.

### Concluding remarks

Foreign direct investment is a significant growth engine for Central Eastern Europe. Advanced business services, IT and back-office operations are the most popular sectors for FDI in Europe, and the CEE region is highly experienced in these fields of businesses (Skanska et al., 2016; Mattoo et al., 2004). Before the great financial and economic crisis, the CEE expansion offered higher returns on the investments of foreign investors because of the cheap sources, production costs and growth opportunities. The recovery from the crisis has happened relative quickly, countries could retain their appeal regarding the above mentioned factors.

In this paper I searched for the answer, whether CEE countries could be appealing for Western European countries' potential FDI activities, including near-shoring. According to the results of my model, Romania, Poland and Slovenia could be one of the most attractive countries to invest. Labour costs, quality of education, growth- and inflation rates, legal rights, corporate taxation, infrastructure and government policy had outstanding roles in the model.

Due to the fact that some of the CEE countries were not subject of my analysis, e.g. Bulgaria, Croatia, Serbia, Ukraine or the Baltic states, further research can be conducted in this topic. In terms of near-shoring, Lithuania for example is very rich in technology talent and therefore

it could be an alternative location to invest (Coleman, 2015).

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## Appendix

Name of variable	Definition
Population, total	Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown are midyear estimates (World Bank, 2016).
Labour force, total	Total labour force comprises people ages 15 and older who meet the International Labour Organization definition of the economically active population: all people who supply labour for the production of goods and services during a specified period. It includes both the employed and the unemployed. While national practices vary in the treatment of such groups as the armed forces and seasonal or part-time workers, in general the labour force includes the armed forces, the unemployed, and first-time job-seekers, but excludes homemakers and other unpaid caregivers and workers in the informal sector (World Bank, 2016).
Employment, total	Employment encompasses all activities performed by persons to produce goods and services for the main purpose of generating an income. For measurement purposes, persons in employment are defined as comprising all those above a specified age who, during the reference period of measurement, were: (a) employed "at work", i.e. worked for at least one hour to generate income in the form of wage or salary, profit or family gain, paid in cash or in kind; or (b) employed "not at work", i.e. with a job to generate income but temporarily absent, generally for less than three months, for specific reasons (ILO, 2013).
Unemployment rate	It counts the percentage of the total labour force, which is without work but available and seeking for employment. (The unemployed comprise all persons above a specified age who during the reference period were: without work, that is, were not in paid employment or self-employment during the reference period; currently available for work, that is, were available for paid employment or self-employment during the reference period; and seeking work, that is, had taken specific steps in a specified recent period to seek paid employment or self-employment (OECD, 2003)
Quality of education	It measures secondary and tertiary enrollment rates and the quality of education as evaluated by business leaders. The extent of staff training is also taken into consideration (WEF, 2016).
Manufacturing labour costs per hour (US\$)	Average hourly compensation costs for all employees in manufacturing. Includes direct pay, bonuses, health-care and other social benefits, and labour-related taxes and subsidies (Economist Intelligence Unit, 2016).
GDP per capita	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars (World Bank, 2016).
GDP growth (annual %)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources (World Bank, 2016).
Inflation, consumer prices (annual %)	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used (World Bank, 2016)
Current account balance (% of GDP)	Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income (World Bank, 2016).
FDI, net inflows (% of GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP (World Bank, 2016).
Ease of doing business	It has been used as an important tool by policymakers of many countries over the years. Since its first publication in 2005, the Index has become widely recognized as one of the key assessments of global competitiveness as defined by the World Economic Forum (WEF, 2016).
Legal rights index	Degree of legal protection of borrowers' and lenders' rights on a 0–12 (best) scale. This index measures the degree to which collateral and bankruptcy laws protect borrowers' and lenders' rights and thus facilitate lending (WEF, 2016).
Corporate taxation	Corporate tax rates (%) by countries (KPMG, 2016)
Ethics and corruption	Rating countries between 1 and 7 (best) (WEF, 2016)
Quality of overall infrastructure	"How do you assess the general state of infrastructure (e.g., transport, communications and energy) in your country?" [1 = extremely underdeveloped; 7 = extensive and efficient]   weighted average (WEF, 2016)
Strength of investor protection	This variable is a combination of the Extent of disclosure index (transparency of transactions), the Extent of director liability index (liability for self-dealing), and the Ease of shareholder suit index (shareholders' ability to sue officers and directors for misconduct) (WEF, 2016).
Transparency of government policy making	"In your country, how easy is it for companies to obtain information about changes in government policies and regulations affecting their activities?" [1 = extremely difficult; 7 = extremely easy]   weighted average (WEF, 2016).
Local supplier quality	"In your country, how do you assess the quality of local suppliers?" [1 = extremely poor quality; 7 = extremely high quality]   weighted average (WEF, 2016).

Source: World Bank, ILO, OECD, WEF, EIU, 2017

# A CIKKEK MAGYAR NYELVŰ ÖSSZEFOGLALÓI

## Krenyácz Éva

*Vezetői információk felhasználása a kórházi döntéshozatalban*

A kutatás az egészségügyi intézmények vezetői információinak széleskörűségét és felhasználását vizsgálja a felső vezetők és középvezetők körében. A terület nemzetközi szakirodalma szerteágazó, a cikkben a kórházi működésben jelen lévő logikák, az ebből adódó szerepkonfliktus, a döntéshozatalban megjelenő gazdasági és klinikai tényezők bemutatását vállalja a szerző. Kutatása során kvalitatív módszertant alkalmazott: egyéni vezetői és szakértői interjúkkal és – a döntéstámogatók esetében – homogén fókuszcsoportos interjúkkal gyűjtött adatokat a terület megismeréséhez.

A felső vezetők jellemzően pénzügyi információkra helyezik a hangsúlyt, és ezen belül is leginkább a múltbeli adatokat vizsgálják, kevésbé jövőbe tekintően. Az osztályvezető főorvosok általában szakmai döntéseket hoznak, értékrendjükhöz a nem pénzügyi mutatók illeszkednek. Az adatok felhasználása a döntéshozatalban inkább diagnosztikus módon történik, alig néhányan alkalmaznak interaktív kontrolling rendszereket, alapvetően a stratégiai gondolkodás hiányában.

A szerző javaslatot tesz a kontrollingrendszerek használatának erősítésére, melyek közül legfontosabb az intézményi belső kommunikáció fejlesztése és a vezetők gazdasági és menedzseri ismereteinek bővítése.

## Munkácsi Noémi – Simon Judit

*Mi jellemzi a fűtéstechnikai piac lehetséges végfelhasználóit? – Fogyasztói szegmentációs kihívás a fűtéstechnikai piacon*

Az új fogyasztói minták, valamint a digitalizáció megjelenésének köszönhetően a végfelhasználók egyre aktívabb döntéshozói szerepet töltenek be a vásárlási döntési folyamatban. Az internet egyre szélesebb körben való elterjedésével a fogyasztók egyre kevésbé a szakemberek véleményre alapozva, sokkal inkább a társadalmi környezet bevonásával szerzik be a szükséges információkat, értékelnek és döntenek. Ennek következtében azok a vállalatok, akik az eddigiekben kétféle értékesítési stratégiát követtek – elsődlegesen a szakembereken keresztül értékesítenek a végfelhasználóknak – fogyasztói szegmentációs kihívás elé néznek.

A fűtéstechnikai piac esetében a fűtéstechnikai termékek gyártóinak elengedhetetlen feladata a végfelhasználói igények, szokások és a termékekkel szemben

támasztott elvárások ismerete, hiszen a szerelő szakemberek befolyásoló és közvetítő szerepe a vásárlási döntési folyamatban gyengül. Ezért e tanulmány célja – a fűtéstechnikai piac gyakorlati esetét vizsgálva – a potenciális végfelhasználók fűtéstechnikai termékek vásárlásával szemben támasztott szükségleteinek, igényeinek és elvárásainak megismerése.

A fogyasztói sajátosságok megismerése céljából a tanulmány a 2013-ban, a magyar lakosság körében, fogyasztókkal készített primer kétféle feltáró kutatás eredményeit mutatja be. A mélyinterjúk és az online kérdőíves felmérés eredményei szerint a válaszadók tudatosan tervezik a fűtéstechnikai termékek vásárlását és nem a készülék lerobbanását követően kerülnek vásárlási kényszerhelyzetbe. Ennek következtében lehetősége adódik a fűtéstechnikai termékek gyártóinak a megfelelő értékesítési és marketingeszközök használatával a fogyasztók megfelelő idejű elérésére. A végfelhasználók számos tekintetben a funkcionális és pénzügyi tényezőket tartják kiemelkedően fontosnak a fűtéstechnikai termékek esetében és megbízható, kompetens és sikeres személyiséggel azonosítanak a készülékeket.

## Vaszkun Balázs György – Koczás Sára

*Az ideológiák befolyása a kínai menedzsmentjellemzőkre és annak relevanciája a kultúrák közötti vezetői gyakorlatban Kína és az Európai Unió között – Egy fogalmi áttekintés*

A cikk célja a klasszikus ideológiák hatásának vizsgálata napjaink menedzsmentgyakorlatára a Kínai Népköztársaságban, valamint szakirodalmi áttekintés alapján a témával kapcsolatos további lehetséges kutatási irányok meghatározása. A cikk azokat a klasszikus ideológiákat veszi alapul, melyek napjainkban a legnagyobb hatással vannak a kínai társadalom és a gazdaság mindennapjaira: a konfucianizmust, a taoizmust, a legizmust és a buddhizmust. Az említett ideológiákat a mai kínai menedzsment gyakorlatával összekapcsoló szakirodalmi áttekintés rávilágít a téma elméleti relevanciájára és gyakorlati hasznosíthatóságára. Az ideológiák áttekintéséből a következő legfontosabb alapelveket határozhatjuk meg, amelyek hatással vannak a kínai üzleti élet mindennapjaira: a hierarchia és a társadalmi kapcsolatok fontossága és tisztelete, a harmóniára való törekvés, amely a konfucianizmusban és a taoizmusban eltérő módon jelenik meg, valamint a szabályok és törvények tisztelete, amely pedig a legizmusban mutat a többi vizsgált ideológiától eltérő tulajdonságokat.

**Molnár Júlia**

*Fintech-ek szerepe a pénzügyi közvetítő rendszerről szóló elméletek tükrében*

A technológiai fejlődés, az internet és a mobiltechnológiák terjedése alapjaiban változtatta meg a vállaltok és a fogyasztók kapcsolatát és interakcióit. Az internet és digitális technológiák elterjedése a pénzügyi szektorban is jelentős változásokat hozott a szolgáltatás- és termékkiszolgálás területén. A mobil és webes csatornák új, önállóan használt csatornává nőttek ki magukat, lehetővé téve, hogy a bankok ezeken a csatornákon keresztül gyorsan és kényelmesen közvetítsenek információkat vagy nyújtsanak szolgáltatásokat a felhasználóknak. Ezzel párhuzamosan az internet és az új információtechnológiák hatására jelentősen csökkentek a banki iparág belépési küszöbét, valamint a digitális üzleti modellek vállalkozásindítási és működési költségeit.

Ezek a változások hozzájárultak ahhoz, hogy a pénzügyi szektorban jelentős számban jelentek meg új típusú pénzügyi közvetítők. Közös jellemzője ezeknek az új típusú pénzügyi közvetítőknek, hogy teljesen internetalapú működési modellel jelentek meg, a fizikai bankfiókokat teljesen elhagyva, csupán digitális – főleg internet- és mobil- – csatornákon keresztül szolgálják ki az ügyfelek tranzakciós és egyéb pénzügyi és befektetési szolgáltatási igényeit. Az új, digitális szereplők megjelenése globális trend, mely mind a fejlett, mind a fejlődő piacokon egyaránt megfigyelhető. Jelen tanulmány a pénzügyi közvetítő rendszer irodalmán keresztül vizsgálja az új szereplők pi-

acon betöltött szerepét. Ezen belül is két szereplőt elemez részletesebben: az online piaci hitelezőket és a neo-bankokat. A kérdés, amire a tanulmány választ keres, hogy vajon ezek az újonnan megjelenő digitális üzleti modellel operáló szereplők kiegészítői vagy versenytársai a pénzügyi közvetítői rendszer tradicionális szereplőinek?

**Lőrincz Noémi**

*Befektetési célpontként a közép-kelet-európai régióban – Vonzerő és near-shoring*

Az elmúlt évtizedek során a közép-kelet-európai (CEE) régió meglehetősen népszerűnek számított a külföldi befektetők szemében, elsősorban az olcsó, képzett és viszonylag könnyen elérhető munkaerő-kínálat következményeként.

Jelen tanulmány arra a kérdésre igyekszik választ találni, hogy a CEE-országok milyen mértékben tudták megőrizni külföldi közvetlen tőke-vonzó képességüket. Ehhez egy egyszerűsített modellt használ fel a szerző, melynek a Schwab-féle Global Competitiveness Index (GCI) az alapja.

Továbbá bemutatja a külföldi közvetlen tőkebefektetések egy bizonyos típusának, a near-shoringnak a fogalmát, amely az utóbbi években a régió egyes országaiban is megfigyelhető jelenség. A near-shoring tevékenység során a vállalatok különböző okokra hivatkozva (pl. magas operációs költségek, növekvő munkaerő-költségek stb.) működésüket egy, a vállalat székhelyéhez közelebbi országba telepítik át.

A tanulmány eredményét a tőkebefektetés szempontjából releváns országok listája képezi.

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