"Performance Effects of Organizational Learning in a Transitional Economy"

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NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
0	0	0

SECTION 2
MANAGEMENT IN FIRMS
AND ORGANIZATIONS

Performance Effects of Organizational Learning in a Transitional Economy

Vlado Dimovski, Miha Škerlavaj

Abstract

Organizational learning has emerged as one of the most promising concepts in strategic management literature in late 1980s. Starting from initial conceptually oriented research, the focus has recently shifted towards more empirical studies. Thus, the paper aims to study the influence of organizational learning (OL) on the financial perfomance (FP) as well as the non-financial performance (NFP) at the empirical level. Based on the previous theoretical and empirical research, the structural equation model was conceptualized and tested. Three latent constructs (OL, FP, and NFP) were operationalised using eight measurement variables and 42-item self-administered questionnaire. We utilized a sample of 867 Slovenian companies with more than 100 employees and members of top management teams as respondents and received 220 fully administered questionnaires. Analysis has revealed that (1) the impact of OL on FP is statistically significant, positive and strong, and that (2) influence that OL has on NFP is statistically significant, positive, and even stronger than in the first case. One of the main contributions of the paper is that it provides empirical support for the notion that higher level organizational learning is beneficial from business performance point of view. It also evaluates performance from owner's, employee's, customer's and supplier's perspective.

Key words: organizational learning; organizational performance; Stakeholder theory; structural equation modeling.
JEL classification: C39, M10, O30, O52

1. Introduction

In the knowledge based economy it is vital for business management to understand relationship between organizational learning and organizational performance. On one hand, as De Geus (1988), argues, the ability to learn faster than your competitors may be the only sustainable competitive advantage and organizational superior performance. On the other hand, organizational performance evaluation has progressed from traditional, purely financial, towards modern, non-financial measures. This was our rationale to develop a conceptual model relating those two issues and provide an empirical test in this paper.

The concept of organizational learning is often confused with the concepts of learning organization, knowledge management and/or organizational knowledge. Easterby-Smith and Lyles (2003) provide comprehensive and systematic mapping of the area and differentiate among four terms using two continuums: theory vs. practice and content vs. process (Figure 1). Distinction between organizational learning and the learning organization is explained to the extent that organizational learning refers to the study of learning processes of, within and between organizations, largely from academic point of view. On the other hand, the learning organization is considered as an entity – an ideal form of organization, which has the capacity to learn effectively and hence to prosper (Tsang, 1997). Beside differentiation structure vs. process, distinction

between organizational learning and learning organization can also be seen from another perspective. While organizational learning tends to be positive, descriptive, the idea of learning organization tends to be normative, prescriptive in its nature.

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                              Process


              ORGANIZATIONAL        THE LEARNING
              LEARNING             ORGANIZATION

              Shrivastava, 1988     Senge, 1990
              Dimovski, 1994        Tsang, 1997
              Dibella and Nevis, 1998
              Wall, 1998

   Theory ──────────────────────────────────── Practice

              ORGANIZATIONAL        KNOWLEDGE
              KNOWLEDGE             MANAGEMENT

              Polanyi,1966
              Nonaka and Takeuchi, 1995
              Van Wiijk, 2003


                              Content
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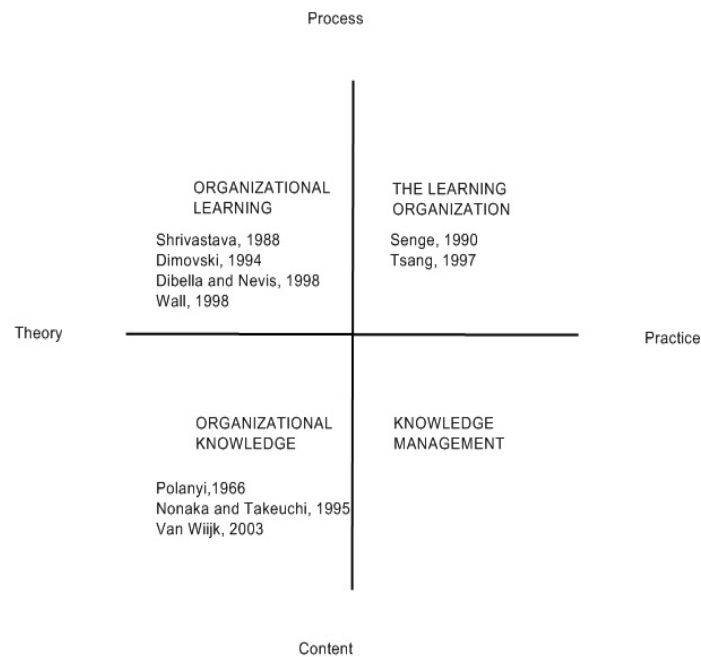
Fig. 1. Mapping the area of organizational learning, learning organization, knowledge management and organizational knowledge (Adapted from Easterby-Smith and Lyles, 2003)

Analogous division can be made between the terms "organizational knowledge" and "knowledge management". Many authors (Polanyi, 1966; Nonaka and Takeuchi, 1995; Van Wiijk, 2003) elaborate on tacitness and explicitness of organizational knowledge, explain various forms of its conversion through well known SECI model, and in recent time study knowledge networks as a major conduit for knowledge transfer. Those who write about the organizational knowledge often adopt a philosophical slant in trying to understand and conceptualize the nature of knowledge that is contained within organizations (Easterby-Smith and Lyles, 2003). On the other hand, knowledge management literature frequently adopts a technical approach directed towards disseminating and leveraging knowledge in order to enhance organizational performance. Information-communication technologies are focal to such discussions. The first dichotomy by which we can organize the field is one of theory vs. practice. The second dichotomy is the one that sets apart process from content. While knowledge is a content which organization possesses (or not), learning is a process which leads towards acquiring knowledge. Or focus will be organizational learning. The challenge that remains is how to operationalize such an elusive concept.

Paper has four main parts. First, conceptualizing the model by presenting the main constructs (OL and OP) and the relationships among them, setting hypotheses and operationalising constructs of concern; second, in the model specification phase, setting the parameters for estimation and constructing hypothesized path diagram, establishing model identification and dealing with question of degrees of freedom and whether do we have enough data to estimate desired number of parameters; third, analyzing data beginning with parameter estimation and assessing model fit at global, structural and measurement level; finally, discussing results from modern managerial perspective and concluding by exposing some limitations to our work and by providing directions for future research in the area.

2. Organizational learning and performance – model conceptualization

The conceptual model of testing relationship between organizational learning and organizational performance is the first stage of the research and is done by conceptualization of structural and measurement sub-model, subsequently.

2.1. Structural sub-model conceptualization

In order to develop a sound model, structural framework must be developed including the presentation of constructs, and the examination of possible relationships among them.

Three constructs of our interest will be Organizational learning (OL), Financial performance (FP) and Non-financial performance (NFP). OL could well be the most ambiguous part of the model due to variety of aspects of organizational learning that come under scrutiny in academic literature. There have been numerous attempts to define organizational learning and its various aspects. Senge (1990) defines organizational learning as 'a continuous testing of experience and its transformation into knowledge available to whole organization and relevant to their mission', while Huber (1991) sees it as a combination of four processes: information acquisition, information distribution, information interpretation and organizational memory. Argyris and Schön (1996) are even less restricting in their definition declaring that organizational learning emerges when organizations acquire information (knowledge, understandings, know-how, techniques and procedures) of any kind by any means. While some of the premier researchers (Shrivastava, 1983; Dimovski, 1994) found that majority of research in the area has been fragmentised and incomplete and that research in the field of organizational learning resulted in numerous definitions and models (e.g. DiBella and Nevis, 1998; Nonaka and Takeuchi, 1996; Wall, 1998), recent research (Easterby-Smith, Lyles, 2003) provided better understanding of the domain.

Jones (2000) emphasizes importance of organizational learning for organizational performance defining it as 'a process through which managers try to increase organizational members' capabilities in order to understand better and manage with organization and its environment to accept decisions that increase organizational performance on a continuous basis'. Dimovski (1994) provides an overview of previous research and identifies four various perspectives to organizational learning. His model manages to merge informational, interpretational, strategic and behavioural approach to organizational learning and defines it as a process of information acquisition, information interpretation and resulting behavioural and cognitive changes, which should in turn have impact on organizational performance. This paper aims to focus on strategic aspect of organizational learning.

Evaluating organizational performance cannot be done without taking into consideration organizational goals. Modern business environment demands multi-goal orientation. Profit theory (Cyert and March, 1963) is no more valid measure of organizational performance and so are not other approaches that take into consideration only interests of shareholders (owners) of a company. Modern business environment is characterized with increased importance and strength of customers, employees and society in general. It has become quite obvious that within a modern company performance assessment, all stakeholders need to be taken into account. This is the main idea of Freeman's Stakeholder theory (1984, 1994). Already behavioural theory of a company (Cyert and March, 1963) recognized company as a coalition of individuals or groups of individuals such as management, employees, customers, owners, government etc. but did nothing to introduce this affirmation to organizational performance assessment.

Beside financial performance (FP) also non-financial performance (NFP) must be assessed in order to evaluate overall organizational performance of a modern company. There are two main reasons for such a requirement. First, several interest groups are involved in business and they all have their particular goals and expectations related to the company. They will remain in the coalition as long as their goals are satisfied in sufficient manner. Second, strategic business areas are not necessarily financial in their nature. Several approaches to non-financial indicators selection exist, of which the most established is Balanced Scorecard – BSC (Kaplan and Norton, 1992, 1993, 1996, 1996a).

After defining constructs involved, next logical step in the process is to examine relationships among them and set hypotheses to be tested afterward in the study. Influence of OL process on both FP and NFP is examined. Dimovski (1994) demonstrated positive impact of OL on both FP and NFP, using one-industry research design and stratified sample of 200 credit unions in Ohio. The study investigated determinants, process and outcomes of organizational learning, as well as relationship between organizational learning and performance. Sloan et al. (2002), Lam (1998) and Figueireido (2003) also reached similar conclusions. Simonin (1997) found strong effects of learning on financial and non-financial performance in the context of strategic alliances. Specifically, he tests influence of collaborative know-how on tangible as well as intangible collaborative benefits. Tangible benefits are strategic and financial: generating additional profits, improving market share, and sustaining competitive advantage. Intangible benefits are learning or knowledge-based: learning specific skills and competencies (Kogut, 1988), learning about inter-firm cooperation (Lyles, 1988), and learning how to behave cooperatively (Lane and Beamish, 1990).

We have to be aware of the fact that various aspects of organizational learning contribute to performance. Pisano et al. (2001) examine learning curves in health care setting and determine that organizations achieve performance improvements (improve work processes – reduce procedure times, hence increase efficiency) from cumulative experience at different rates. Cohen and Levinthal (1990) argue that ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends (named absorptive capacity) is critical to its innovative capabilities. Darr et al. (1995) examine the acquisition, depreciation and transfer of knowledge acquired through learning by doing in service organization and find evidence of learning: as the organizations gain experience in production, the unit cost of production declines significantly. On these bases hypotheses in Table 1 were set.

Table 1

Hypotheses

#	Hypothesis	Source
H1	Higher-level organizational learning (OL) leads to better financial performance (FP).	Darr et al., 1995. Dimovski, 1994. Lam, 1998. Simonin, 1997. Sloan et al., 2002.
H2	Better organizational learning (OL) leads to better non-financial performance (NFP).	Cohen and Levinthal, 1990. Dimovski, 1994. Figueiredo, 2003. Pisano et al., 2001. Simonin, 1997.

2.1. Measurement sub-model conceptualization

Table 2 exhibits model operationalization. Three constructs (OL, FP and NFP), matching measurement variables (indicators), number of items used in the questionnaire and sources for underlying theories are presented. OL construct will have 3 measurement variables: Information acquisition (INFOACQ), Information interpretation (INFOINT) and Behavioural and cognitive changes (BCC). When reporting on INFOACQ respondents were asked about importance of different sources of information (such as employees, previous decisions, external experts, clipping, competition, external data sources etc.). Perceived importance of several ways to interpret information (personal contacts, teams, phone contacts, reports, memos etc.) will be used to measure INFOINT. Behavioural and cognitive changes (BCC) will be aggregated using 14 items asking about last three-year changes in several areas (adaptability to pressures from external environment, quality of products and services, general atmosphere in company, efficiency of team meetings, speed of business etc).

Financial performance (FP) will be measured with 2 one-item measurement variables: Return on assets (ROA) and Value added per employee (VAEMP) in last three years relative to industry average, using bipolar scale. These results will reflect business performance from owners' point of view, even though we are well aware of all the problems related to ROA (such as 'creative accountancy'). The same approach will be used for non-financial performance (NFP) to capture perspectives of other stakeholders in a firm as a coalition of interests. Three single-item measurement variables utilized are Stability of relationships with suppliers (SUPPLY), Net fluctuation of employees (EMPLOY) and Customer complaints (BUYER).

Table 2

Specification of constructs – latent variables, indicators, number of measurement items and their sources

Latent variables (constructs)	Measurement variables (indicators)	Number of items aggregated into each	Sources
Organizational learning (OL)	Information acquisition (INFOACQ)	12	Daft and Weick, 1984. Daft and Lengel, 1986. Martello, 1993.
	Information interpretation (INTINF)	11	
	Behavioural and cognitive changes (BCC)	14	Zahra and Covin, 1993. Dimovski, 1994.
Financial organizational performance (FP) – perspective of owners	Return on assets (ROA)	1	Freeman, 1984, 1994: Stakeholder theory. Kaplan and Norton, 1992, 1993, 1996, 1996a: Balanced scorecard.
	Value added per employee (VAEMP)	1	
Non-financial organizational performance (NFP) – perspective of other stakeholders	Stability of relationships with suppliers (SUPPLY)	1	Kaplan and Norton, 1992, 1993, 1996, 1996a: Balanced scorecard.
	Net fluctuation of employees (EMPLOY)	1	
	Customer complaints (BUYER)	1	

3. Methodology and results

Methodology utilised to test our model is structural equation modelling (SEM). We used LISREL 8.53 software. Our model was found to be as over-identified. Preceding data analysis, sample and data collection process are briefly presented.

3.1. Sample characteristics

Based on the model conceptualization, a measurement instrument – questionnaire – was developed and sent in June 2003 to CEO's or board members of all Slovenian companies with more than 100 employees, which accounted for 867 companies altogether. In first three weeks 234 completed questionnaires were returned. Fourteen out of them were excluded from further analysis due to missing values and the response rate accounted for 25.4%, which can be considered as success. That implies the fact that after 20 years of academic examination and scrutiny, organizational learning nowadays poses very important issue for practitioners as well as academia. Furthermore, no round of reminder was needed as we gathered enough data (in one month period) to allow for robust estimation of the model.

We aimed at audience of top managers having in mind the idea to have a strategic and to some degree even interdisciplinary perspective on company in question although there is some discrepancy between desired and actual structure of respondents. Figure 2 depicts structure of respondents by their function. Structure of our sample by company size is good representation of population of large Slovenian companies. Based on average-number-of-employees criterion, in

year 2002, 51.4% of the companies had between 100 and 249 employees, followed by 24.6% of the companies with 250 to 499 employed persons, 11.8% had 500-999 and 12.2% of the companies had 1000 and more employees.
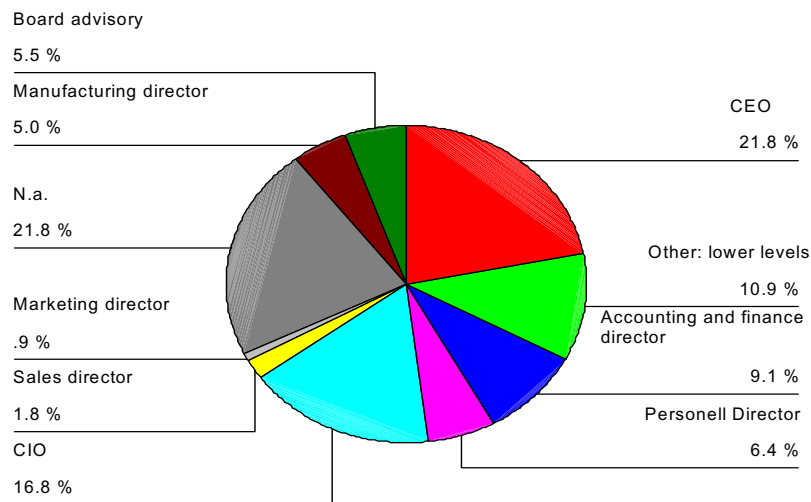

Fig. 2. Repondent structure by function within the company

Table 3

Structure of respondents – by industry

Industry (SIC)		Frequency	Percent
A	Agriculture, hunting and forestry	8	3.6
B	Fishing	0	0
C	Mining and quarrying	1	.5
D	Manufacturing	107	48.6
E	Electricity, gas and water supply	14	6.4
F	Construction	23	10.5
G	Wholesale & retail, repair motor vehicles, personal & household goods	20	9.1
H	Hotels and restaurants	6	2.7
I	Transport, storage and communication	12	5.5
J	Financial intermediation	13	5.9
K	Real estate, renting and business activities	1	.5
L	Public administration and defence, compulsory social security	1	.5
M	Education	0	0
N	Health and social work	1	.5
O	Other community, social and personal service activities	13	5.9
Total		220	100.0

Table 3 serves to demonstrate industry structure of companies in question. Our respondents reported in almost half of all cases that their main industry was manufacturing, followed by 10.5% of companies in the construction business and 9.1% in trade and the repair of

motor vehicles. Four out of fifteen industries only have one representative each, while there was no company stating fishery and education as their main industry. This is logical since we excluded non-profit and small businesses from our analysis.

3.2. Model-fit assessment

Model fit was assessed from three perspectives: (1) at global level (using several fit indices such as χ^2, Root mean square of approximation etc), (2) at level of structural sub-model and (3) at level of measurement sub-model (construct validity and construct and measurement variable reliability). Model fit relates to degree to which hypothesized model is consistent with data at hand – degree to which implied matrix of covariances (based on hypothesized model) and sample covariance matrix (based on data) fit (Bollen, 1989). Aim of global fit assessment is to determine degree to which model as a whole is consistent with data gathered. Through years, numerous global fit indices have been developed. Unfortunately, none of them is superior to others. Different authors favour various measures. Diamantopoulos and Siguaw (2000) recommend using several measures and at the same time provide reference values for every one of them (Table 4).

Table 4

Fit indices

Fit indices	Model value	Reference value	Global model fit?
χ^2 (level of significance p)	32.920 (0.0115)	$p \geq 0.05$	No
RMSEA	0.0628	< 0.100	Yes (Acceptable)
Standardized RMR	0.0485	<0.05	Yes
GFI	0.965	≥ 0.90	Yes
AGFI	0.926	≥ 0.90	Yes
NFI	0.940	≥ 0.90	Yes
NNFI (TLI)	0.950	≥ 0.90	Yes
CFI	0.970	≥ 0.90	Yes

The most traditional value is χ^2 statistics. Using this fit indicator we test hypothesis that implied covariance matrix equals sample covariance matrix. Our goal is not to reject this hypothesis. In our case this hypothesis must be rejected (at 5% level of significance) which might lead to (false) assumption that model is not completely acceptable. Nevertheless, researchers are usually willing to accept approximately correct models with small misspecifications. Having established that the level of misfit is small, we can move on to an examination of the other fit indices. All other indices lead to conclusion that model is appropriate representation of reality. Root means square error of approximation (RMSEA) is the most wide spread measure of global fit and in our case points to acceptable model-fit. Standardized root mean square residual (Standardized RMR) is fit index calculated from standardized residuals (differences between elements of sample and implied covariance matrix). Goodness-of-fit (GFI) index and Adjusted goodness-of-fit (AGFI) index are absolute fit indices which directly assess how well covariances based on parameter estimates reproduce sample covariances (Gebring and Anderson, 1993). Incremental fit indices (normed fit index – NFI, non-normed fit index – NNFI and comparative fit index – CFI) compare the χ^2 statistics of the researcher's model and a base model that assumes that all variables are uncorrelated (Bentler, 1990). The NNFI and CFI seem to be more independent of sample size and to better account for parsimony. NFI, NNFI (also called The Tucker and Lewis' index – TLI) and Bentler's (1990) CFI all satisfy criteria of model-fit. Those

three and all other indices described above lead to conclusion that the model can be regarded as an appropriate approximation of reality (at global level).

When assessing measurement sub-model fit, we focus on relationships between latent variables and their indicators (measurement, observed variables). Goal is to determine reliability and validity of measurement variables used to represent constructs of interest. Validity refers to degree to which indicator actually measures what it was supposed to measure, while reliability deals with consistency of measurement (Tabachnick and Fidell, 2001). Data for construct validity measurement can be obtained from LAMBDA-Y and LAMBDA-X (Tables 4 and 5) matrices for non-standardized parameter estimates. All t-values are larger than 1.96, meaning that construct validity is achieved in our case. For completely standardized parameter estimates goes that, the greater the weight, the more valid certain indicator for certain construct measurement is. Absolutely the most valid indicator in our model is Value added per employee (VAEMP), while the worst indicators are Information acquisition (INFOACQ) and Information interpretation (INFOINT). This might point out necessity to invest further efforts in operationalization of Organizational learning (OL) construct in future.

When reliability is an issue we need to address it in two steps: (1) reliability of individual indicators, and (2) construct (composite) reliability. Former is measured using R^2 for every single individual indicator and presents part of variance in an indicator explained by its latent variable. In our case, the most reliable indicator for OL is BCC, the most reliable indicator for FP is VAEMP and the most reliable measure of NFP is SUPPLY. The most reliable indicator in the model is VAEMP, while the least reliable measurement variable is INFOINT. For every single construct composite reliability can be calculated (in LISREL 8.53 still manually) using following formula:

$$\rho_c = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \theta_i},$$

where λ are indicator loadings and θ are variances of indicator errors (whether δ or ε). Data were obtained from completely standardized solution. It is desired that ρ_c exceeds 0.6 in order to be able to state that certain construct as a whole is reliable. In our case $\rho_{OL} = 0.62$, $\rho_{FP} = 0.86$ and $\rho_{NFP} = 0.63$. Based on these three calculations it can be said that composite reliabilities in our case are adequate. Construct FP is the pre-eminently operationalised, which was expected given the objectivity of the indicators involved in the constructs (as opposed to potentially subjective measures included into OL and also NFP and elusiveness of OL concept).

Table 4

Lambda Y matrix (non-standardized values)

LAMBDA-Y	Fp	Nfp
ROA	0.873	- -
VAEMP	0.895 (0.123) 7.273	- -
SUPPLY	- -	0.582
EMPLOY	- -	0.579 (0.092) 6.298
BUYER	- -	0.337 (0.064) 5.249

Table 5

Lambda X matrix (non-standardized values)

LAMBDA-X	OI
INFOACQ	3.443 (0.498) 6.912
INTINF	2.386 (0.409) 5.827
BCC	5.499 (0.550) 10.001

R^2 for FP equals 0.154, which is relatively low value. We managed to explain variance of NFP construct much better using OL as an exogenous variable ($R^2 = 0.454$). If nothing else, this discrepancy proves the fact that inclusion of non-financial performance indicators in the model (and their separation from financial performance) was a reasonable and correct thing to do.

3.3. Results

Maximum likelihood (ML) method was used to estimate parameter values. In this phase, hypotheses set in conceptualization phase, is tested. Even though several methods can be used for this purpose, ML is the most often used and has an advantage of being statistically efficient and at the same time specification error sensitive, because it demands only complete data and does not allow for missing values. All methods will, however, lead to similar parameter estimates under the circumstance that sample is large enough and that the model is correct (Jöreskog and Sörbrom, 1993). In Figure 3 path diagram of our model (with completely standardized parameter estimates and corresponding t-values) is presented.

Organizational learning construct (OL) demonstrated statistically significant positive and strong impact on both Financial (FP) and Non-financial performance (NFP), which means that hypotheses 1 and 2 can be considered to have empirical support in data at hand. What is interesting is that performance implications of organizational learning tend to be even more expressed in terms of improved loyalty of customers, better relationships with suppliers and employees than purely in terms of increased return on assets and value added per employee comparable to competitors.
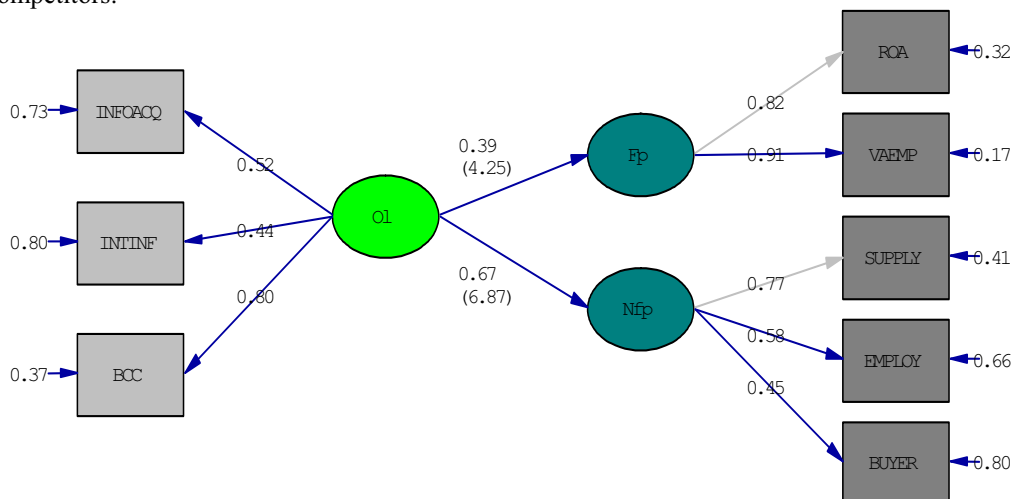

Fig. 3. Research model (completely standardized parameter values and t-values)

4. Concluding remarks

Companies and their managers are in perpetual search for source of (sustainable) competitive advantage. In the new, knowledge based economy, where information and knowledge play crucial role, it is extremely important to put in force systematic efforts to achieve organizational learning of higher level, which we might name double-loop learning, strategic learning or generative learning. Our research demonstrated statistically significant positive and strong impact of organizational learning on both financial and non-financial organizational performance. Companies that will manage to develop organizational learning of higher level will gain in terms of higher profits and value added per employee relative to its competitors. Besides that, relationships with their main groups of stakeholders will improve. Besides improved financial picture of the company, higher level organizational learning endorses better relationships with employees, customers and suppliers. Those groups of stakeholders are crucial for organizational effectiveness and efficiency in modern, network economy characterized with high interdependence of business subjects on the global level.

All of the findings reflect themselves throughout whole modern paradigm of management process. In planning phase management needs to bear in mind goals of all stakeholder groups. Our research demonstrated that besides ethical, altruistic, reasons also very practical, financial ones were established. From managerial function of organizing point of view, one can say that situational variables of modern business environment demand organizational structure closer to organic type. Organizations, that will be more customer-oriented, that will covet for improvement of relationships with employees and optimization of supply chain, will perform better. To support learning, cooperation and empowerment of employees are tasks of a modern leader in a learning organization. Modern leaders need to endorse organizational culture of trust, cooperation and information sharing. This might be the place where ICT (e.g. intranet, virtual communities of employees etc.), reward systems and strong leadership can support organizational learning efforts. To be able to perform efficient and effective control in a turbulent environment, characterized with decentralization of knowledge and constant change, various information systems for control are compulsory to track results that organizational learning convey.

5. Conclusion

In our paper we argued that given the importance of organizational learning for firms, the relationship between organizational learning and performance requires empirical scrutiny. Main goal of our contribution was to develop conceptual and empirical framework to simultaneously test impact that organizational learning process has on organizational performance – in financial and non-financial terms. Using data for 220 Slovenian companies with more than 100 employees gathered in June 2003 two hypotheses were tested. Companies that invest more efforts in achieving higher-level organizational learning gain both in financial and non-financial terms. Our paper demonstrated positive performance implications of organizational learning and contributes to the knowledge base collecting a large database in a context where not many previous studies have been conducted. Performance implications can be both financial (in terms of increased return on assets and value added per employee in comparison to industry average) as well as non-financial (measured with net fluctuation of employees, stability of relationships with key suppliers and number of customer complaints). These results are consistent with previous empirical research (Dimovski, 1994; Figueiredo, 2003; Lam, 1998; Simonin, 1997; Pisano et al., 2001; Sloan et al., 2002).

We have to be aware of some limitations to our research and directions for future research stemming from those origins. First, sample size and context always pose important limitation. We used sample of Slovenian companies with more than 100 employees in year 2003. It would be very interesting and useful to introduce cross-cultural dimension in the context and to cross-validate model in different settings (e.g. EU countries, USA, Asian 'tigers' etc). Second, longitudinal study could provide some additional insights into issue of performance from higher-level organizational learning. Organizational learning might have even stronger impact with some

kind of time lag. Third, we have to be aware of problems with operationalization of Organizational learning construct. By all means, to measure such an elusive concept poses big challenge to research community. Nevertheless, authors hope and believe that model developed and tested presents relatively well balanced relationship between complexity of organizational learning process and organizational performance in modern business environment on one hand, and simplicity of its formulation in the model on the other. Significant portion of work still lies ahead. Authors hope to have demonstrated importance of systematic efforts to achieve strategic, generative or double-loop organizational learning for strategic management of modern company in its perpetual quest for competitive advantage.

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