

THE INFLUENCE OF ORGANIZATIONAL LEARNING ON PERFORMANCE: A COMPREHENSIVE APPROACH

Christoph Schreder

University of Latvia (UL) and

SMBS - University of Salzburg Business School, Austria, christoph.schreder@gmx.at.

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Abstract

The purpose of the research project is to develop a model of the linkages between human resource management, organizational learning and organizational performance to test the assumptions and to analyze the correlations in order to substantiate or falsify the original model and to draw respective conclusions for relevant stakeholders in business enterprises as well as to give suggestions for further research in the field.

Main theoretical approaches to the impact of organizational learning and human resource management on organizational performance, main approaches to the measurement of organizational performance, the derivation of the definitions of the central theoretical concepts, namely organizational learning, human resource management, organizational performance, and business enterprise, tailor-made for the use in the current study, and open questions in existing literature as starting point for the research are shown.

The research hypotheses that organizational learning positively influences organizational performance et vice versa, that human resource management positively influences organizational learning, and that human resource management positively influences organizational performance directly are developed and the research model is conceptualized, operationalized, and visualized via the resulting theoretical scheme. Also, the development of the research methodology, design, and the selection of research methods is being undertaken, and the data gathering process via pre-study and electronic survey about the interdependencies between the theoretical constructs involved in the research hypotheses are described. The data analysis on the electronic survey about the items influencing the interdependencies between theoretical constructs of human resource management, organizational learning, and organizational performance takes place starting with a factor analysis and based on it the research scheme is being adapted into an evidence-based research model which is analyzed via different descriptive statistical methods, i.e. hierarchical and multiple regression analysis, and Structural Equation Modeling.

Main conclusions include that: organizational performance cannot be seen as a holistic concept incorporating the end results of all the organization's work processes and activities directed at lasting competitive advantage, but has to be divided into two separated concepts. The second part of the main hypothesis that organizational learning positively influences organizational performance in terms of non-financial variables regarding general competitiveness and human resource performance also can be substantiated.

Human resource managers can use the findings as reference for future strategic orientation of organizations as well as derive specific implementation measures from it.

Keywords: Human Resource Development, Human Resource Management, Learning Organization, Organization Development, Organizational Learning, Organizational Performance, Strategic Human Resource Management.

Introduction

Topicality

Before the background of a fast changing and competitive economic environment organizational learning and human resource management are increasingly perceived as key elements in supporting lasting competitive advantage in business organizations. The requirement of corporations from a theoretical as well as practical point of view accordingly is the acquisition of knowledge about the complex interdependencies between organizational learning, human resource management on the one hand and organizational performance on the other hand, as well as the development of action alternatives for practical implementation. The research project evidences the complex

connections between the aforementioned theoretical constructs and allows for drawing qualified conclusions for practical implementation.

Contemporary economies are increasingly based on knowledge and information. Accordingly, the ability of companies to develop, produce and sell products regardless of their branch of business stems from professional knowledge and know-how. This seems to be all the more true as the technological revolution is accelerating a global transformation of the competitive environment. Human resource management is to a growing extent asked to contribute to value-added in business enterprises which gives human resource management increasingly strategic significance. In other words, the possibility to generate profits and hence the very source of existence of every business unit is directly linked to its collective relevant knowledge and know-how. Building up, renewing and fostering of this vital resource therefore should be a major concern of any business entity, as argumentum e contrario the converse argument, namely resisting the need for continuous transformation and development is likely to result in a businesses' downfall. Not surprisingly therefore, recent research shows that a number of organizations have implemented organizational learning strategies and introduced various human resource management initiatives with the goal of improving organizational performance because cutting-edge science suggests a positive connection between organizational learning and human resource management on the one hand and organizational performance on the other. This research seeks to contribute to the topic by deepening and widening the understanding of the anticipated connections between human resource management, organizational learning and organizational performance with special emphasis on business enterprises in Austria and in that sense seeks to contribute to the overall meritocracy. The author a priori argues that human resource management and organizational learning are connected to and enhance organizational performance. This notion stems first from findings in previous research which names these two theoretical constructs as major predictors and second from the authors' own practical experience in the field of organizational development.

Purpose

The purpose of this research project is to analyze the hypothesized interdependencies between organizational learning, human resource management and organizational performance.

Novelty for management science

- A unique theoretical scheme is developed in this work in order to visualize the complex linkage between the latent constructs of human resource management, organizational learning, and organizational performance using in each case a unique set of measurement items.
- Applying different statistical methods the original theoretical scheme is modified to a unique evidence-based research model of the connexion between organizational learning, human resource management, economic performance, and competitive capacity taking into account the connections between the latent constructs as well as the influence of comprising test items.
- It can be shown via partial factor analysis that the theoretically holistic construct of organizational performance has evidence-based two spheres, namely one with economic performance and competitive capacity.
- Based on the evidence-based outcomes of the research the author can show that economic performance does not significantly positively influence organizational learning, whereas competitive capacity is evidenced to have significant impact on organizational learning.
- The current scientific work is the first one to examine the situation of business enterprises in Austria and therefore adds valuable information about the linkage between human resource management, organizational learning and organizational performance for business enterprises in Austria.
- Based on earlier scientific definitions the work develops new and autonomous definitions of organizational learning, human resource management, and organizational performance with a holistic approach of the theoretical constructs.

Consecutive description of the research

1 Conceptual framework of interdependencies between organizational learning, human resource management and organizational performance

Main approaches to the relationship between organizational learning, human resource management and organizational performance

Main approaches to the impact of organizational learning and human resource management on organizational performance:

Despite the clear importance of learning-based distinctive competencies for the success of organizations (cf. Urbano and Yordanova 2007; Prieto and Revilla 2006; P. M. Senge 1990; Palacios-Marques, Ribeiro-Soriano and Gil-Pechuan 2011), still and quite surprisingly, as stated by Palacios-Marques, Ribeiro-Soriano and Gil-Pechuan

(2011), there has been little research on the process of developing this key intangible asset (cf. Ranft and Lord 2002; Zollo and Winter 2002; Palacios-Marques, Ribeiro-Soriano and Gil-Pechuan 2011).

Also, the impact of HRM on organizational performance is an important field of research (cf. Boudreau 1991; Jones, Gareth R., and Patrick M. Wright 1992; Kleiner 1990) and referring to Gurbuz and Mert (2011a) the conceptual link between HRM and organizational performance has been well established in literature (see Mark A. Huselid 1995; M. A. Huselid, Jackson and Schuler 1997; Wright, Patrick M. and Timothy M. Gardner 2003).

For the author the driving interest of the research is therefore the general idea that organizational learning and HRM positively influence the development of the respective company in terms of organizational performance in Austrian business enterprises based on a unique set of items and theoretical scheme tailored for this study.

The field of organizational learning has amassed a vast amount of research and literature over the last four decades, and the proliferation of research shows no sign of abating (Bapuji 2004; Goh, Elliott and Quon 2012). Consequently organizational learning as a concept has been and still is evolving a lot. As such an agile discipline has many branches, notions, and points of view there is little common agreement on the meaning of what and how an organization is learning (cf. Goh, Elliott and Quon 2012). For all of that one thing is broadly accepted, which is that there are two different bodies of literature evolving around and concerning the same field of interest, namely organizational learning and the learning organization (cf. Fiol and Lyles 1985; Easterby-Smith, Mark, Luis Araujo and John Burgoyne, eds. 1999; Tsang, Eric W. K. 1997; Yeo 2005; Goh, Elliott and Quon 2012). Therefore in this chapter it has been attempted to frame and arrange the notion of organizational learning with regard to this work.

Notwithstanding, the theoretical overlap in the context of this work there is a clear disambiguation of organizational learning and human resource management both in the theoretical as well as the practical measurement approach.

First, on the one hand from a theoretical point of view, organizational learning denominates the continuous process or attitude of change in organizational collective knowledge acquisition, distribution, and interpretation aimed at enhanced problem-solving competence and capacity for implementation contributing to competitiveness of the organization as a whole. Even though organizational learning takes place via individual and group learning its concept reaches beyond and is directed at the corporate level and also involves procedures and processes (cf. Al-Laham 2016; Probst 2013). Human resource management on the other hand is also directed at the enhancement of organizational competitiveness and based on the sum of measures taken in personnel management in different fields, e.g. leading, controlling, motivating etc. employees (cf. Lebreinz 2016; Scholz 2014).

Second, the two theoretical concepts are disambiguated also in the measurement model by a clear delineation of the factors and measurement items. Organizational learning encompasses four measurement factors (i.e. knowledge acquisition, distribution, interpretation and improvement attitude) where the test items include questions on the individual (e.g. improvement of individual competencies), group (e.g. about attitudes towards teamwork and knowledge-sharing), and organizational level (e.g. about internal systems and procedures). Human resource management encompasses five dimensions (i.e. staffing, appraisal, rewards and compensation, human resource development, and employee participation) with measurement items on an organizational (e.g. corporate reward policies, human resource development strategy) level. It is important to note that the measurement models of the two concepts of organizational learning and human resource management do not overlap and that there are no common test items; each test item being unique.

Meta-analysis on the impact of organizational learning and human resource management on organizational performance:

During the extensive literature review the author via a meta-analysis found strong evidence among a growing diversity of research in the field over the last two decades up to the most recent research that organizational learning and HRM are indeed positively contributing to organizational performance directly or indirectly via mediating effects and found that 74.6% or a total of 53 publications support that view. The table below gives full details on the meta-analysis:

Table 1:

Summary of meta-analysis of previous research on the connection between organizational learning / human resource management on organizational performance

Accordance	Number of studies	Percentage of total
Full agreement	53	74.6
Partly agreement	14	19.7
Disagreement	4	5.6
Sum	71	100.0

Data source: author's own construction

Furthermore, it seems that on the whole the postulated connection between organizational learning and/or HRM and organizational performance is very much dependent on the specific circumstances and settings of the research conducted and therefore the findings of a considerable body of research, namely 19.7% or a total of 14 publications, only partly agree. The authors evidence that organizational learning can act as a mediator, by which organizational performance is influenced in a positive way (cf. Lee and Choi 2003; Hung et al. 2010; Chou 2016; Tseng and Lee 2014; Kim et al. 2017). The same mediating effect was evidenced for HRM (Kasemsap, K. 2015; Schreder 2018). The findings of other authors support a positive relationship between organizational learning and certain partial aspects of organizational performance, with stronger results for non-financial than financial performance (Goh, Elliott, and Quon 2012; Kaplan and et. al. 2014; Valmohammadi and Ahmadi 2015; Schreder 2018). Also, Wall (2005) in respect to the often assumed effect of HRM practices on organizational performance states that methodological limitations make such a conclusion premature and further research also on the possible direction of influence is needed. A notion shared also by Weldy (2009). Furthermore, some works evidence connections between organizational performance and theoretical constructs of intangible assets that are not directly comparable to the independent concepts of organizational learning and HRM used in this work (Galbreath and Galvin 2006; Saunila 2012).

Nonetheless, there are also research examples – 5.6% or a total of 4 publications from 71 included in the meta-analysis - that fail to evidence such a dependency. For organizational learning some results seem to contradict the notion that learning capability leads to higher organizational performance in terms of financial results, but it maintains a significant and positive relationship to job satisfaction (Goh 2001; Goh, Elliott, and Quon 2012). Elsewhere, research finds that transfer of learning from the individual to the organization achieving organizational development is not evident (Rowland and Hall 2014). Regarding HRM, Guest et al. (2003) in a study confirm the association between HRM and performance but fail to evidence that HRM causes higher performance. Also, it was pointed out that employee competency presented no correlation with performance, whereas employee satisfaction showed association with all aspects of performance perspective (Fernandes, Mills, and Fleury 2005).

Main approaches to the measurement of organizational performance:

Pérez López and Ordas (2005) elaborate that previous studies which underline the positive effects that organizational learning and HRM have on organizational performance differ on what they understand by performance. Previous literature generally considers financial results as organizational performance (cf. Lei, Slocum and Pitts 2000; López, Peón and Ordás 2005). Although these outcomes are important, it could well be the case that more outcomes mediate the relationship with financial results. Therefore, it is important to establish what is understood by the term organizational performance in the context of this work. In order to arrive at a valid as well as viable answer it is helpful to look at what has been done in that field before.

Different authors in previous studies have applied a variety of measurements respectively models to evaluate organizational performance (see for example López, Peón, and Ordás 2005; Wong and Wong 2007; Prajogo et al. 2007; Prajogo 2007; Moneva, Rivera-Lirio and Muñoz-Torres 2007). Organizational performance is measured through the use of performance measurement which is a metric used to quantify the efficiency or effectiveness of an activity. According to Matthews (2011) in almost every organization, performance measures are used to assess and measure organizational effectiveness. Hence, good performance measures fulfill certain criteria which are: balanced—include both financial and nonfinancial measures; aligned to the organization's strategies; flexible—can be changed as needed; timely and accurate; simple to understand; focused on improvement.

The author's notion of the linkage between organizational learning and human resource management as independent variables and organizational performance as dependent variable in the current research is developed in the theoretical scheme tailored for this study, where organizational learning and HRM are seen as rare, valuable, inimitable, and non-substitutable resources that can provide sustainable competitive advantage and organizational performance in the totality of outcomes on different levels, i.e. financial performance, general competitiveness, and human resource performance.

Further theoretical constructs such as corporate culture (cf. Sukoco 2017), leadership (cf. Ceri-Booms et al. 2017), and innovation (cf. Naranjo-Valencia et al. 2016) that also might be connected to organizational performance or in earlier research also have been found to mediate organizational performance could not be included in the research model due to limited resources of the author and because the main research interest of the author also under the aspect of a possible later practical realization in organizational development by management remains with human resource management and organizational learning.

Methods used in the research

Definition of main theoretical concepts

Taking into account a variety of earlier scientific definitions in their historic context the author's definition of the main theoretical concepts is tailor-made for the context of this work:

- "Organizational learning is an attitude in the whole organization towards continuous advancement by means of acquisition, distribution, and interpretation of knowledge aimed at the development of lasting capabilities contributing to competitive organizational performance."
- "Human resource management is a holistic approach to employment management in organizations which is directed at the support of lasting competitive advantage and concerned particularly with: staffing, appraisal, rewards and compensation, human resource and development, and employee participation."
- "Organizational performance is a holistic approach incorporating the end results of all the organization's work processes and activities directed at lasting competitive advantage."
- "Business enterprise denominates an endeavor based on entrepreneurial activity operating in Austria".

Open questions in existing literature as starting points for further research

First, the measurement of organizational performance is often limited to economic or financial results. What are the other possible important aspects left out of sight? Despite this interest, as Bontis (1998) indicates, and although the management of intellect would lie in the very center of today's knowledge-based economy, methods of measuring and evaluating intellectual capital would have been slow to develop and there would be an extremely limited literature on the study and management of intellectual capital. Consequently, it is necessary to establish the relationship between organizational learning/HRM and organizational performance in future research (cf. López, Peón, and Ordás 2005).

Second, how much proof is there of the presupposed relationship between organizational learning respectively HRM and organizational performance? Despite the growing interest for the topic of organizational learning, prior to 1996 there has been hardly any work on the measurement of the learning organization construct (Stata 1989; Goh, Elliott and Quon 2012).

Third, what is the direction of influence between organizational learning and performance? The presupposed direction of the relationship in earlier research was as a general rule that organizational performance was seen as the dependent variable. López, Peón, and Ordás (2005) give direction for further research in the area by hinting that while strategic management research models treat organizational performance as the dependent variable, there is the possibility that these relations may occur in the reverse order and therefore the issue of causality remains (cf. Goh, Elliott and Quon 2012).

Forth, what is the importance of human resource development (HRD) measures as part of human resource management for organizational performance? According to Meifert (2013) the greatest obstacles in practical terms when it comes to implementing an HRD approach is the complexity of the field in terms of what is encompassed by HRD and what is useful dependent on corporate strategy. Amongst the most recently cited for example in Strack et al. (2014) and Bersin et al. (2017) are leadership development and further education and training respectively vocation education and training (VET).

Fifth, as the necessary data is hard to come by, is the gathering of perceptual data sufficient for scientific requests? A clear limitation of the existing research in this field (cf. López, Peón, and Ordás 2005; Goh, Elliott, and Quon 2012) is the nearly always pure perceptual character of the measurement. Nevertheless, research has shown that bias due to common method variance is only minor (Spector 2006; Meade, Watson and Kroustalis 2007) or of no relevance at all (Flores, Catalanello, Rau, Saxena 2008; Jiang and Li 2008). Perceived measures of performance can be a reasonable substitute for objective measures of performance (Dess and Robinson 1984) and turn out to have significant correlation with objective measures of financial performance (Hansen and Wernerfelt 1989; Lyles and Salk 2006).

Sixth, much research has already been done on the relationship between organizational learning or HRM and organizational performance under various circumstances, but which other variables also intervene? A great variety of mediating variables has been identified in earlier research. In order to arrive at a feasible *modus operandi* the author chose to reduce the theoretical scheme to the main theoretical concepts of interest: namely organizational learning, HRM and organizational performance.

2 **Research methodology for testing the interdependencies between human resource management, organizational learning, and organizational performance**

Research hypotheses about the connection between organizational learning, human resource management and organizational performance

The main hypothesis or null hypothesis to be tested in the course of this thesis therefore regards the expected overall positive impact of organizational learning on organizational performance: H1: Organizational learning positively influences organizational performance. The alternative hypothesis about the direction of influence is formulated as follows: H2: Organizational performance positively influences organizational learning. In an attempt to further substantiate the findings the further sub-hypotheses are formulated as: H3: Human resource management positively influences organizational performance.

Dimensions of the research model and measurement of organizational learning, human resource management, and organizational performance

In order to test the theoretical constructs each is divided in different dimensions. Each of the dimensions is tested in the questionnaire via different items summarized as factors aimed at a comprehensive picture of the dimension's relevant properties. For human resource management the dimensions are: staffing, appraisal, rewards and compensation, human resource development and employee participation. Organizational learning has the dimensions: knowledge acquisition, knowledge distribution, knowledge interpretation, and improvement attitude. Organizational performance is tested via the dimensions: economic performance, general competitiveness, human resource performance.

Target population and sampling approach to research on the linkage between organizational learning, human resource management, and organizational performance

The researcher makes use of a research method triangulation to ensure the data collected from participants is representative for the real phenomena that are tried to be captured. Accordingly, there are three research techniques: The first technique or tool in the process of scientific data gathering is the literature review and the resulting meta-analysis. The second technique is to conduct a pre-study with five selected experts in order to be able to better grasp the crucial aspects of the variables under scrutiny and together with the first technique to arrive at a viable theoretical scheme. The third technique is the drawing of different samples via introduction of an electronic survey.

Approach to pre-study: guided interview

Data gathering via the pre-study is carried out as a series of semi-structured or guided interviews aiming at the formulation of relevant questions and the research design.

In the beginning of this project the author conducted a pre-study amongst randomly selected¹ business enterprises in Austria from different industrial sectors, of different size and forms of enterprise. In accordance with up to date research examples (Kristapsone, 2014; Jēkabsons, 2017) the number of expert interviews was set at six.

All experts have been selected because of their expertise and practical management experience in the field of human resource management and organizational learning/development which is inherent in their respective position. All experts have a long-lasting practical background enabling them to make qualified input on the matter. In order to get a good representation of the later target group the author chose business enterprises operating in all different business sectors as defined by the Austrian Federal Economic Chamber. Furthermore, to get a good impression from all sizes of business enterprises two examples for every category were included.

Approach to research design, electronic survey participants and data collection strategy:

For the current work the author designed an electronic survey with 35 questions. Some of the items are taken from previous research works in the field. The remaining items are implemented by the researcher based on recommendations from scientific literature review as well as interviews with professionals as well as academics working in the field. The questionnaire has been developed in English and the final version of the questionnaire is translated into German language. Specifically suited to the theoretical scheme of the research the questionnaire is subdivided into four parts: questions about human resource management, questions about organizational learning, questions about organizational performance, and general questions about the company and respondents and control questions.

¹ Dates of guided-interviews: 24.10.2012, 21.11.2012, 21.11.2012, and 13.12.2012. Names of business enterprises and interview partners are known to the author. The business enterprises and/or interview partners chose to remain anonymous for the reasons of general privacy policy.

As the precise wording of questions plays a vital role in determining the answers given by respondents (Bradburn 2004) all questions are designed to incorporate the largest possible target group of participants, e.g. the broad term “organization” was consistently used to address any form of business enterprises, instead of possibly narrowing the spectrum by using a term like “company” or “business”. Furthermore, in order to achieve a high response rate, accurate sampling and a minimum of interviewer bias a self-administered questionnaire is chosen as suggested by Oppenheim and Oppenheim (1992: 103).

Characteristics of the questionnaire are: all of the questionnaire’s questions are closed, none of the questions – but the ones concerning general information on the organization – are obligatory, the questionnaire can be completed in 5-10 minutes, confidentiality is assured in the questionnaire and this fact is communicated adequately. In order to validate the later questionnaire a draft was sent to three academics and four HR-experts for review. The final questionnaire is translated to and implemented in German language.

Sampling and representativity: All participants were selected from a sample comprising of business enterprises’ contact persons in the field of further education and training, organizational learning and or human resource management. The following categories of participants are distinguished: manager with responsibility for HR department, personnel manager, person responsible for human resource development, member of HR department, organizational development, and other.

The sample size was based on comparable previous studies (see for example Kuo 2011; Lin and Kuo 2007; López, Peón, and Ordás 2005) and the total sample size of 2.363 promises a reasonable base for analytical research. Using a general guideline for sample size calculation (Flight and Julious 2016) and applying the standard formula for calculating sample size for the above described population of 379.207 business enterprises in the target region, a confidence level of 95% and a margin of error of 2.5% has been determined, the minimum sample size is 1.531.

The selected target group itself for every Austrian province may have had a varying willingness to respond, e.g. depending on the frequency the person was asked to participate in surveys and the quality of relationship with the local chamber authority. The total accomplished response rate of 7.96 per cent was obtained. Table 2 below gives a compendium of the different sample groups in the various regions of Austria and the specific response rate.

Table 2:
Overview of electronic survey samples in the different target regions

	Sample region					Total
	<u>Lower Austria</u>	<u>Styria</u>	<u>Vienna</u>	<u>Salzburg</u>	<u>Upper Austria</u>	
Total organizations:	310	100	852	505	29	1.796
Total forwarded participants:	310	100	1.185	739	29	2.363
Total Started Survey:	32	6	43	98	9	188
Total Completed Survey:	21	6	34	78	6	145
Response rate:	10.32%	6.00%	3.63%	13.26%	31.03%	7.96%

Data source: author’s own construction

Measurement characteristics: Likert-type or frequency scales are designed to measure attitudes or opinions by using given choices to respond (cf. Bowling, 2009; Burns and Grove 1997). Accordingly, these ordinal scales measure levels of agreement/disagreement and assume that the strength/intensity of experience is linear, i.e. on a continuum from strongly agree to strongly disagree, and makes the assumption that attitudes can be measured. Respondents in the current work were offered a four-point Likert Scale with no “neutral” value in an attempt to get more shaped results.

3 Quantitative analysis of the relationship between organizational learning and human resource management on organizational performance

Research roadmap

The research process is established along a clear structured roadmap. Table 3:

Research roadmap on page 105 gives a full account. Following the inherent logic the researcher initiates the process based on literature review, review of conceptual frameworks, and a pre-study and from it builds up the

dimensioning of the theoretical constructs of the next developed research scheme. After developing the methodology including target group selection, validity and reliability the next step is the data gathering process.

Within the research roadmap the key turning point is the following evidence-based imperative to modify the original research scheme grounded on the findings from the partial factor analysis which clearly indicates the necessity to use two separate theoretical constructs in order to describe organizational performance, namely economic performance and competitive capacity. Following this necessity in describing organizational performance with two separate theoretical constructs also brought about the need to split the original hypotheses including organizational performance into two hypotheses each. This process is described in detail in the chapter below.

Table 3:
Research roadmap

1. Literature Review ▪ Review of literature in the field over the last two decades ▪ Meta-analysis	2. Review of conceptual frameworks ▪ Major conceptual frameworks by: ▪ Pérez López et al. 2005 ▪ Kuo 2011	3. Pre-Study ▪ 5 guided interviews with professionals in business enterprises	4. Dimensioning of theoretical constructs ▪ 4 dimensions of organizational learning ▪ 5 dimensions of HRM ▪ 3 dimensions of organizational performance	5. Research scheme development ▪ 3 theoretical constructs ▪ 31 measurement items ▪ 4 general information items	6. Measuring methodology development ▪ Review of existing scales ▪ Content validation with academic and business experts ▪ Adaptation to own research	7. Target group selection ▪ Active professionals in the field ▪ 5 samples in 5 regions	8. Main survey ▪ 2.363 participants ▪ Online self-completion survey ▪ Pilot testing (2 rounds - professionals and students)	9. Modified evidence-based research model ▪ Adaptation of research scheme and hypotheses ▪ Two theoretical constructs of performance, i.e. economic performance' and 'competitive capacity'
10. Data analyzing ▪ Data analyzing process as multistage process						11. Research evaluation ▪ Post-study via 4 teleconferences with experts in academic		
10.1 Factor scores* Pearson correlation and linear ▪ Factor scores* Pearson correlation ▪ Linear regression analysis						12. Best-practice-example of practical implementation ▪ Practical implementation of research ▪ New six-legged approach to integrated organizational development		
10.2 Regression analyses ▪ Hierarchical multiple regression ▪ Multiple regression analysis						13. Conclusions and suggestions ▪ Drawing of qualified conclusions ▪ Suggestions for practical implementation ▪ Suggestions for future research		
10.3 Structural Equation Modeling (SEM) ▪ SEM base model, alternative base model ▪ SEM by size, by sector								
10.3 Structural Equation Modeling (SEM) ▪ SEM base model (H1), SEM alternative base model (H2) ▪ SEM by size, by sector								
						▪ H1: SEM base model RMSEA ▪ H2: SEM alternative base model RMSEA		

Data source: author's own construction

After that the data analyzing takes place using a variety of statistical methods and including differentiation via sub-group analyses. From that a best-practice example for practical implementation is derived and after that also conclusions and suggestions for practical implementation in business enterprises and for further research are extracted.

Sub-roadmap of the data analyzing process

Within the research roadmap the data analyzing process is set up as an interlocked multistage procedure with four main stages.

1st stage: After ensuring the goodness of model fit for the theoretical constructs involved via partial factor analysis Grice (2001) suggests to examine the degree of indeterminacy in the factor solutions using univocality, i.e. the extent to which factor scores are adequately or insufficiently correlated with other factors. In the data analyzing process this suggestion is put into practice by computing a series of correlation and regression analysis for the factor scores of human resource management, organizational learning, and the unearthed two sides of organizational performance, namely economic performance and competitive capacity. In the beginning factor scores' Pearson correlation and linear regression is calculated and to add more explanatory power a series of linear regression analysis between the respective factor scores is conducted.

2nd stage: The central point of factor score computation is to generate calculable item-clusters bundling properties with similar loadings. The regression analysis based on the factor scores hereinafter however cannot break up the

factor scores again in single items. Therefore, a regression analysis is used to show interdependences of the level of single items. To achieve this first a hierarchical multiple regression analysis with two steps is computed; step one checks the influence of the control variables, and step two synchronizing the variability explained when adding the items of human resource management and organizational learning. Hereinafter, a multiple regression analysis is conducted breaking up the independent theoretical constructs of organizational learning and human resource management into their respective single items and looking at the influence of each of the items.

3rd stage: The next stage of statistical analysis models the structural relationship between the latent constructs of HRM, organizational learning and the dimensions of organizational performance, economic performance and competitive capacity using Structural Equation Modeling (SEM). First of all, the base model which assumes a linear direct relationship of HRM and organizational learning on the dimensions of organizational performance is calculated. Then the alternative model is presented which models organizational learning as construct depending on economic performance, competitive capacity and HRM. Furthermore, in-depth analyses of the sample takes place by the computation of SEM by different groupings, namely the size of the business enterprise and the business sector.

4th stage: In order to evaluate the findings from the applied statistical methods a post-study is conducted with focus on the findings regarding the alternative base model from Structural Equation Modeling (SEM), as the findings of which incorporate research novelties that should be reinforced by a different scientific approach.

Sub-roadmap these verification process

All the information in the data analyzing and hypotheses verification process has one source, namely the data basis from the online-survey where in the data gathering interdependencies between the three involved theoretical concepts are tested via 31 variables, i.e. 9 for human resource management, 12 for organizational learning, and 10 for organizational performance. In the case of the null hypothesis (H1: organizational learning positively influences organizational performance) and the alternative hypothesis (H2: organizational performance positively influences organizational learning) the effort is to clarify whether the assumed interdependencies are a case of simultaneity, i.e. where the explanatory variable is jointly determined with the dependent variable. In other words, X causes Y but Y also causes X. Research models with simultaneity are called simultaneous equations models or structural models (SEM). SEM theory is specifically set up to deal with the potential for simultaneity in a regression model. Simultaneity happens when two variables on either side of a model equation influence each other at the same time. In other words, the flow of causality is not unequivocally from one side to the other, but it is the case that

- changes in organizational learning and human resource management are causing changes in organizational performance.
- variables on the left hand side and right hand side are jointly determined.

The method to verify the fit of the research model currently the most popular measure of is the usage of the Root Mean Square Error of Approximation (RMSEA). Accordingly, in the process of testing interdependencies via SME two base models have been used, first the base model (H1) and second the alternative base model (H2). Schulz, Ainley, and Fraillon (2011, p. 161) set the value for a good fit at 0.10. Furthermore, the RMSEA is artificially high for models with low numbers of degrees of freedom, i.e. the number of values in the final calculation (see e.g. Kenny, D. A., Kaniskan, B., and McCoach, D. B. 2014). With 176 cases the number of values in this work is comparatively low for what reason a slightly elevated RMSEA of 0.12 for the base model (H1) and 0.11 for the alternative base model (H2) is later well acceptable when testing the model fit via SME.

Modified evidence-based research model

After the partial factor analysis showed the construct of organizational performance being divided into two evidence-based constructs, namely economic performance, incorporating the items from the theoretical dimension of economic performance on the one hand and competitive capacity on the other, encompassing the items from the theoretical dimension of both general competitiveness and human resource performance the research scheme is modified to an independent evidence-based research model. And also, the hypotheses that involve the concept of organizational performance are split up into two hypotheses each, one regarding economic performance and one with regards to competitive capacity. Figure 1 : Modified independent evidence-based research model on page 107 depicts the modified independent evidence-based research model.

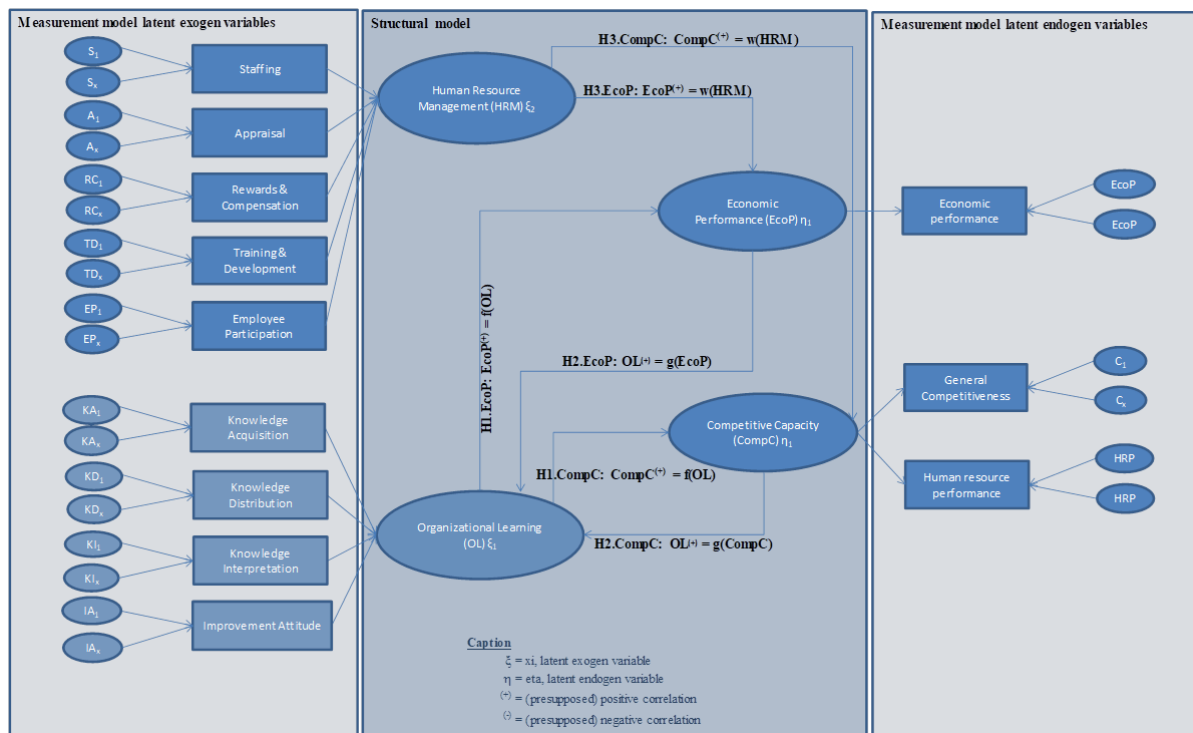


Figure 1:
Modified independent evidence-based research model

The modified independent evidence-based research model is the author's own construction

Testing interdependencies as basis for confirmation or disconfirmation of the hypotheses: regression analysis

Impact of organizational learning on organizational performance factor scores:

First, multiple regression analysis signals that the amount of variance in economic performance explained by each item of organizational learning is limited, whereas organizational learning as a construct has a strong impact. The highest correlations are reached for the combined item pack of the factor improvement attitude, namely active involvement in development (Q19: 0,239), active suggestions on improvements (Q20: 0,233), and attitude towards change (Q21: 0,219). Suggesting therefore that active involvement of staff in the organization explains variation in e.g. turnover, profit margins and so on and so forth. Also, the items of the factor knowledge acquisition, especially research and development (Q10: 0,192), and innovation (Q11: 0,175) show high impact. Furthermore, results point out that items of the factor knowledge distribution, namely knowledge sharing (Q14: 0,149) and information on strategies and aims (Q15: 0,137) positively impact on economic/financial performance. Table 4:

Table 4:
Multiple regression economic performance by organizational learning component matrix'

Correlations	
Q19. Employees in your organization <u>actively explore</u> the current market and related new developments.	0.239
Q20. <u>Making suggestions</u> about internal improvements and innovations is common within your organization.	0.223
Q21. Employees have a positive <u>attitude towards</u> a continuous <u>advancement</u> of the organization.	0.219
Q10. <u>Research and development (R&D)</u> is of high significance within the organization.	0.192
Q11. The internal systems and procedures support <u>innovation</u> .	0.175
Q14. The <u>sharing of knowledge</u> and experience is common within your organization (e.g. by sharing best-practices).	0.149
Q15. Employees are informed about the <u>strategies and aims</u> of the organization.	0.137
Q12. Employees in your organization actively improve their professional competencies.	0.134
Q16. All the members of the organization share the same aim, to which they feel committed.	0.122
Q17. There are <u>opportunities to learn</u> (e.g. visit to other parts of the organization, internal training programs, etc.) so as to make employees aware of the different duties within the organization.	0,110
Q18. Teamwork is a very common practice in the company.	0.091
Q13. <u>Information</u> about the latest innovations and changes in the organization is continuously <u>given</u> to the staff.	0.084

Data source: author's own construction

On the other hand, results show that items that respond to mere information giving (Q13: 0.084) or the possibility of information acquisition (Q17: 0.11) have the least significant correlations with economic performance. Providing information respectively the possibility to obtain information or access to information does not seem to be enough to explain variation in economic performance. Ergo, it can be concluded that organizational learning in a meaningful way contributes to economic performance only when the approach includes the item pack of the factor improvement attitude with the possibility of active involvement in the organization.

Second, especially the item pack of the factor improvement attitude (Q21: 0,374, Q20: 0.318) has meaningful positive impact on competitive capacity. Also, items of the factor knowledge acquisition evidence a heavy impact, especially research and development (Q10: 0,365) and innovation (Q11: 0,331). Furthermore, results point out that the item "knowledge sharing" (Q14: 0,279) of the factor "knowledge distribution" positively impacts general competitiveness and human resource performance. Results therefore show that organizational learning is of meaningful importance in terms of change in competitive capacity when it incorporates elements of active involvement of the staff, active development, and the possibility to innovate which in the mind of the author can be seen as important suggestions for management in business enterprises. Respectively the item of "active involvement" is of key importance in change processes in order to improve organizational performance. Whereas merely providing information is not enough to get them to commit to the change respectively learning process and therefore also no change in organizational performance can be achieved. Table 5 :

“Multiple regression competitive capacity by organizational learning component matrix” on page 109 below provides full details:

Table 5:

“Multiple regression competitive capacity by organizational learning component matrix”

Correlations	
Q21. Employees have a positive <u>attitude towards</u> a continuous <u>advancement</u> of the organization.	0.374
Q10. <u>Research and development</u> (R&D) is of high significance within the organization.	0.365
Q11. The internal systems and procedures support <u>innovation</u> .	0.331
Q20. <u>Making suggestions</u> about internal improvements and innovations is common within your organization.	0.318
Q18. Teamwork is a very common practice in the company.	0.293
Q14. The <u>sharing of knowledge</u> and experience is common within your organization (e.g. by sharing best-practices).	0.279
Q16. All the members of the organization share the same aim, to which they feel committed.	0.237
Q12. Employees in your organization actively improve their professional competencies.	0.235
Q19. Employees in your organization actively explore the current market and related new developments.	0.235
Q13. Information about the latest innovations and changes in the organization is continuously given to the staff.	0.222
Q17. There are opportunities to learn (e.g. visit to other parts of the organization, internal training programs, etc.) so as to make employees aware of the different duties within the organization.	0.221
Q15. Employees are informed about the strategies and aims of the organization.	0.184

Data source: author's own construction

The explanation of the more direct impact of organizational learning on competitive capacity derives, according to the author, from the fact that items of organizational learning, e.g. the possibility to make suggestions about internal improvements (item Q20), have in terms of a timeline logically a more direct influence on the items of competitive capacity, e.g. motivation of employees, whereas the influence time wise on items of economic performance, e.g. turnover and profit margin, takes longer to manifest itself and in the interim period more influencing variables tend to intervene and ergo are watering down the measureable effects and add to statistical noise when measuring the effects.

Impact of human resource management on organizational performance factor scores:

First, it can be concluded that the theoretical construct of human resource management as a whole does not have significant explanatory power when it comes to economic performance. However, within the theoretical construct of human resource management there are variables, namely talent management (Q1: 0,109), employee participation (Q9: 0,108), and performance-linked reward policies (Q5: 0,099) that do have significant predictive power and some level of correlations that should be taken into account.

Multiple regression economic performance by HRM component matrix” on page 109 below provides full details:

Table 6:

Multiple regression economic performance by HRM component matrix

Correlations	
Q1. The organization takes HR <u>measures for identifying, recruiting, and retaining employees</u> for key positions and functions.	0.109
Q9. Employees (i.e. non-management) are <u>involved in decision processes</u> ; for example when establishing strategic plans or discussing new policies.	0.108
Q5. The organization's <u>reward policies are performance-linked</u> .	0.099
Q2. The organization has long-term forecast for strategic workforce planning.	0.098
Q6. Leadership development has a high significance in HR of the organization.	0.093
Q8. There is a long-term strategy in the organisation concerning the need for further education and training of employees.	0.081
Q4. Employees are being appraised based on evaluations from supervisors, peers, and customers.	0.062

Q3. The organization takes measures to refine its employer brand and in doing so distinguishes itself from competitors in a positive way.	0.054
Q7. Measures for Vocational Education and Training (VET) have a high significance in the organization.	0.032

Data source: author's own construction

Accordingly management should not neglect human resource management altogether when it comes to actively sustaining economic performance but should much rather critically select the single measures. Active involvement of employees is seen as item also contributing to economic performance triggering the suggestion to setup structures fostering employee participation in decision making, e.g. by implementing bottom-up processes on a corporate strategic level or expert teams working on the level of operational policies and practices. Furthermore, HR measures in the field of recruitment and retaining of key positions (talent management) within the business enterprise are as suggested by the data likely to sustain also the economic performance. The author suggests for implementation in business enterprises a talent management scheme. Furthermore, it is suggested that special attention is given to the retention of key positions, e.g. by implementing career-pathing models offering long-term perspectives to key talents.

Second, it can be shown that the item of strategic workforce planning (item in questionnaire Q2: 0,327) has the most significant impact on organizational performance in terms of general competitiveness and human resource performance. Employee participation (Q9: 0,266) has the second most significant impact. The third most significant item is leadership development (Q6: 0,257) from the item pack of human resource development and the combined item pack of the factor human resource development, namely leadership development, vocational education and training (Q7: 0,211), and strategic training and development (Q8: 0,230) can be seen as important predictor for competitive capacity. Table 7 “:

Table 7:

Multiple regression competitive capacity by HRM component matrix

Correlations	
Q2. The organization has long-term forecast for <u>strategic workforce planning</u> .	0.327
Q9. Employees (i.e. non-management) are <u>involved in decision processes</u> ; for example when establishing strategic plans or discussing new policies.	0.266
Q6. <u>Leadership development</u> has a high significance in HR of the organization.	0.257
Q1. The organization takes HR measures for identifying, recruiting, and retaining employees for key positions and functions.	0.253
Q3. The organization takes measures to refine its employer brand and in doing so distinguishes itself from competitors in a positive way.	0.231
Q8. There is a long-term strategy in the organisation concerning the need for <u>further education</u> and training of employees.	0.230
Q7. Measures for <u>Vocational Education and Training (VET)</u> have a high significance in the organization.	0.211
Q5. The organization's reward policies are performance-linked.	0.153
Q4. Employees are being appraised based on evaluations from supervisors, peers, and customers.	0.069

Data source: author's own construction

The explanation of the more powerful impact of human resource management on competitive capacity derives, according to the author, from the fact that items of human resource management, e.g. a long-term workforce planning (item Q2) and the involved career path possibilities for employees, have in terms of a timeline logically a more direct influence on the items of competitive capacity, e.g. motivation of employees, whereas the influence time wise on items of economic performance, e.g. turnover and profit margin, takes longer to manifest itself and in the interim period more influencing variables tend to intervene and ergo are watering down the measurable effects and add to statistical noise when measuring the effects. Also, economic performance, i.e. economic/financial items are much more influenced by external factors like macroeconomic ramifications and therefore cannot easily be influenced by measures taken in a business enterprise in terms of HRM. On the other side competitive capacity, i.e. general competitiveness and human resource performance is much

more dependent on internal factors like motivation of staff etc. that can more directly be influenced by internal HRM measures.

Approach to research evaluation

The findings of the above described statistical methods regarding the virtually non-existing impact of economic performance on organizational learning are a novelty and have not been expected from the original theoretical basis nor the research model. The purpose of this evaluation research is to evaluate the findings of the statistical methods via a cross-check with experts in the field validating the plausibility of the findings in existing settings. The chosen approach is a summative evaluation method which is well suited for the task as it is meant to be planned and executed after the original study is completed (cf. Mittag and Hager, 2000) and assesses the effectiveness of the previously introduced statistical findings (cf. Bortz and Döring, 2006, p. 110).

The evaluation results of the conducted post-study underline the results of the applied statistical methods respectively the make-up of the theoretical research scheme. First (question post-1), on the question of economic performance, i.e. turnover or profit margin development of a company, correlating with the extent of organizational learning, i.e. knowledge acquisition, distribution and interpretation and/or the improvement attitude, the dialogue partners sustain the findings from the above described statistical methods that the alternative model is very plausible but depends on the circumstances. Namely whether or not (economic) success is channeled into organizational learning, on the size of the company, and on the corporate culture respectively the attitude towards learning.

Second (post-2), asked about the impact of competitive capacity, i.e. reputation, customer loyalty etc. of a company, on the extent of organizational learning, i.e. knowledge acquisition, distribution and interpretation and/or the improvement attitude, taking place within the company the feedback supports the results from the above described study there are certainly feedback processes from competitive capacity influencing organizational learning and in general terms the two (theoretical) constructs are much more interlinked with each other (than economic performance and organizational learning).

Third, (post-3), answering the question whether the direction of influence can be set from organizational performance, i.e. economic performance and/or competitive capacity, to organizational learning and under what circumstances the responses evidence that human resource management can positively influence organizational learning. However, it is important to note that HRM can be a necessary condition for organizational learning in the knowledge management areas, but can never be a sufficient condition for it, because organizational learning is influenced also by other factors, especially the improvement attitude or willingness to learn and management in order to implement the improvement attitude via corporate structures.

And fourth (post-4), Do you experience that a combined approach, i.e. the usage of items from human resource management and organizational learning, correlates with the extent of organizational performance, i.e. economic performance and competitive capacity, and under what circumstances the responses evidence that both directions are plausible. The connection can up to a certain extent be described a feedback loop that can turn both ways.

Testing interdependencies via Structural Equation Modeling

Structural Equation Modeling Base Model, organizational performance as dependent construct:

In line with the main hypothesis in the Structural Equation Modeling (SEM) base model the structural relationships are modeled in a way that represents organizational performance as latent construct dependent upon HRM and organizational learning. Figure 2:

SEM Base Model, organizational performance as dependent **construct** on page 112 below gives full details on the outcome and the SEM.

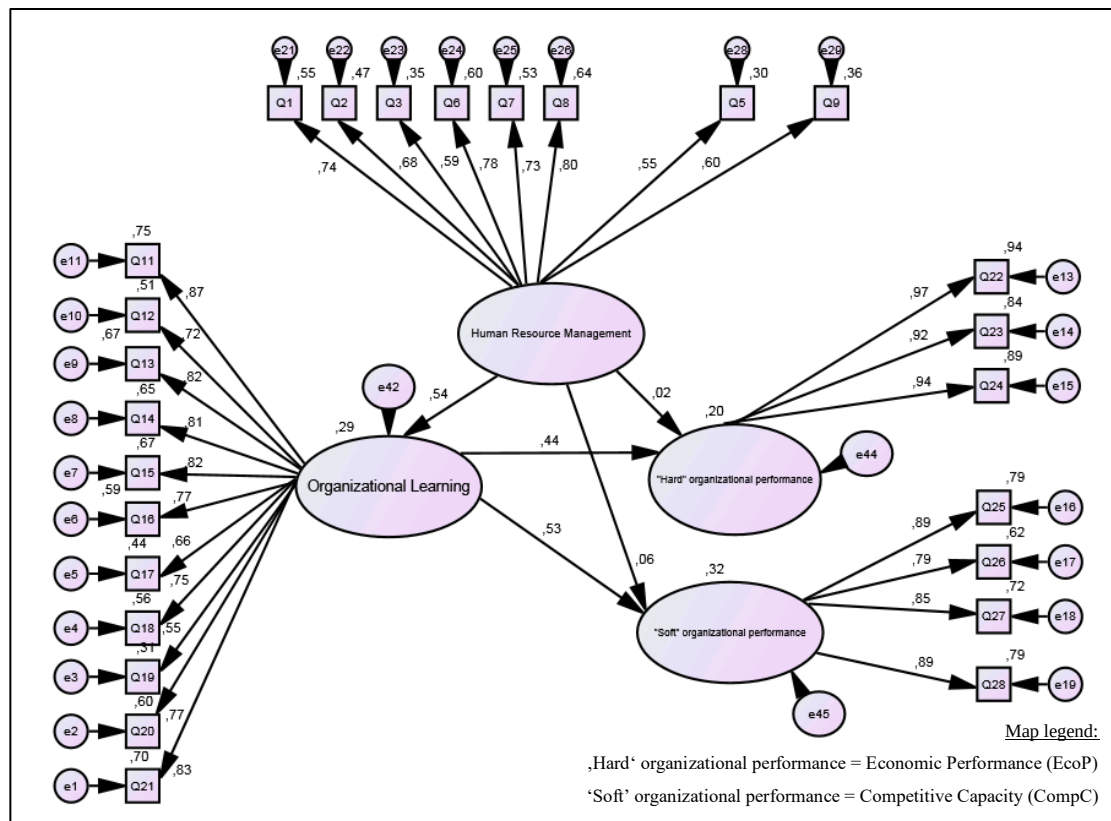


Figure 2:
SEM Base Model, organizational performance as dependent construct
 Data source: author's own construction

The model shows no substantial path coefficient from HRM on both economic performance and competitive capacity with indirect influences via organizational learning which has a quite strong effect on both dimensions of organizational performance (0.44 and 0.53). The outcomes underline the findings of the regression analysis. Furthermore, the researcher concludes that for both economic performance and competitive capacity a large proportion of variance can be explained by variables which could not be included in the model, as the research model is in accordance with the hypotheses set up to determine exclusively the impact of organizational learning and HRM on organizational performance.

Structural Equation Modeling Alternative Base Model, organizational performance as independent construct:
 Testing the alternative hypothesis, namely that organizational performance positively influences organizational learning, a second SEM was computed. Figure 3 :

SEM Alternative Base Model, organizational performance as independent construct on page 113 below gives accordingly the SEM in which the (supposed) causal relationship is reverse modeled so that the dimensions of organizational performance influence organizational learning both directly and indirectly via the path on human resource management.

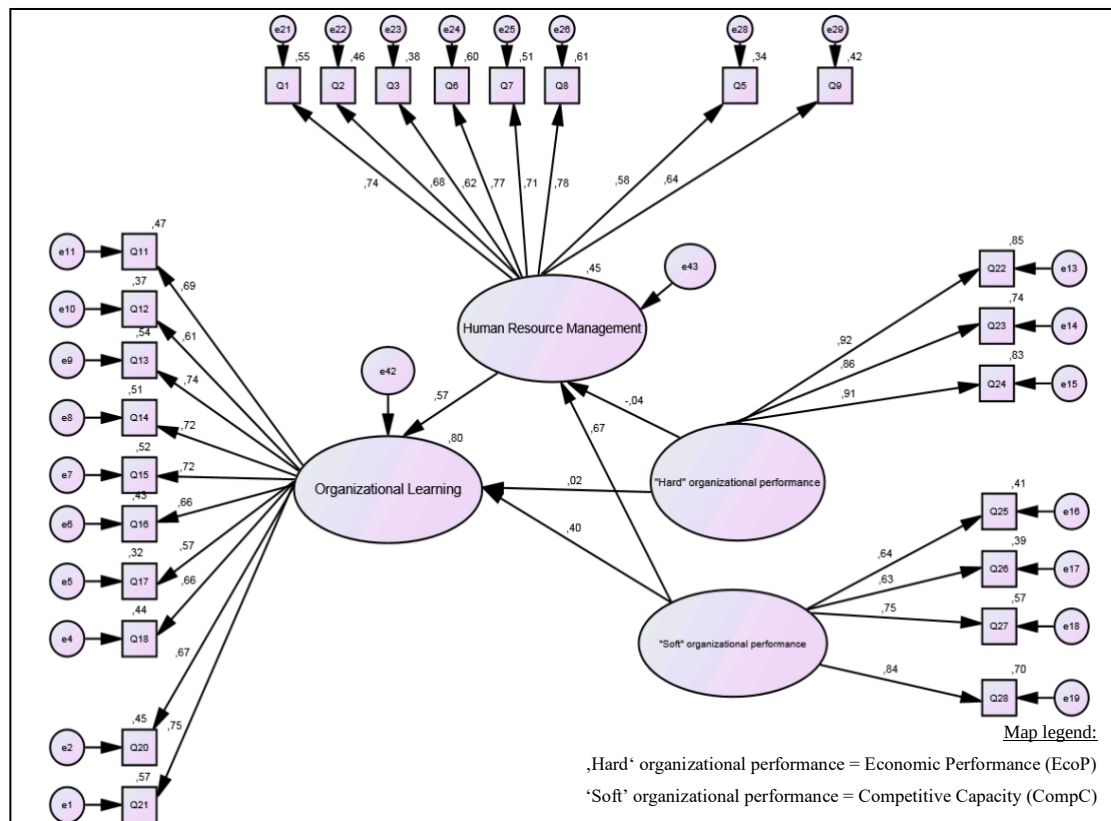


Figure 3:
SEM Alternative Base Model, organizational performance as independent construct
 Data source: author's own construction

This model is theoretically plausible and empirically also acceptable as the RMSEA of .11 is not far away from a good fit. The model shows that organizational learning is mainly influenced by competitive capacity directly and indirectly by the effect of competitive capacity upon human resource management which in turn influences the dependent latent construct. The outcomes of the SEM therefore substantiate the findings of the other testing methods described above.

It can be shown on the one hand therefore that organizational learning and competitive capacity are reciprocally explaining a substantial amount of variance of each other. For economic performance on the other hand the arrow of influence is shown to be more or less exclusively from organizational learning to economic performance.

These findings are well explainable by the cause and effect relationships of the items encompassed in the theoretical constructs of competitive capacity and organizational learning, as e.g. positive change management as item of competitive capacity is likely to directly influence the positive attitude towards advancement/change as item of organizational learning. For economic performance items like turnover firstly, take time wise much longer to manifest and in the meantime much more intervening variables come into play and secondly, as the survey is based on self-evaluation also emotionally other influencing variables mix into perception and water down the measurability of the effects.

Limitations of the study

- The target group due to the aim of the research was limited to business enterprises in Austria. As the sampling was not extended to other countries the findings exclusively hold explanatory power for business enterprises in Austria and may not be generalized.
- The chosen method of data collection was a questionnaire based on self-evaluation which implies a certain possibility of bias in the given answers by the respondents, as their answers reflect subjective ratings.
- The variables determining the theoretical constructs used in the theoretical scheme were items derived from earlier scientific works and completed by items chosen by the author so that the findings cannot be generalized for different definitions of the theoretical constructs (human resource management, organizational learning and organizational performance) respectively different operationalization using different measurement items.
- The sampling architecture could be seen as a certain pre-selection, as only professionals in the field of organizational learning/human resource management have been the target group for the questionnaire.
- The study can only provide a snapshot of the situation as the data collection covered a timeframe of several months but does not include a long-term study.

Main conclusions and suggestions**Conclusions of the research**

- A conclusion from the meta-analysis is that although the majority of previous research sustains the notion of organizational learning and/or human resource management positively influencing organizational performance the postulated connection is dependent on the specific circumstances and settings of the research conducted. Organizational learning and human resource management can act as a mediator by which organizational performance is influenced in a positive way. Also, organizational learning and/or human resource management can influence only certain partial aspects of organizational performance, with stronger results for non-financial than financial performance.
- A conclusion of the partial factor analysis is that the construct of organizational performance has to be divided into two evidence-based constructs, namely economic performance, incorporating the items from the theoretical dimension of economic performance on the one hand and competitive capacity on the other, encompassing the items from the theoretical dimension of both general competitiveness and human resource performance.
- An evidence-based conclusion is that the application of certain aspects, i.e. items or bundles of items, of human resource management and organizational learning can ameliorate organizational performance significantly. For economic performance these aspects are: within human resource management - talent management, and employee participation. Within organizational learning the aspects are improvement attitude and knowledge distribution. For competitive capacity these aspects are: within human resource management - strategic workforce planning, human resource development. Within organizational learning – improvement attitude.
- A current gap in research seemingly poses the possible direction of influence between organizational learning and organizational performance. Only few scientific studies tried to clarify the relationship with regard to establish recursive relationship. A conclusion from the current research is that the direction of influence is mutual for organizational learning and competitive capacity. To the contrary, no mutual influence could be evidenced between organizational learning and economic performance, where the direction of influence was found to be one-way, namely organizational learning influences economic performance but not vice versa.
- Organizational learning can be seen as an important predictor for economic performance, as consistent outcomes of different statistical analysis evidence that a sufficient amount of predictive power in terms of variability explained can be attributed. Furthermore, it can be shown that the highest correlations are found first for the item pack of the factor improvement attitude, namely active involvement in development, active suggestions on improvements, and general attitude towards change. Second, also the items of the factor knowledge acquisition, especially research and development and innovation show high impact.
- Organizational learning can be seen as a predominant predictor also for competitive capacity. In different statistical analysis consistently a large amount of variability of competitive capacity is explained by organizational learning. Results evidence that especially two item packs are important: first, the factor improvement attitude, namely active involvement in development, active suggestions on improvements, and general attitude towards change have significant impact and second, the factor knowledge acquisition. Here, especially the items research and development and innovation have a meaningful positive impact.
- Human resource management does not directly impact on financial/economic organizational performance in the majority of subgroups being analyzed. Nonetheless it can be shown that human resource positively impacts on economic performance via indirect profitability by the mediating constructs of organizational learning and competitive capacity.
- A conclusion is that human resource management positively influences competitive capacity, i.e. items of general competitiveness and human resource performance. This outcome is consistent for different statistical methods and impact is strongest for sub-groups middle-sized business enterprises and the sector of 'Industry'.
- Results show organizational learning is of considerable importance for all sizes of business enterprises; but especially for the sub-group of big business enterprises with more than 500 employees.
- From the findings for the sub-groups of business enterprises in the sector of 'Industry' and for middle-sized business enterprises (101 thru 500 employees) an important and above-average impact of human resource management on both sides of organizational performance (economic performance and competitive capacity) can be concluded.

Suggestions for practical implementation in business enterprises

- Management in business enterprises should focus on organizational learning in order to improve economic/financial performance in the long run, such as turnover and profit margins. In other words, improving the economic resilience of the organization can be achieved by improving organizational learning. Especially measures in the field of the improvement attitude, e.g. through a corporate proposal system or employee participation models, are recommended as the corresponding test items evidenced significant impact. In the same manner also policies targeting the item pack of the factor knowledge distribution, namely information flow and knowledge sharing are recommended. Concrete measures should include e.g. job-rotation and skills enrichment to ensure broad base of work-related knowledge and competencies.
- Organizational learning is of pivotal importance in explaining competitive capacity. Hence, measures in the field should be taken. As concrete measures for implementation in business enterprises the author suggests based on the facts presented above measures first in the field of knowledge acquisition such as the strengthening of operational research and second in the field of improvement attitude, including the setup of internal processes supporting active

involvement of the staff, e.g. using a corporate proposal system. Also, active involvement of employees in e.g. decision processes should be undertaken in order to achieve an amelioration of satisfaction of staff and the chances of finding new staff in order to secure the long-term survival of an organization.

- A clear suggestion out of the findings described above is to enhance certain aspects of HRM in order to sustain competitive capacity. This is true even more as via the strong correlation between competitive capacity and economic performance it can be expected that also economic factors are positively influenced. The first proposition for implementation in the HR departments of business enterprises therefore is to establish measures and processes directed at long-term strategic workforce planning including succession planning, career-pathing. Secondly it is suggested to focus on the field of human resource development (HRD) incorporating the whole HR-architecture, i.e. programs for leadership development as well as vocational education and training for employees.
- As organizational learning has an especially large impact in the sub-group of business enterprises with more than 500 employees, the clear suggestion for management especially in big business enterprises is to focus on the items of organizational learning such as the acquisition of knowledge via research and development or the improvement attitude, i.e. to urge employees to suggest improvements and innovations in order to enhance business outcomes.
- A suggestion for HR management in in the sub-groups of 'Industry' and middle-sized business enterprises (from 101 to 500 employees) is to foster human resource management to enhance desired outcomes on the one hand in the field of financial/economic figures and on the other hand regarding general competitiveness; such as reputation, and in the field of human resource performance; items such as employee satisfaction. Suggested policies should at least include an integrated and strategically set up talent management and long-term workforce planning.
- A suggestion for HR managers out of the findings of this research is to implement a comprehensive organizational development program including the items respectively item packs that were found to be of most importance in enhancing organizational performance. The program should include first the elements of talent management, strategic workforce planning, human resource development (HRD), and employee participation. Second policies should be set up in the fields of improvement attitude sustaining active involvement of staff in change management and also in the field of knowledge distribution to enhance the information flow and sharing of knowledge.

Suggestions for future research in management science

- This research has thrown up many questions in need of further investigation on the nature of the linkage between organizational learning / HRM and organizational performance. What is now needed is a cross-national study involving organizations from outside Austria respectively peer-groups from different countries to substantiate the findings for Austrian organizations.
- As the chosen method of data collection was a questionnaire based on self-evaluation, which might result in possible subjectivity of the outcome based on the assessment of the respondents; further research should try to provide objective data by using more objective macro data.
- The author suggests that the association of the theoretical concepts (HRM, organizational learning and organizational performance) is investigated in future studies using different sets of measurement items to extend the explanatory power of the findings and eventually find generalizable underlying patterns.
- Research is also needed to further differentiate the theoretical concept of organizational performance to determine the various variables describing the different spheres, e.g. the competitive capacity and economic performance. Large randomized studies could provide more definitive evidence.

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Brief biography of each author

Christoph Schreder has been working in the field of organizational development and strategic human resource development since 2009 with different education and research institutions in Austria and Germany in executive positions on both national and international projects and obtained extensive practical experience in the field. Since 2013 the author is researching the interdependencies between organizational learning, human resource management and organizational performance and lectures in different institutions of higher and vocational education.