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LÁSZLÓ HORVÁTH

THE HIGHER EDUCATION INSTITUTION AS LEARNING ORGANIZATION

THESES OF THE DOCTORAL (PHD) DISSERTATION

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1. Problem statement

European Higher Education Institutions (HEIs) were established around the 11-12th century and operated continuously with recognizable structures and functions ever since. Are these special organizations so resilient or they can adapt to different challenges? This is the main question that guides the theoretical and empirical research of this doctoral dissertation.

The main aim of the study is to understand and describe the learning organizational behaviour of Hungarian HEIs. In order to do this, I have formulated four broad research questions that guide the theoretical and empirical research. In the premises of the first research question I examine whether or not the Dimensions of the Learning Organisation Questionnaire (DLOQ), developed by Marsick and Watkins (2003), can be applied in the Hungarian Higher Education setting, and the connections that can be identified regarding the Higher Education specific model of the learning organisation (Örtenblad, 2015), which means the concept of the listening organisation (how the organization considers the suggestions from staff and students and how managers can respond to these) and the learning bureaucracy (intelligent, supporting bureaucratic operation) are explored. In the premises of the second research question, I examine the learning organisational behaviour from different organisational aspects, organizational models and organizational cultures. The third research question regards the characteristics of the learning organizational behaviour and other organizational aspects from the perspectives of different stakeholders. At last, the fourth research question examines the connections between learning organisational behaviour and different aspects of effectiveness (organizational effectiveness, employee well-being, societal effectiveness).

I will introduce the main theoretical framework of the research in the next chapter.

2. Theoretical frameworks of the research

2.1 Organizational theoretical background

To analyse the problem from an organizational point of view (Szolár, 2009) I've used the explanatory backgrounds of the contingency-theory, the theory of neo-institutionalism and organizational education. In the context of the **contingency-theory** (Van de Ven, Ganco, & Hinings, 2013) during the theoretical exploration of the field, I took into consideration those transformational (patterns of organizational behaviour that persist in the long-term) and transactional (dynamics that influence the everyday work of organisations and organisational members) factors that can influence organizational behaviour. Regarding the neo-institutionalist theory, I have considered the striving for societal legitimacy as organisational behaviour, which could differentiate between adaptive learning processes. Furthermore, the bureaucratic operation and the homogenisation of institutions through isomorphic processes are also an important

viewpoint of my approach (DiMaggio & Powell, 1983). From an organizational education perspective the organizational learning, considered on a meso-level, is at the forefront of the dissertation by considering the environmental (macro-level) factors and the characteristics of individual learning (micro-level) (Göhlich, Weber, & Schröer, 2016).

From the above mentioned theoretical perspectives, I have examined the **historical and societal context** (Rüegg, 1992), the **current global trends** (Halász, 2009; Sporn, 2001), **national and international policy aspects** (European Commission/EACEA/Eurydice, 2018) of the Higher Education system. Regarding the national context, I have specifically focused on the issues of **governance** (Rónay & Kováts, 2018) and **autonomy** (EUA, 2017). From the organisational perspective, the unique characteristics of the **organisational structure** (Kováts, 2009; Mintzberg, 1983) and **organisational culture** (Chatman & O'Reilly, 2016; Schein, 2010; Smerek, 2010) of HEIs and the characteristics of the **academic profession** (European Commission/EACEA/Eurydice, 2017; Fumasoli & Stensaker, 2013; Teichler & Höhle, 2013) were at the focus of the dissertation. Furthermore, I have reviewed the issues of performance and effectiveness (Fábri, 2016; Gunn, 2018; OFI, 2016).

2.2.1 Unique understanding of HEIs as organisations

Closing the chapter, I describe in Table 1 those unique organisational understandings of HEIs that are important from the organisational studies point of view, citing the work of Jensen (2010).

Table 1: Summary of HEI-specific organisational understandings

Period	Main focus	Main authors	Critique of development
The '60s	- **University as a collegial institution** - Continuous consensus-seeking decision-making process based on an endless discussion - A self-regulating academic community without the need for outside management or hierarchical bureaucracy	- Goodman (1962) The Community of Scholars - Millett (1962): The Academic Community	- Too idyllic
The first half of the '70s	- **University as a political arena** - Competition of different fractions for scarce resources - External factors (position, external funding) play pivotal roles in conflict-resolution	- Baldridge (1971): Power and Conflict in the University	- Too rational
The second half of the '70s	- **„Anarchia-models"** - Lack of coordination - lack of congruence between structure and processes - Different methods, goals and missions at the different parts of the organisation - „Organised anarchy" - Symbolic management	- Weick (1976): loosely coupled systems - Cohen és March (1986): organised anarchy, garbage can model of decision making	- Criticised but served as a basis for the next period
The '80s	- Strengthened the viewpoints of organised anarchy	- Birnbaum (1988): How Colleges Work.	- Still important as of today

	- Cybernetic version: self-regulating institutions - **Symbolic management**	The Cybernetics of Academic Organization and Leadership	
The '90s	- Changes from the side of management theories, incremental change - The rising importance of external factors (decreasing public funding, increasing number of students, globalisation, commercialisation) - Strategic management, benchmarking, cost-reduction, quality management - **Entrepreneurial University**	- Clark (1998): Creating Entrepreneurial Universities - Etzkowitz és Leydesdorff (1997): Universities and the Global Knowledge Economy. A Triple-Helix of University-Industry-Government relations.	- The normative aspect of the literature is rather contributing to the change than describing it

(Horváth, 2018, p. 189, based on Jensen (2010))

Regarding the main question of the research, namely how were HEIs able to sustain themselves with the same structures and functions for so long and how can they operate efficiently in the current fast-changing environment that provides diverse challenges, Pinheiro and Young (2017) proposed to possible strategies: HEIs as **strategic actors** (increased its formalisation and rationalized its operation through the processes of managerialism and accountability) and **resilient actors** (defending itself from external impacts but still able to change by maintaining its basic essence). Resilience is determined by three things: slack, decoupling and requisite variety.

From the above-mentioned description, the concept of the learning organisation – well known from the literature -, emerges that is the central concept off the dissertation. In the next chapter, I will describe the concept in details.

2.2 The HEI as learning organisation

2.2.1 The general understanding of the concept of the learning organisation

The concept of the **learning organisation** arose from the book of Peter Senge: The fifth discipline. Adžić (2018) criticized the concept as being a management fad, although doesn't provide the basic indicators that can show the management fad nature of a concept. Furthermore, by analysing the literature and citation patterns and disciplinary diffusion of the concept, a growing scientific background can be seen. In a previous research project (Anka et al., 2015) through the content analysis of 63 different definitions, the three main process of the learning organisation are **knowledge management** (Bencsik, 2015), **organisational learning** (Levitt & March, 2005) and **change management** (Farkas, 2013).

In the frameworks of the dissertation, I consider the previously introduced concepts as defining practices (knowledge management) and purposefully exploited processes (organisational learning) of the learning organisational behaviour. This is in accordance with Vera et al. (2011) who considered knowledge management from the point of organisational learning as well.

Örtenblad (2015) has a similar integrative approach, who in his literature review identified four building blocks for the typology of the learning organisation:

- **learning at work:** the learning of staff during work based on Watkins and Marsick (1993)
- **organisational learning**: understanding of learning on different levels (single loop, double loop and deuteron learning based on Argyris and Schön (1978)) and the storing of knowledge in organisational memory (Garvin, 1993)
- **climate for learning:** the organisation provides such a climate, that makes the learning process easy and natural, provides time and space for experimentation, reflection and considers mistakes as learning opportunities (Pedler, Burgoyne, & Boydell, 1991)
- **learning structure**: an organisation that is flexible, decentralized and organic, has a team-like structure and makes it possible for staff to have their own decision, be able to serve the continuously changing needs of consumers; an organisation that needs to learn continuously and to be redundant in order to remain flexible. Every staff member is a specialist, they know how to carry out each other's task which makes it possible to substitute each other. Every member has a holistic view of the organisation, thanks to this, everybody knows where to provide help or from whom they should ask for support (Senge, 1990; Watkins & Marsick, 1993).

Research regarding the connection of learning organisational behaviour and effectiveness identified definite positive relations regarding financial indicators (Ellinger, Ellinger, Yang, & Howton, 2002; López, Peón, & Ordás, 2005) and employee satisfaction (Chang, 2007).

Summarising the previously mentioned definitions and elements I formulated the following working definition for a broad but general understanding of the learning organisation. **The learning organisation is a complex adaptive system, a form of organisational behaviour that, by considering the workplace environment as learning environment, is able to change its organisational culture and structure in a way that, through its effective knowledge management, organizational learning and change management processes, it will be able to, by increasing its legitimacy and competitiveness in an intelligent way, adapt to the dynamically changing environment and reach the goals that are important for its members.**

2.2.2 The higher education specific understanding of the concept of learning organisation

Örtenblad and Koris (2014) summarize 73 articles regarding HEIs as learning organisations from 1988 to 2012. I have supplemented this review with 30 more articles from the given period and added 39 new articles from 2012 to 2018. One of the main conclusion of the literature review is that researches regarding the topic are not building on previous attempts, the research body is not cumulative (nearly half of the examined studies fails to cite the other studies on the list).

Regarding the value focus of the articles, the perspectives of employee well-being and societal effectiveness are lacking attention. Regarding the typology of the learning organisation, research about learning structure and learning at work is scarcer and only a fifth of the examined literature deals with all of the four perspectives.

Stemming from the content analysis of research articles regarding HEIs as learning organisations, the following main thematic areas emerged from the literature:

- learning-centred leadership

- involvement and empowerment of students

- involvement and empowerment of every staff member

- flattening of the organisational structure

- open, inclusive climate

- continuous professional development of staff, workplace learning

- performance management and incentives

- internal cooperation, teamwork

- external cooperation, third mission

Regarding the suggestions of Örtenblad and Koris (2014), HEIs should become too flexible, because if they would be too organic in order to serve every need than they wouldn't be able to provide mass education. Therefore the authors suggest a modified version for the general learning organisation typology in a Higher Education context. First, instead of decreasing bureaucracy they suggest more, but better organized, intelligent (learning) bureaucracy which is able to solve problems in a customer-oriented way. If not fully consumer-oriented, but still, a more empathetic operation is needed from HEIs which is coined by the authors as the "listening organisation", which is an organisation that considers the viewpoints of different stakeholders and acts upon them (Figure 1).
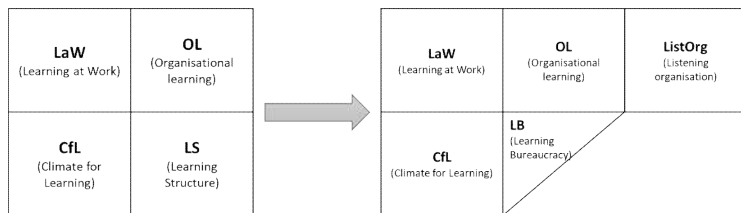

Figure 1: The modified typology of the learning organisation for HEIs suggested by Örtenblad and Koris (2014, p. 205)

Nearly half of the analysed literature regarding the topic was only theoretical pieces (46%) which didn't contain any empirical research. Regarding empirical research, the most common measurement tool was the Dimensions of the Learning Organisation Questionnaire (DLOQ) developed by Marsick and Watkins (2003) which was successfully adapted in several national and industrial context. The DLOQ, coming from a human resources development and adult learning perspective, considers and focuses on, besides formal training, workplace and work-based learning and the climate and culture that supports it. The tool considers the level of the individual, the group and the organisation as well and consists of 7 dimensions: creating continuous opportunities for learning, promoting inquiry and dialogue, encouraging collaboration and team learning, empowering people toward a collective vision, establishing systems to capture and share learning, connecting the organisation to its environment and providing strategic leadership for learning. One of the main aims of the dissertation is the adaptation of the DLOQ in a Hungarian Higher Education context. Considering this, I will explain in detail the research methodology applied in this study next.

3. Research methods

3.1 Research questions, hypotheses, methods and tools

During the literature review, it became clear that an interdisciplinary viewpoint and a complex research methodology is needed in order to fully understand the problem. I have divided the whole research into four segments (Figure 2).
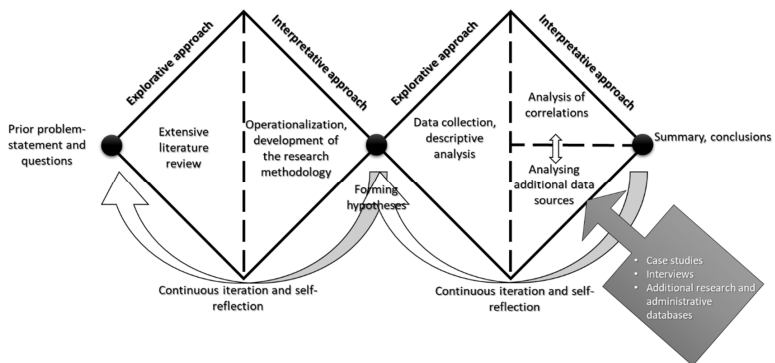
Figure 2: The process of the research based on the double-diamond model[1]

As one of the main aims of the research is the empirical testing of a theoretical model, therefore, the main data source is a survey, which tries to gather as broad as possible descriptive information

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[1] The double-diamond model was developed for design thinking by the Design Council. Source: https://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond

regarding Hungarian Higher Education in connection to the problem statement of the research. It must be considered that this research is conducted in the premises of a doctoral education programme and that the researcher as a doctoral student is part of the Higher Education system for many years (as a member of the population). Another unique aspect of the research that I ask respondents to provide information regarding their workplace, ways of working, essentially requiring them to be self-reflective.

The empirical framework of the research consists of the research questions and hypotheses that were developed based on the literature review. The focus of the problem is the organizational explanatory factors of the legitimacy-based survival, stemming from societal embeddedness, of HEIs. Primarily I employ a quantitative strategy through an online survey, which consists of the following blocks:

- general questions
- learning organisational behaviour (Marsick & Watkins, 2003)
- listening organisation (Bryson, 2004; Van Dyne & LePine, 1998)
- learning bureaucracy (Hoy & Sweetland, 2001)
- organisational culture (Cameron & Quinn, 2011)
- job characteristics, motivation and satisfaction (Hackman & Oldham, 1975)
- societal effectiveness (Latif, 2018)

Table 2 summarizes the research questions and accompanying hypotheses, the connections to the survey and the applied statistical tests.

Table 2: The summary of research questions, hypotheses, connections to the survey and applied statistical tests

Research Question I.: How can Hungarian HEIs be described from the learning organisational behaviour point of view?	
Hypothesis I/1.	The DLOQ developed by Marsick and Watkins (2003) proves to be a valid and reliable tool in the Hungarian Higher Education context.
Data source:	Survey 2nd block (DLOQ)
Applied statistical tests regarding H I/1:	• Descriptive statistics • Cronbach-alpha and inter-item correlation • Confirmative Factor Analysis (AMOS): 21 items and 43 items 7 factors and 1-factor models • By the random halving of the database conducting Explanatory Factor Analysis on one half (Alpha factoring, Promax rotation) than the testing of the model by Confirmative Factor Analysis on the other half of the database.
Hypothesis I/2.	Considering the theoretical model of Örtenblad (2015), learning organisational characteristics are positively correlated with the positive aspects of learning bureaucracy (supporting formalisation and supporting centralization).
Data source:	Survey Q23 (learning bureaucracy): supporting/hindering formalisation, supporting/hindering centralization
Hypothesis I/3.	Considering the theoretical model of Örtenblad (2015), learning organisational characteristics are positively correlated with the listening organisation scales (managerial responsiveness, employee voice).
Datasource:	Survey Q21-22 (listening organisation): employee voice, managerial responsiveness
Applied statistical tests regarding H I/2-3:	• Descriptive statistics • Cronbach-alpha and inter-item correlation (on the new scales) • Correlation by the mean of learning organisational behaviour • Linear regression on the mean of learning organisational behaviour

Research Question II.: What characterises organisational structure and culture regarding learning organisational behaviour?	
Hypothesis II/1.	HEIs, regarding their structural characteristics (operator, location, organisational cluster) and regarding the individual respondents own grouping variables (gender, work-tenure, the definition of the narrow organisational unit) shows different characteristics regarding learning organisational behaviour.
Datasource:	Survey 1. and 2. block (general questions and DLOQ)
Hypothesis II/2.	HEIs shows different characteristic regarding learning organisational behaviour considering Cameron and Quinn's (2011) competing values framework.
Data source:	Survey 2. and 3. block (DLOQ and competing values framework)
Hypothesis II/3.	Regarding the possible organisational models identified based on the typology of Mintzberg (professional bureaucracy, operative adhocracy, divisional organisation), HEIs show different learning organisational behaviour.
Data source:	Survey 2. block (DLOQ) and organizational background data (organisational model)
Applied statistical tests regarding H II/1-3:	• Descriptive statistics • Cronbach-alpha and inter-item correlation (on the new scales) • Comparison of group means (t-test, ANOVA or their non-parametric counterpart) • Calculating the effect size of the differences of group means
Research Question III.: How can Hungarian HEIs be characterized by different stakeholder's points of view? (academic vs. administrative staff; manager vs. employee; members of different disciplinary cultures)	
Hypothesis III/1.	The analysed groups perceive the learning organisational behaviour of HEIs differently.
Data source:	Survey 2. block (DLOQ) and grouping variables
Hypothesis III/2.	The analysed groups perceive the characteristics of HEIs regarding learning bureaucracy and listening organisation differently.
Data source:	Survey 4. block (listening organisation, learning bureaucracy) and grouping variables
Hypothesis III/3.	The analysed groups perceive the job characteristics and motivation differently.
Data source:	Survey 5. block (job characteristics) and grouping variables
Applied statistical tests regarding H III/1-3:	• Descriptive statistics • Cronbach-alfa és inter-item korreláció (on the new scales) • Comparison of group means (t-test, ANOVA or their non-parametric counterpart) • Calculating the effect size of the differences of group means
Hypothesis III/4.	Respondents coming from different organisational and disciplinary cultures have a difference regarding the organisational characteristics of HEIs.
Data source:	Survey 2. block (DLOQ), 3. block (competing values framework) and 5. block (job characteristics)
Applied statistical tests regarding H III/4:	• Descriptive statistics • Comparison of group means (t-test, ANOVA or their non-parametric counterpart) • Calculating the effect size of the differences of group means • Multivariate general linear model (to explore the interaction between organisational and disciplinary culture)
Research Question IV.: What characterises the relations between HEIs' learning organisational behaviour and their effectiveness understood from different dimensions?	
Hypothesis IV/1.	I hypothesize a positive relationship between learning organisational behaviour and organisational effectiveness of HEIs.
Data source:	Survey 2. block (DLOQ) and indicators from external databases
Hypothesis IV/2.	I hypothesize a positive relationship between learning organisational behaviour of HEIs and employee well-being.
Data source:	Survey 2. block (DLOQ) and 5. block (job characteristics)
Hypothesis IV/3.	I hypothesize a positive relationship between learning organisational behaviour of HEIs and their societal effectiveness.
Data source:	Survey 2. block (DLOQ) and Q24 (social responsibility)
Hypothesis IV/4.	I hypothesize a positive relationship between learning organisational behaviour and innovation activities of HEIs.
Data source:	Survey 2. block and indicators from external databases
Applied statistical tests regarding H IV/1-4:	• Descriptive statistics • Cronbach-alfa és inter-item korreláció (on the new scales) • Comparison of group means (t-test, ANOVA or their non-parametric counterpart) • Calculating the effect size of the differences of group means • Linear regression, univariate linear model, binary logistic regression for exploring connections

In order to deepen the uncovered relationships I have included other empirical databases and analysed interviews and case studies from other research projects which I was involved in. These research projects focused on innovation, cross-organisational and cross-disciplinary cooperations, teaching mobility, knowledge- and curriculum-management:

- additional databases from other empirical research projects are connected to this research
- administrative databases and other sources (Higher Education Information System, HVG Ranking, adminisztratív adatbázisok és egyéb források felhasználása (Felsőoktatási Információs Rendszer, HVG Felsőoktatási Rangsor, National Intellectual Property Office)
- secondary analysis of case studies and interviews

After presenting the framework of the research, I will describe characteristics of the population, sampling method and the characteristics of the sample, regarding its descriptive statistics, which was provided through the data collection and data cleaning.

3.2 Population, sampling and sample

By examining the research questions, the dissertation focuses on Hungarian HIEs, faculties and academic and administrative staff who works there. Regarding the statistics of the Education Authority, the main numbers of the institutional and individual population can be seen in Table 3.

Table 3: The main number of the population (HEIs and staff)

			All	**Public**	**Church**	**Private**
	Number of HEIs		64	28	22	12
	Number of Faculties		187	n.a.	n.a.	n.a.
	All	**Working in full-time**	**Female**	**Public**	**Church**	**Private**
Teaching staff	23 110	13 927	6 323	12 368	989	570
Researchers	2 074	1 550	789	1 932	70	72
Administrative staff	68 435[2]	64 644	n.a.	66 320	1 099	1 016

Notes: In the case of academics, the number of female staff members and staff members who are working in public, church and private HEIs are compared to the number of full-time staff, while in the case of researchers and administrative staff members, these categories denote the number of all staff.

In order to reach the target population, we created a contact list with the help of my colleague and students. We searched the webpage of HEIs and gathered the publicly available e-mail addresses off academics and administrative staff. Besides the e-mail address, we noted the name of the HEIs and Faculty (or we noted if the actual staff member belongs to the central administration). Altogether we gathered a contact list of 21 141 address, which doesn't cover the whole

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[2] This number is the double of the previous year. There maybe something wrong with this data. I have asked for clarification from the Educational Authority but as of today I haven't received an answer.

population. This could be explained by the occasionally unavailable or outdated data, but the contact list contains email addresses from every HEIs.

The main numbers regarding the collected sample are shown in Table 4.

Table 4: The main numbers of the sample (HEIs and staff)

		All	**Public**	**Church**	**Private**
Number of HEIs		48	24	17	7
Number of Faculties		160	n.a.	n.a.	n.a.
	All	**Working in full-time**	**Female**	**Public**	**Church**	**Private**
Teaching staff	1 095	879	491	1002	72	20
Researchers	99	76	51	97	2	0
Administrative staff	424	397	326	390	29	4

I have tried to create a representative sample regarding the operator and location of HEIs and the disciplinary orientation of academics[3]. The gathered sample deviates from the ratio of the population regarding these factors only to a negligible extent. Public HEIs from the Central-Hungarian Region were overrepresented, while public HEIs from West-Hungary were underrepresented by a small extent. Regarding disciplinary orientation academics with social and natural sciences background were overrepresented minimally. Therefore I have created a weighting variable on the database.

From now on I will present the results of the study based on the previously explained research framework.

4. Results

4.1 Testing the model of the learning organisational behaviour

The **first research question** aimed to validate the DLOQ in a Hungarian Higher Education context. The **first hypothesis (I/1.)** can be answered by assessing the goodness-of-fit measures of the model. The results of the Confirmative Factor Analysis shows that the 21 item version (with 7 factors) of the DLOQ shows adequate goodness-of-fit indexes in the Hungarian Higher Education sample (N = 1672; $\chi^2(168) = 1379,314$; $p < 0,001$; $\chi^2/df = 8,21$; NFI = 0,943; CFI = 0,95; TLI = 0,931; RMSEA = 0,066). Furthermore the seven factors shows acceptable Cronbach-alpha values ($\alpha = 0,726 – 0,952$).

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[3] Regarding this last element I didn't have any information regarding the population. Therefore, based on the disciplinary orientation of the given HEI and Faculty and the taught educational programmes, we have used expert classification with the help of my colleague to estimate the proportion of academics of different disciplines in the population.

Regarding the descriptive analysis of Hungarian HEIs, it can be concluded that a low-level of learning organisational behaviour characterises the sample in every dimension (compared to the results from the public education sample). Furthermore, I have aggregated the indicators of learning organisational behaviour on the faculty level (in the case of HEIs which doesn't have faculties, the HEI in itself is considered). I have examined in every organisational unit that in how many dimensions they reached an acceptable level (above a mean of 4 on a 6-point scale), complemented by a statistics of the overall mean of the learning organisational behaviour. These can be seen in Figure 3.
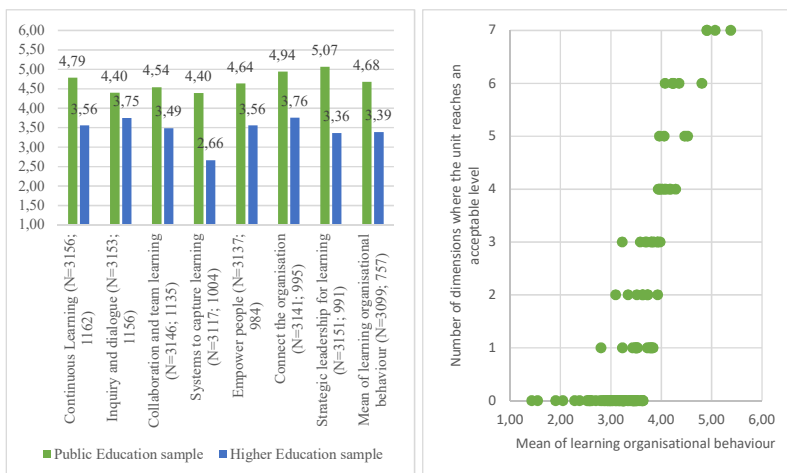

Figure 3: Characteristics of learning organisational behaviour of Hungarian HEIs
Notes: The figure on the left provides the means for DLOQ dimensions for the public education sample and the unweighted higher education sample. The figure on the right shows the progress of faculties on the realization of learning organisational behaviour.

Summarizing the previous elements it can be stated that Hungarian HEis are at the beginning of the realization of the dimensions of learning organisational behaviour regarding their operation.

The **second and third hypotheses (I/2-3.)** examined the higher education adapted model of the learning organisation by Örtenblad (2015) examining the concept of the learning bureaucracy and the listening organisation instead of the learning structure element. The scales of the learning organisational behaviour showed medium, positive correlations with the supporting elements of bureaucracy ($r_{pearson}$ = 0,436 – 0,602; $p < 0,001$; N = 829 – 1105) and negative correlation with the hindering aspects ($r_{pearson}$ = -0,138 – -0,321; $p < 0,001$; N = 843 – 1131). Both the scales of employee voice and managerial responsiveness showed a medium, positive correlation with the scales of learning organisational behaviour ($r_{pearson}$ = 0,333 – 0,675; $p < 0,001$; N = 878 - 1185).

Supporting formalisation and centralisation explained 45,9% of the variance (N = 789) in the mean of the learning organisation behaviour ($ß_{supporting\ centralisation}$ = 0,389; 95% CI [0,310, 0,431]; p < 0,001; $ß_{supporting\ formalisation}$ = 0,373; 95% CI [0,283, 0,399]; p < 0,001). The two scales of the listening organisation explained a great, 50,1% of the variance (N = 863) in the mean of the learning organisational behaviour ($ß_{managerial\ responsiveness}$ = 0,544; 95% CI [0,389, 0,476]; p < 0,001); $ß_{employee\ voice}$ = 0,255; 95% CI [0,192, 0,296]; p < 0,001), therefore it can be concluded that these two components adequately fits the model of learning organisation in the context of Higher Education.

4.2 Unique organisational characteristics in the light of learning organisational behaviour

The **second research question** focused on the differences in the learning organisational behaviour regarding structural and organisational culture aspects.

The **first hypothesis (II/1.)** aimed to compare different organisational characteristics (operator, location, organisational cluster) on the learning organisational behaviour whether or not there is a homogeneous institutional population. The other part of the hypothesis considered individual characteristics (gender, work-tenure, the definition of the level of organisation). Although there were some significant differences between the examined groups regarding learning organisational behaviour, the effect size were mostly negligible or small (e.g. regarding the operator of HEIs (N = 1576; H(2) = 7,226; p = 0,026; d_{Cohen}= 0,116)). Therefore it seems that regarding these hard, structural factors HEIs are not so different regarding learning organisational behaviour, their difference could be seized in more qualitative aspects which is the aim of the third research question.

The **second hypothesis (II/2.)** of the second research question aimed at the differences between different organisational cultures by content (clan, adhocracy, market and hierarchy) and by intensity (weak, loose and strong). In both dimensions, there were significant differences in the dimensions of the learning organisational behaviour (all Kruskal-Wallis test showed p < 0,001), furthermore the effect size ranged from medium to high (d_{Cohen} = 0,67 – 2,157). Therefore it can be concluded that regarding the different organisational cultures HEIs differ significantly. The sample is characterized mainly by the clan and hierarchy cultures from the competing values framework of Cameron and Quinn (2011).

The **third hypothesis (II/3.)** of the second research question regarded the organisational models of Mintzberg which are assigned to individual HEIs from another research project[4]

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[4] The research is supported by the Ministry for Human Resource's New National Excellence Programme in the academic year of 2016/2017 – "Quasidecomposing of higher education institutions operating as

(professional bureaucracy, operative adhocracy, divisional form). Using the grouping variable, the results of the Kruskal-Wallis tests showed no significant differences ($p > 0{,}05$). Only from the dimension of the organisational culture there are some significant differences: market culture ($N = 1201$; $H(2) = 7{,}987$; $p = 0{,}018$; $d_{Cohen} = 0{,}142$) and hierarchy culture ($N = 1225$; $H(2) = 9{,}784$; $p = 0{,}008$; $d_{Cohen} = 0{,}160$); and the hindering formalisation dimension of the learning bureaucracy ($N = 1132$; $H(2) = 8{,}275$; $p = 0{,}016$; $d_{Cohen} = 0{,}150$). Although the effect size shows only small differences. Considering the theoretical background, these organisational configurations doesn't differ significantly either, differences can be understood on a more qualitative level. Considering these results I can't reliably accept or refute this hypothesis.

4.3 Different viewpoints of learning organisational behaviour

The **third research question** followed the suggestions for learning organisational research and examined the question from different qualitative perspectives. I have considered the viewpoints of academics vs. administrative staff, managers and employees, and colleagues who have international experiences vs. who doesn't and the viewpoints of academics from different disciplines. I have extended the examination to other aspects of the organisation, for example, job characteristics and also examined the interaction between organisational culture and disciplinary culture. It can be summarized that in every aspect there were some significant differences, several of the cases by high effect size. In order to provide an overview, I will describe the differences by the selected viewpoints and not by the hypotheses **(III/1-4.)**

Regarding the differences between academics and administrative staff, it was mainly present regarding job characteristics. The two groups differed in the perception of skill variety ($N_1 = 949$ és $N_2 = 297$; $U = 107517{,}5$; $p < 0{,}001$; $d_{Cohen} = 0{,}355$) and autonomy ($N_1 = 942$ és $N_2 = 295$; $U = 100435{,}5$; $p < 0{,}001$; $d_{Cohen} = 0{,}418$). In both dimensions, academic staff scored higher.

Regarding the differences between managers and employees I have identified several significant differences with the largest effect sizes. They differed in the perception of learning organizational behaviour: collaboration and team work ($N_1 = 1145$ és $N_2 = 388$; $U = 175395{,}5$; $p < 0{,}001$; $d_{Cohen} = 0{,}321$), empowering people ($N_1 = 1006$ és $N_2 = 370$; $U = 145918{,}5$; $p < 0{,}001$; $d_{Cohen} = 0{,}336$), and the mean of the learning organisational behaviour ($N_1 = 829$ és $N_2 = 289$; $U = 89793{,}5$; $p < 0{,}001$; $d_{Cohen} = 0{,}387$). The managers rated these dimenison higher regarding the learning organisational behaviour of their unit. Further significant differences were identified regarding employee voice ($N_1 = 909$ és $N_2 = 325$; $U = 85743$; $p < 0{,}001$; $d_{Cohen} = 0{,}675$): managers perceived that they are considering employee suggestions to a greater extent and that they are acting on these as well. Regarding job characteristics differences were identified regarding skill

variety (N_1 = 915 és N_2 = 323; U = 116799; p < 0,001; d_{Cohen} = 0,323), and task significance (N_1 = 870 és N_2 = 309; U = 90148; p < 0,001; d_{Cohen} = 0,518). Managers rated these dimensions higher.

Regarding international experiences, I have identified several differences as well. Those colleagues who had some previous international experiences regarding mobility or cooperation programmes rated the scale of employee voice (N_1 = 526 és N_2 = 699; U = 144824,5; p < 0,001; d_{Cohen} = 0,370), skill variety (N_1 = 520 és N_2 = 705; U = 126278; p < 0,001; d_{Cohen} = 0,552) autonomy (N_1 = 518 és N_2 = 700; U = 147028; p < 0,001; d_{Cohen} = 0,328) higher. So those colleagues who had international experiences felt that their suggestions are more likely to taken into consideration they felt that they need various skills in their work and have more autonomy.

Finally, I have examined differences regarding disciplinary culture. First, I considered 15 disciplinary fields on their own, but also categorized them according to Becher's disciplinary tribes. There were basic differences regarding disciplinary orientation by the continuous learning dimension of the learning organisational behaviour, (N = 1171; H(14) = 41,678; p < 0,001; d_{Cohen} = 0,313) and colleagues from different disciplines perceive hindering formalisation (N = 894; H(14) = 47,757; p < 0,001; d_{Cohen} = 0,400) and supporting centralisation (N = 807; H(14) = 38,665; p < 0,001; d_{Cohen} = 0,359) differently. The examined groups also differed in the perception of autonomy (N = 956; H(14) = 40,884; p < 0,001; d_{Cohen} = 0,343) and feedback from their job (N = 901; H(14) = 51,325; p < 0,001; d_{Cohen} = 0,419). These can be further examined regarding the concrete disciplines. The identified differences were present regarding the 15 disciplinary fields rather than the categorisation of Becher.

Regarding the interaction between organisational culture and disciplinary culture (general linear model), there were significant differences regarding the dimensions of the learning organisational behaviour (except the continuous learning dimension; p = 0,179). Considering organisational culture the partial-eta-squared effect size measure showed medium differences, while the case of disciplinary culture only showed low or negligible differences. The interaction term was not significant considering the system-level dimensions of the learning organisational behaviour (empower people, connecting the organisation, strategic leadership for learning), and although there were significant differences regarding the other dimensions, their effect size was only small (but larger than in the case of disciplinary culture), except for the dimension of collaboration and team learning, where a medium effect size can be seen (R^2 = 0,303; F(9) = 2,604; p = 0,006; η_p^2 = 0,046).

4.4 The effectiveness-dimension of the learning organisational behaviour

The **fourth research question** aimed to discover the connections between learning organisational behaviour and the different aspects of effectiveness. Effectiveness was considered from three points of view according to Örtenblad's (2015) approach. I link the organisational effectiveness approach to the three mission of higher education. The viewpoint of the employee is the well-being approach and the societal focus brings the societal effectiveness approach in the forefront. A fourth aspect is also considered, the innovative practices and innovative operation of HEIs. I have based my hypotheses on these four areas.

Regarding **organisational effectiveness (IV/1)** and innovative operation, there are no reliable decisions regarding the hypothesis. In both cases the variables entered the database are on the aggregate levels of HEIs or faculties. I had to compare these aggregate variables to individual responses, so I could use them only as categorising variables which only allows weaker statistical analysis. In some cases, the validity of the chosen variable can be questioned (e.g. place in rankings). Despite these shortcomings, I was able to identify tendency-like connections. Several aspects of the learning organisational behaviour are in connection with the HEIs place in the national (HVG) ranking (according to binary logistic regression [Nagelkerke = 0,026] the dimensions of empowering people [Exp(B) = 1,313; $p < 0,05$] and connecting the organisation [Exp(B) = 0,762; $p < 0,05$]), or the number of first-choice (according to binary logistic regression [Nagelkerke = 0,018] the collaboration and team learning dimension [Exp(B) = 1,251; $p < 0,05$]). This latest indicator is largely influenced by disciplinary culture and by the interaction of organisational and disciplinary culture ($R^2 = 0,073$; $F(1) = 13,351$; $p < 0,001$; $\eta_p^2 = 0,027$), while organisational culture in itself not. Regarding third mission activities, only a tendency-like connection were identified regarding the number of patents ($p = 0,064$) as a grouping variable (filed a patent or not) regarding the dimension of connection the organisation which especially describes the HEIs cooperatin with external actors.

There were clearer connections from the side of employee well-being and societal effectiveness as these variables were measured in the individual datacollection as well. Regarding **employee well-being (IV/2.)** the largest explanatory linear regression model ($R^2 = 0,432$) was considered by the rating of the workplace (based on content analysis of metaphors: negative, neutral, positive). How positively employees see their workplace are mainly influenced by the dimensons of inquiry and dialogue (ß = 0,234; $p < 0,001$), strategic leadership for learning (ß = 0,237; $p < 0,001$), collaboration and team learning (ß = 0,139; $p = 0,010$), and connecting the organisation (ß = 0,136; $p = 0,010$).

Regarding **societal effectiveness (IV/3.)** I have examined the perception of staff members regarding the research and development responsibilities and community engagement of HEIs. Both variables are mainly influenced by the dimensions of continuous learning, collaboration and team learning and connecting the organisation. Regarding the variance in research and development responsibilities, these three variables explain 40,4% ($\beta_{\text{connecting the organisation}} = 0,387$; $\beta_{\text{collaboration and team learning}} = 0,181$; $\beta_{\text{continuous learning}} = 0,133$), while regarding the variance in community engagement, these variables explain 37% ($\beta_{\text{connecting the organisation}} = 0,357$; $\beta_{\text{collaboration and team learning}} = 0,160$; $\beta_{\text{continuous learning}} = 0,159$).

Regarding the **innovative operation of HEIs (IV/4.)**, I have used the database of another research project (Innova research)[5], variables that describe the innovation activity of HEIs. Binary logistic regression provided only a small explanatory value (Nagelkerke = 0,023), but important connections can be seen. The grouping variable by the innovation index is mostly influenced by the dimension of continuous learning (Exp(B) = 0,833), systems to capture learning (Exp(B) = 0,812) and empowering people (Exp(B) = 1,252).

5. Discussion

Lastly, I summarize the most important theoretical and empirical results of the dissertation, referring to the different qualitative analyses as well that are detailed in the full dissertation.

The main aim of the doctoral research was the understanding of the learning organisational behaviour of HEIs. The problem-statement considered the contradictory requirements toward HEIs stemming from their historical and societal background, but thanks to their strong societal legitimacy, they were able to continuously operate, preserving their basic structure and functions. But currently, HEIs are facing more diverse and faster changes that can weaken their inherent resilience and destroy their adaptability.

To answer the research question I have employed other, secondary data sources and secondary analysis as well besides the main survey in order to better understand the problem. Additional databases were included (regarding innovation activity, the Higher Education Information System and the database of the National Intellectual Property Authority), and additional case studies and interviews were analysed as well (regarding international experiences of academics, inter-organisational and interdisciplinary cooperations, curriculum- and knowledge management strategies).

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[5] The mentioned research is supported by the National Research and Innovation Authority (OTKA identification number: 115857) "The emergence and diffusion of local educational innovations" (Innova research) During the research project we have gathered data from all levels of educational instituitions in the autumn of 2016, where 513 respondents were collected from higher education (heads of departments). More about the research: http://www.ppk.elte.hu/nevtud/fi/innova

The decisions regarding the hypotheses are summarized in Table 5.

Table 5. Decisions regarding the hypotheses

Research Question I.: How can Hungarian HEIs be described from the learning organisational behaviour point of view?	
Hypothesis I/1. The DLOQ developed by Marsick and Watkins (2003) proves to be a valid and reliable tool in the Hungarian Higher Education context.	🟩
Hypothesis I/2. Considering the theoretical model of Örtenblad (2015), learning organisational characteristics are positively correlated with the positive aspects of learning bureaucracy (supporting formalisation and supporting centralization).	🟩
Hypothesis I/3. Considering the theoretical model of Örtenblad (2015), learning organisational characteristics are positively correlated with the listening organisation scales (managerial responsiveness, employee voice).	🟩
Research Question II.: What characterises organisational structure and culture regarding learning organisational behaviour?	
Hypothesis II/1. HEIs, regarding their structural characteristics (operator, location, organisational cluster) and regarding the individual respondents own grouping variables (gender, work-tenure, the definition of the narrow organisational unit) shows different characteristics regarding learning organisational behaviour.	🟥
Hypothesis II/2. HEIs shows different characteristic regarding learning organisational behaviour considering Cameron and Quinn's (2011) competing values framework.	🟩
Hypothesis II/3. Regarding the possible organisational models identified based on the typology of Mintzberg (professional bureaucracy, operative adhocracy, divisional organisation), HEIs show different learning organisational behaviour.	🟨
Research Question III.: How can Hungarian HEIs be characterized by different stakeholder's points of view? (academic vs. administrative staff; manager vs. employee; members of different disciplinary cultures)	
Hypothesis III/1. The analysed groups perceive the learning organisational behaviour of HEIs differently.	🟩
Hypothesis III/2. The analysed groups perceive the characteristics of HEIs regarding learning bureaucracy and listening organisation differently.	🟩
Hypothesis III/3. The analysed groups perceive the job characteristics and motivation differently.	🟩
Hypothesis III/4. Respondents coming from different organisational and disciplinary cultures have a difference regarding the organisational characteristics of HEIs.	🟩
Research Question IV.: What characterises the relations between HEIs' learning organisational behaviour and their effectiveness understood from different dimensions?	
Hypothesis IV/1. I hypothesize a positive relationship between learning organisational behaviour and organisational effectiveness of HEIs.	🟨
Hypothesis IV/2. I hypothesize a positive relationship between learning organisational behaviour of HEIs and employee well-being.	🟩
Hypothesis IV/3. I hypothesize a positive relationship between learning organisational behaviour of HEIs and their societal effectiveness.	🟩
Hypothesis IV/4. I hypothesize a positive relationship between learning organisational behaviour and innovation activities of HEIs.	🟨

Note: Green – accepted, yellow – ambiguous, red – rejected.

According to my research, I can confirm the applicability of the learning organisational behaviour concept in the context of HEIs. During the literature review, I have identified nine thematic fields regarding the learning organisational behaviour of HEIs, so as a summary, I will review each area considering my results and also suggesting other thematic areas as well.

The research confirmed the importance of **continuous professional development and workplace learning** for academic and administrative staff. The study uncovered various opportunities stemming from the operation of HEIs that can help individuals realise continuous learning and to satisfy their curiosity and inquiry. For the successful realization of this area, the dimension of collaboration and team learning is also important which places **internal cooperation and teamwork** in focus. One of the real-life examples of this aspect is the interdisciplinary and inter-organisational cooperation in the planning, development and execution of educational programmes.

For the realization of the previously mentioned learning, an **open and inclusive climate** is an important prerequisite. I have expanded this theme by analysing the concept of organisational culture and the complex relationship between organisational culture and learning organisational behaviour. Naturally, openness and inclusiveness is an important precondition, but the dominant organisational culture regarding learning organisational behaviour, the clan culture tells us more: it focuses on the role of individual and interpersonal relations, putting the emphasis on employee well-being.

Parallel to this, there is the notion of the **involvement and empowerment of all staff members**. This area showed several connections as one of the dimensions of the learning organisational behaviour. It also refers to the uniqueness of HEIs, namely the strong person-culture which can strongly influence the nature of decision-making processes in higher education.

Besides staff members, the **involvement of students** is also an important aspect. The students' view is not present in this dissertation, I have only mentioned the importance of this topic. In the future, it would worth to explore the questions in this dissertation from students' point of view and to include the students' perception in the assessment of learning organisational behaviour.

The previously mentioned shortcoming strengthens the importance of different viewpoints. In the dissertation, the leadership perspective was found to be significantly different from the views of employees. I was able to identify the importance and supporting role of a **learning-centred, strategic leadership** in many aspects of the dimensions of the learning organisational behaviour. Despite these results, the leadership perspective is also an open area for further research (e.g. regarding the relationship between leadership style and learning organisational behaviour).

In the literature, suggestions for a **flatter organisational structure** were strongly present connected to leadership. The learning organisational model adapted to higher education context by the concept of learning bureaucracy and listening organisation especially focuses on bringing the institution closer to its members (to staff members and students as well), which could be understood as an initiative to overcome hierarchy, but without a concrete change in the organisational structure.

As the previously discussed themes suggest, direct interventions and radical change are rare in the operation of HEIs, internal processes are rather characterised by incremental change. This can be the consequence of the unique, autonomous image of the profession. This aspect questions the possibilities of implementing **performance management systems** in higher education. Besides, the higher education system is characterised by goal ambiguity, fragmentation by disciplinary and organisational boundaries which makes it hard to provide uniform criteria, taking into consideration the relativisibility of the performance of HEIs and the difficulties in judging the output. Considering the adaptive aspect of the learning organisational behaviour examples can be seen for example how can a process based on compromise, aiming to make organisational knowledge explicit (creation of knowledge maps, incentivising the uploading process – for details, see the dissertation), can lead to the realization of the basis of a performance management system.

The last area uncovered from the literature is the **external cooperation and third mission.** Regarding this aspect, several conclusions were drawn (e.g. regarding patents, the role of regional engagement). This area has a decisive role in the realization of the concept of the entrepreneurial university which not only places regional engagement in focus but social responsibility and the commercialisation of learning and teaching and research as well.

Besides the nine thematic areas uncovered from the literature review, I have identified other important aspects regarding the focus of the study. One of the identified aspects contains elements that are appearing in HEIs due to a strong influence (pressure or incentive) from (inter)national policy initiatives (**compelling or supporting professional initiatives**). One initiative is, for example, the area of internationalisation that is a highly supported area, explicitly appearing in the institutional goals of most HEIs as pressure or incentive in connection with many aspects of learning organisational behaviour.

Another group of newly identified themes can be considered alongside leadership that supports learning, but these are rather specific, **higher education management** areas that belong to the fields of human resources development, performance management, change management and educational administration, which are taking into consideration the unique characteristics of HEIs. One example would be the establishment of faculty learning communities regarding the

scholarship of teaching and learning as a human resource development activity. Another example would be a change management process that considers the uniqueness of HEIs as it was presented in the Leuphana case study in the dissertation. The knowledge regarding higher education management can be present in institutional research projects as well (as a supporting factor for evidence-based decision making in higher education), which can be considered as systems to capture and share learning from the learning organisational behaviour point of view.

I based the results of the research on a quantitative perspective but tried to explain and illustrate the deeper connections by qualitative means. As a continuation of the research, it would be worth to identify other specific viewpoints and analyse them in a mixed methods research applying a case study design for a deeper understanding of the problem. I have chosen the survey methodology due to the rather unexplored nature of the topic so a logical next step would be to formulate additional hypotheses to test the general knowledge that was uncovered regarding the problems discussed here. One of the (conscious) shortcomings of the research is the lack of focus on the students' perspective, which could be an important area for further research. In the future, it would be worth discover the idea of the learning organisation from other perspectives as well (e.g. applying a constructivist paradigm or using an interpretative approach as it is done by Gelei (2002) in his dissertation). Furthermore, the dissertation doesn't pay enough attention to the different viewpoints of different organisational level and the embeddedness of these levels (university, faculty, institution, department etc.), partly because the data gathering didn't allow the identification of many levels, partly because it would have greatly granulated the analysed groups as this viewpoint would rather suffice a qualitative-approach in the future.

Closing the summary it is worth emphasizing that regarding the previously mentioned characteristics HEIs should strive for maintaining the creative tensions that were present from the beginning, as these could lead to slack, requisite variety and loose coupling that are important for the resilient operation. External factors that were presented in the literature review often have negative impacts on this field, so HEIs should resist to this processes, but on other areas, HEIs should adapt to changes (e.g. regarding the digitalization process of the disruptive innovation of MOOCs considering the realization of different stakeholder needs). This dual perspective encompasses the core of the learning organisational behaviour, namely the capability of HEIs to change their organisational culture and structure, through the processes of efficient knowledge management, organisational learning and change management, by increasing their legitimacy and competitiveness in an intelligent way, in order to be able to adapt to the dynamically changing environment and reach the goals that are important for their members.

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7. Publications in the topic by the doctoral candidate

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