# Transactional and transformational leadership impacts on organizational learning*

*Hugo Zagoršek, Vlado Dimovski, Miha Škerlavaj***

*This study empirically relates two important areas of management research: the full-range theory of leadership and the organizational learning process. Specifically, this contribution addresses three issues: (1) the impact of transformational leadership and (2) of transactional leadership on the organizational learning process and (3) whether the influence of transformational leadership is stronger than of a transactional type of leadership. The results show that transformational leadership has a strong impact on all four constructs of organizational learning. A direct impact is evident only regarding information acquisition and behavioural and cognitive changes.*

*Die vorliegende Studie bezieht sich auf zwei wichtige Bereiche der Managementforschung: Die Führungstheorie und den Prozess des organisationalen Lernens. Insbesondere befasst sich der Beitrag mit drei Themen: (1) der Auswirkung transformationalen Führung und (2) der Auswirkung transaktionaler Führung auf den organisatorischen Lernprozess sowie (3) ob der Einfluss der transformationalen Führung stärker ist als der Einfluss einer transaktionalen Führung. Die Ergebnisse zeigen, dass die transformationale Führung einen starken Einfluss auf alle vier Kontrukte organisationalen Lernens hat. Ein direkter Einfluss wird nur im Hinblick auf Informationsbeschaffung und Verhaltens- und Kognitionsveränderungen sichtbar.*

*Key words: Transactional leadership, transformational leadership, organizational learning process*

# 1. Introduction

Organizational learning is one of the most important sources of sustainable competitive advantage that companies have (de Geus 1988), as well as an important driver of corporate performance (Stata 1989). Given the turbulent environments that organizations work within, continuous learning is a key driver of their ability to remain adaptive and flexible – that is, to survive and effectively compete (Burke et al. 2006). Studies have shown that organizational learning affects competitive advantage (Jashapara 2003), financial and non-financial performance (Bontis et al. 2002; Škerlavaj/Dimovski 2004; Dimovski/Škerlavaj 2005; Jimenez-Jimenez/Cegarra-Navarro 2006), tangible and intangible collaborative benefits in strategic alliances (Simonin 1997), the unit cost of production (Darr et al. 1995), and innovation (Llorens et al. 2005).

Given the significance of organizational learning for corporate performance, understanding ways in which managers can influence the learning process in organizations is becoming increasingly important. Lei et al. (1999), Llorens et al. (2005), Senge (1990), and Swieringa/Wierdsma (1992) emphasize the importance of leadership for organizational learning. Maani/Benton (1999), Slater/Narver (1995), and Snell (2001) describe capability with regard to transformational leadership as one of the most important means of developing learning organizations, while recent theoretical developments emphasize the importance of a contingent approach toward leadership and organizational learning (Vera/Crossan 2004).

Other than the above mentioned, the literature rarely addresses the relationship between leadership and organizational learning, particularly in the context of a transitional economy outside North America. Only a few empirical studies exist to date and even in these, the impact of leadership on organizational learning was not the primary research focus. Hence, Vera/Crossan (2004) call for an empirical investigation of both transformational and transactional leadership styles and organizational performance. Nevertheless, the scarce empirical evidence does indicate that certain kinds of leadership behaviours, such as supportive, empowering, and transformational leadership, do have a positive influence on learning in organizations (Aragon-Correa et al. 2005; Burke et al. 2006; Kurland/Hertz-Lazarowitz 2006; Llorens Montes et al. 2005; Shin/Zhou 2003).

The study empirically investigates the relationship between leadership and organizational learning in the context of a transitional economy. More specifically, the study examines the influence of transformational and transactional leadership on learning in organizational units drawn from a wide range of organizations. The basic research questions are: (1) whether transformational leadership contributes to learning in organizations, (2) whether transactional leadership contributes to organizational learning, and (3) whether

the influence of transformational leadership is stronger than the influence of the traditional, transactional type of leadership.

The article consists of four sections. The first section provides an overview of the concepts used in the study: organizational learning and transformational leadership. It also reviews existing research on the relationship between leadership and learning in organizations, develops a theoretical model, and proposes hypotheses to be tested. The second section deals with the methodology and discusses the research instrument, research design and data collection, characteristics of the sample, and the statistical methods used. The third section presents the results pertaining to the four main hypotheses tested in the study. The last section discusses the theoretical and practical implications of the study, reviews its contributions and limitations, and concludes by proposing some future research challenges.

## Theoretical background

### Organizational learning

Numerous definitions of organizational learning exist (Bontis et al. 2002; Dimovski 1994; Shrivastava 1983). Huber (1991) defines organizational learning as the processing of information with the aim to store knowledge in the organizational memory. According to Huber (1991), organizational learning consists of four constructs: (1) information acquisition; (2) information distribution; (3) information interpretation; and (4) organizational memory. Kim (1993), Dimovski (1994), Crossan (1995), and Sanchez (2005) extend Hubers' information-processing perspective to include behavioural and cognitive changes which should, in turn, have an impact on organizational performance.

The article builds upon the above-mentioned definitions and considers organizational learning as a process consisting of four consecutive constructs: (1) information acquisition; (2) the distribution of information; (3) information interpretation; and (4) the resulting behavioural and cognitive changes. The first three constructs together represent the information-processing stage, which can be understood as the transformation of information into knowledge. While we might expect these constructs to be highly related in empirical terms, they are theoretically distinct and treated as such.

Together with the organizational-learning process in general, information processing starts with information acquisition. Organizational members collect information from sources inside the company and outside the company, while in modern learning organizations an important aspect of information acquisition occurs through employee training. Obviously, there are at least three sub-dimensions to information acquisition: (1) "information acquisition from internal sources" and (2) "information acquisition form external sources", and

(3) "employee training". When assigned adequate importance, these three sub-dimensions allow employees to continuously update their work-related information base.

**Information distribution.** The information one gathers through various sources and ways needs to be distributed to those members of an organization that might require it (Huber 1991). Several channels and conduits exist that allow for information distribution. Brown and Duguid (1991) and Koffman and Senge (1993) rely more on "people" (employees are acquainted with goals, take part in more cross-functional teams, etc.), while others rely on "systems" (e.g. the information system, organized meetings to inform employees, formalized mechanisms, and systems to facilitate the transfer of best practices).

**Information interpretation** is understood as the process of translating events, of developing models for understanding, of bringing out meaning, and of assembling conceptual schemes (Weick/Daft 1984). The purpose of interpreting information is to reduce the ambiguity related to information. Organizations use different media for interpreting the information: personal contacts, telephone conversations, written memorandums, letters, special reports, the formal chain of command, (Daft/Lengel 1986), as well as some modern media such as videoconferences, electronic mail, or an intranet. Information interpretation also differs in the way people get together in order to understand the information acquired and distributed (Škerlavaj et al. 2006). Some vehicles might be "formal" such as official memorandums, expert reports, seminars, and similar events. Other might be more "informal" and involve team and personal meetings.

*Behavioural and cognitive changes*

Organizational learning is reflected in accompanying changes (Garvin 1993). Spector and Davidsen (2006) claim that "learning is fundamentally about change". If no behavioural or cognitive changes occur, organizational learning has not in fact happened and the only thing that remains is unused potential for improvement (Fiol/Lyles 1985; Garvin 1993; Sanchez 2005).

## Transformational and transactional leadership

This study applies the "full-range leadership theory" as conceptualized by Bass (1985) and developed by Avolio and Bass (1991). They distinguish between three major types of leadership behaviour: laissez-faire (non-leadership), transactional, and transformational leadership. This article focuses on the latter two.

The transactional leadership process builds upon exchange: the leader offers rewards (or threatens punishments) for the performance of desired behaviours and the completion of certain tasks. This type of leadership may result in

followers' compliance, but is unlikely to generate enthusiasm for and a commitment to task objectives. Transformational leadership lies in the leader's ability to inspire trust, loyalty, and admiration in followers, who then subordinate their individual interests to the interests of the group. Rather than analyzing and controlling specific transactions with the followers by using rules, directions and incentives, transformational leadership focuses on intangible qualities such as vision, shared values, and ideas in order to build relationships, give larger meaning to separate activities, and provide common grounds in order to enlist followers in the change process.

Transactional leadership has three dimensions. Contingent reward leadership refers to leader behaviours focused on clarifying role and task requirements and providing followers with material or psychological rewards contingent on the fulfilment of contractual obligations. "Active management by exception" refers to the active vigilance of the leader, whose goal is to ensure fulfilment of the standards. Passive management by exception occurs when the leader waits to take action until mistakes are brought to his or her attention – the leader fails to intervene until problems become serious (Antonakis et al. 2003).

## Leadership styles and organizational learning

By the nature of their status, leaders serve as the information centres of their units or teams. They therefore have a strong influence on the acquisition and distribution of information. Transformational leaders encourage open, honest, and timely communication, and foster dialogue and collaboration between team members. They encourage the expression of different views and ideas. They act as catalysts, speeding up knowledge acquisition and distribution. By allowing the expression of different views and ideas, by challenging old assumptions and beliefs, and by stimulating new perspectives they enhance the process of information interpretation, as well. On the other hand, transformational leaders may facilitate the cognitive and behavioural changes in organizational members resulting from previous phases of organizational learning.

The empirical evidence, although scarce, generally supports these assertions. In their meta-analysis, Burke et al. (2006) examined the relationship between leadership behaviour in teams and team performance outcomes. They found that, out of 50 empirical studies (up to 2004), only three included organizational learning as the outcome variable and none of them examined the relationship between transformational leadership and organizational learning. From more recent studies, Aragon-Correa et al. (2005) used data from 408 large Spanish firms and found that transformational leadership facilitates the organizational members' ability to create and use knowledge. Similarly, a study of 202 Spanish companies established a strong and positive impact of support leadership on learning in organizations (Llorens Montes et al. 2005). Recent research in the Israeli non-profit sector (schools) showed that transformational leadership has a

significant positive direct effect on organizational learning (β = .21) (Kurland/Hertz-Lazarowitz 2006). The effect of transactional leadership was still positive but somewhat weaker (β = .15).

While clear theoretical arguments for the influence of transformational leadership on organizational learning exist, the role of transactional leadership is not so clear. Vera and Crossan (2004) propose a theoretical model where good leaders are those that know how to switch between a transformational and a transactional style of leadership in accordance with the situation (regarding the environment, strategy, prior firm performance, and stage of organizational life) in order to facilitate organizational learning. One might expect that transactional leaders promote the acquisition and exchange of information, but only to the extent that it clarifies role and task requirements or serves some other clear purpose. In a similar manner, information interpretation is encouraged, yet not to the same degree as with a transformational leader. Consequently, some cognitive and behavioural changes in organizational members do occur as a result of organizational learning. These arguments lead to the following hypotheses.

*Figure 1. Hypothesized impacts of laissez-faire, transactional, and transformational leadership on organizational learning*
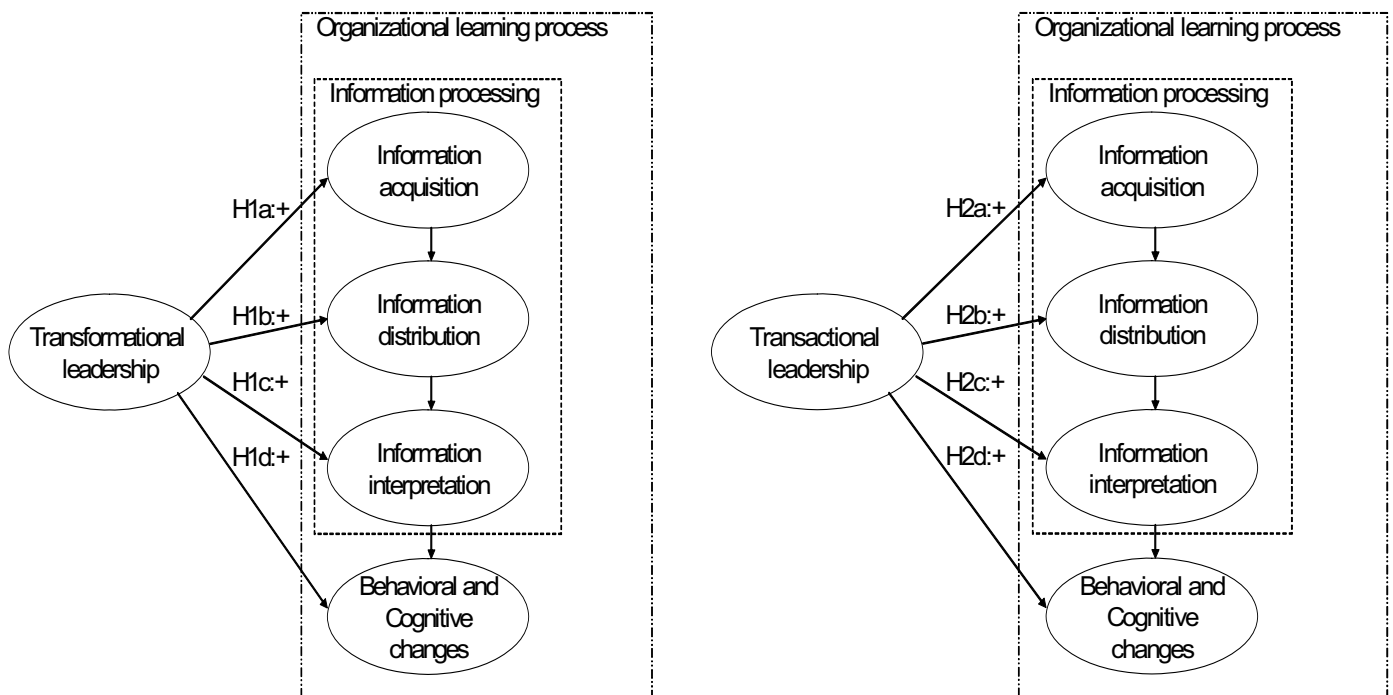
Hypothesis 1: Transformational leadership positively influences the information acquisition ($H_{1a}$), information distribution ($H_{1b}$), information interpretation ($H_{1c}$), and cognitive and behavioural change ($H_{1d}$) dimensions of organizational learning. Hypothesis 2: Transactional leadership positively influences the information acquisition ($H_{2a}$), information distribution ($H_{2b}$), information interpretation ($H_{2c}$), and cognitive and behavioural change (H2d) dimensions of organizational learning. Hypothesis 3: Transformational leadership has the strongest impact on all four aspects of the organizational learning process as compared to transactional leadership.

The conceptual models in Figure 1 summarize the relationships between the three types of leadership and organizational learning.

## Method

### Research instrument

Using pre-tested constructs and measures allows for the validity and reliability of the data collected. For the constructs of the organizational learning process, the study used the OLIMP questionnaire (Dimovski 1994; Škerlavaj et al. 2007; see Appendix A). The instrument has been refined and tested on several occasions (in the USA, Slovenia, Croatia, Malaysia) at various points in time (1994, 2002, 2003, 2004, 2005, 2006) always yielding adequate psychometric properties. The questionnaire uses five-point Likert scales and consists of four dimensions and nine sub-dimensions, totalling 36 items.

For the measurement of leadership styles, the study uses the Multifactor Leadership Questionnaire (MLQ), which is one of the most widely used and tested measures of transformational and transactional leadership. Antonakis et al. (2003), Avolio et al. (1995), and Lowe et al. (1996) document its sound psychometric properties. It contains 36 items representing the nine factors described above. The MLQ was translated into the Slovenian language using the translation ./ back-translation technique. Prior to the study 130 respondents filled in the Slovenian version of the MLQ questionnaire, obtaining good levels of reliability.

### Research design and data collection

The study uses the organizational unit as the unit of observation and defines an organizational unit as a geographically or functionally distinct part of an organization which has its own leader. The respondents assessed the four constructs of organizational learning in their unit and as well rated their leaders (the leaders of their organizational unit) regarding the various leadership behaviours specified in the previous section.

Where random sampling is problematic (as in management research), one way to enhance the generalizability of findings is to deliberately sample for heterogeneity (Mark/Cook 1984). By intentionally selecting subjects who come from diverse organizational settings, the researcher can determine whether a selected model accurately describes the actions of individuals across these divergent contexts. On the other hand, choosing a sample of firms located in a relatively homogenous geographic, cultural, legal, and political space reduces the impact of confounding variables (variables that cannot be controlled in the empirical research) (Triandis 1994). In line with these observations, the empirical context of the study is Slovenia in 2006. As such, the context of the present study differs from the predominantly North American research settings. This internationalization of the research context might contribute to the enhanced generalizability of the research findings and a better understanding of leadership styles, organizational learning processes as well as the impact of leadership on organizational learning.

Surveys were mailed to 1,914 alumni of the undergraduate programs of the Faculty of Economics of the University of Ljubljana, the premier business school in the country. In addition, electronic versions of the survey were sent to current and former students from the same school, which accounted for an additional 4,485 units.. Within the first three weeks of the mailing, 418 questionnaires had been completed and sent back, for a response rate of 22.3%. In addition, 374 usable electronic questionnaires were completed. After removing some questionnaires with a large number of missing answers, the final sample size equalled 753.

Using this research design, we were able to obtain data for organizational units of different sizes, from different functional backgrounds, and from different levels within the organizations. In addition, the units belonged to a wide range of companies in terms of size and industry. In this way the influence of confounding and background variables was randomized and cancelled out, increasing the validity of the empirical findings (Van de Vijver 2003).

**Characteristics of the sample**

The average age of the respondents was 34 years; 40% of them were female. Most (48%) have spent between 1 and 5 years in their present position, while 38% of them have worked in the same organizational unit for more than 5 years. The majority of the leaders rated by the respondents were male (67%). Most of them were between 30 and 50 years old (70%) and only 4% were younger than 30. 63% have spent more than 3 years as the leaders of their present organizational units, while only 11% have been in their present leadership position for less than one year. More than half of the leaders rated were in top management (52%), while the rest were in middle management (37%) and line

management (11%). The median number of subordinates that these leaders supervised was 17.

## Statistical methods used and model specifications

The method framework for data analysis is structural equation modelling. The relationships between the constructs were estimated using LISREL 8.7 with the correlation matrix (Appendix B) and asymptotic covariance matrix as inputs. We also conducted tests of multivariate normality and found non-normal data (both in terms of skewness and kurtosis) which yielded a need to report Satorra-Bentler (SCALED) Chi square fit indices (Sattora/Bentler 1988). In large samples the $\chi^2$ test becomes highly problematic because even trivial differences between theoretical and empirical covariance matrices may result in a large value of this statistic (Joreskog 1993). Therefore, researchers typically provide several measures of model fit and use the Comparative Fit Index (CFI), which appears to be the most accurate in a wide variety of situations (Hu/Bentler 1995), as the primary criterion of model fit.

Given the fact that transformational leadership and transactional contingent reward style overlap (Avolio et al 1999; Vera/Crossan 2004), the study used two separate models. Each model tests the influence of a particular type of leadership (transformational and transactional) on the four constructs of organizational learning. Two or more indicators, consisting of several items, measure all latent constructs.

# Results

## Validity and reliability

We used a confirmatory factor analysis (CFA) to assess the reliability and validity of the constructs used in the study. The construct validity measures show how well the indicators represent the corresponding latent variables. Table 1 presents non-standardized and completely standardized factor loadings together with the corresponding t-values for each indicator and construct in the measurement model.

The results show that the factor loadings for all indicators are statistically significant and exceed the threshold of .50 for convergent validity (Hair et al. 1998). The only exceptions are active and passive management by exception (MBE(a) and MBE(p)), which are a part of transactional leadership. This finding indicates that transformational leadership is a problematic construct. In addition, Cronbach's alpha for the transformational leadership as a whole only equals .57. A large divide between the contingent reward leadership dimension and the two management-by-exception dimensions is evident. Passive management by

exception even has a negative correlation with the overall transactional leadership construct.

It seems that the management-by-exception dimensions relate more to laissez-faire leadership than to contingent reward leadership, which epitomizes transactional leadership. Several empirical studies have obtained similar results. In a meta-analysis by Lowe et al. (1996), an MBE scale was the only scale that shows evidence of low reliability (mean Cronbach's $\alpha = 65$). A meta analysis by Dumdum et al. (2002) obtained similar results for the MBE(p) dimensions. In addition, the correlation between MBE(p) and leader effectiveness was negative (-.28) and similar to the correlation between laissez-faire leadership and effectiveness (-.29).

On the other hand, the correlation between MBE(a) and effectiveness was low (.08), while the correlation between contingent reward and effectiveness was significantly higher (.45). On the basis of these results, we removed the two management-by-exception dimensions (MBE(a) / MBE(p)) from further analysis. The contingent reward dimension serves as a proxy for transactional leadership in subsequent analyses. We have measured it with four MLQ items serving as indicators.

Table 2 shows the values of the Cronbach $\alpha$, composite reliability index (CRI), as well as the average variance extracted (AVE) for all latent variables in the final measurement. Diamantopoulos and Siguaw (2000) suggest that the threshold for CRI should be set at .60. Constructs exceeding that value have good composite reliability, which is the case with all latent variables. The cut-off value for AVE is .50 (Hair et al. 1998). For the Cronbach alpha it is .70 for studies in advanced phases ($\alpha 1$), and from .50 to .60 ($\alpha 2$) for studies in exploratory stages. (Nunnaly 1978; Van de Ven 1979). All of the constructs attain the recommended cut-off values using all three measures of construct reliability. The only exception is the information acquisition construct, which slightly fails the AVE internal consistency test but meets the required Cronbach alpha value for exploratory studies ($\alpha 2$) and, moreover, satisfies the CRI criteria, which is considered to be the most robust of all three reliability criteria (Diamantopoulos/Siguaw 2000).

*Table 1. Factor loadings and construct validity for the constructs used in the study*

| Latent variable | Indicator | Unstandardized factor loading | Completely standardized factor loading | t-values |
|---|---|---|---|---|
| Transformational leadership (Tf) | Idealized influence (attributed) II(a) | .78 | .84 | 31.97 |
| | Idealized influence (behavioural) II(b) | .60 | .74 | 23.02 |
| | Inspirational motivation IM | .85 | .83 | 30.12 |
| | Intellectual stimulation IS | .75 | .83 | 28.86 |
| | Individual consideration IC | .95 | .88 | 36.41 |
| Transactional leadership (Ts) | Contingent reward (CR) | .88 | .86 | 27.25 |
| | Active management by exception MBE(a) | .16 | *21* | 5.16 |
| | Passive management by exception MBE(p) | -.28 | -.32 | -8.39 |
| Laissez-faire leadership (Lfl) | LFL1 | 1.01 | .74 | 25.27 |
| | LFL2 | .99 | .76 | 25.59 |
| | LFL3 | .99 | .74 | 24.90 |
| | LFL4 | .95 | .73 | 22.67 |
| Information acquisition (Infoacq) | Internal information acquisition (INTERNAL) | .54 | .69 | 19.69 |
| | External information acquisition (EXTERNAL) | .45 | .57 | 15.58 |
| | Training as information acquisition (TRAINING) | .74 | .67 | 20.38 |
| Information distribution (Distinfo) | Information distribution via systems (SYSTEM) | .81 | .84 | 29.00 |
| | Information distribution via organizational members (PEOPLE) | .78 | .80 | 27.33 |
| Information interpretation (Infoint) | Informal means of information interpretation (INFORMAL) | .62 | .76 | 20.09 |
| | Formal means of information interpretation (FORMAL) | .63 | .72 | 21.28 |
| Behavioural and cognitive changes (Bcc) | Behavioural changes (BC) | .51 | .76 | 21.03 |
| | Cognitive changes (CC) | .77 | .88 | 31.17 |

*Table 2. Internal consistency and reliability*

| Construct | Cronbach α | CRI | AVE |
|---|---|---|---|
| Transformational leadership | .91 | .95 | .68 |
| Contingent reward leadership | .81 | .88 | .52 |
| Information acquisition | .67 | .78 | .42 |
| Information distribution | .81 | .88 | .67 |
| Information interpretation | .71 | .81 | .55 |
| Behavioural and cognitive changes | .78 | .88 | .68 |

*Figure 2. The impact of transformational leadership on organisational perfermance*
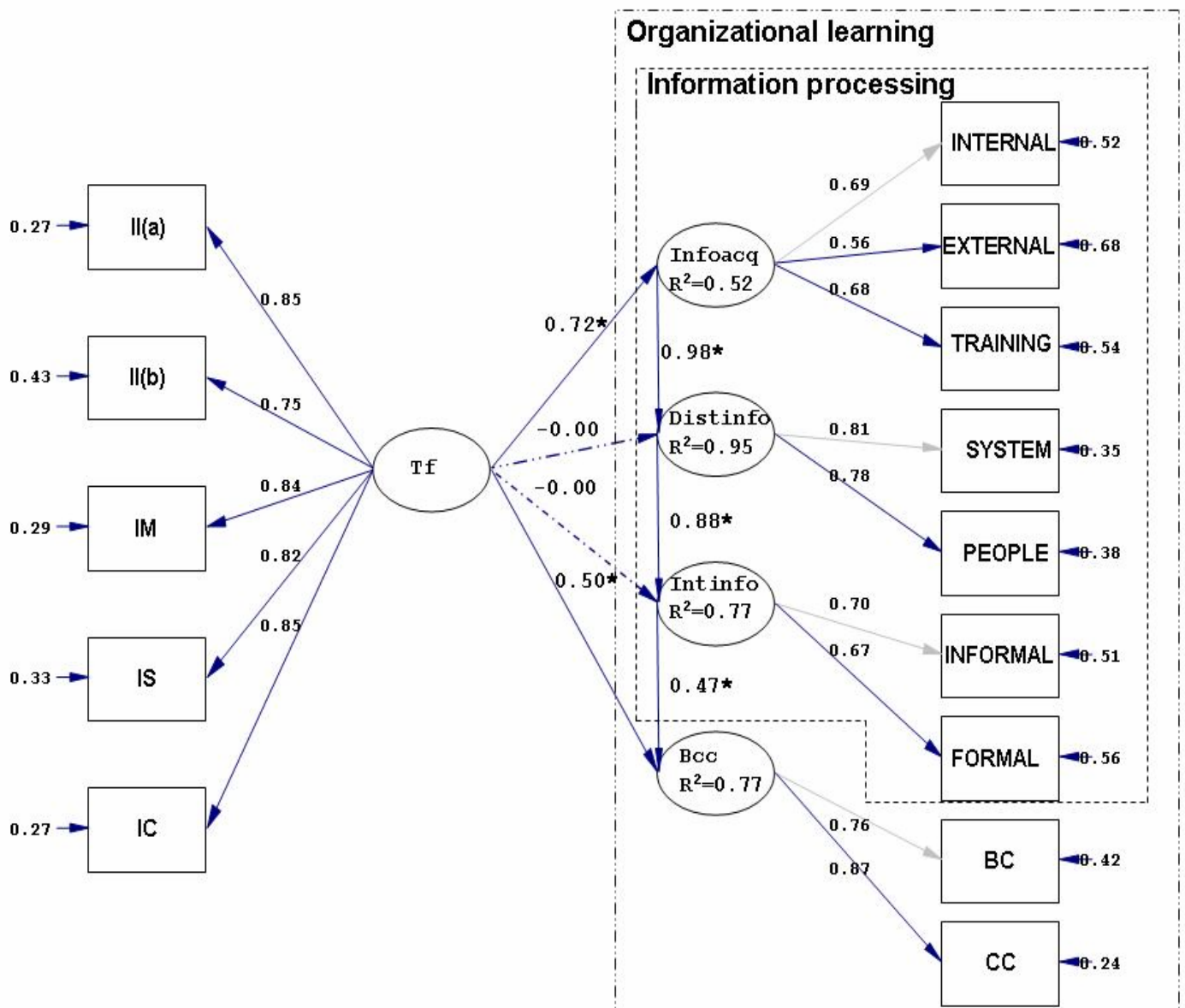


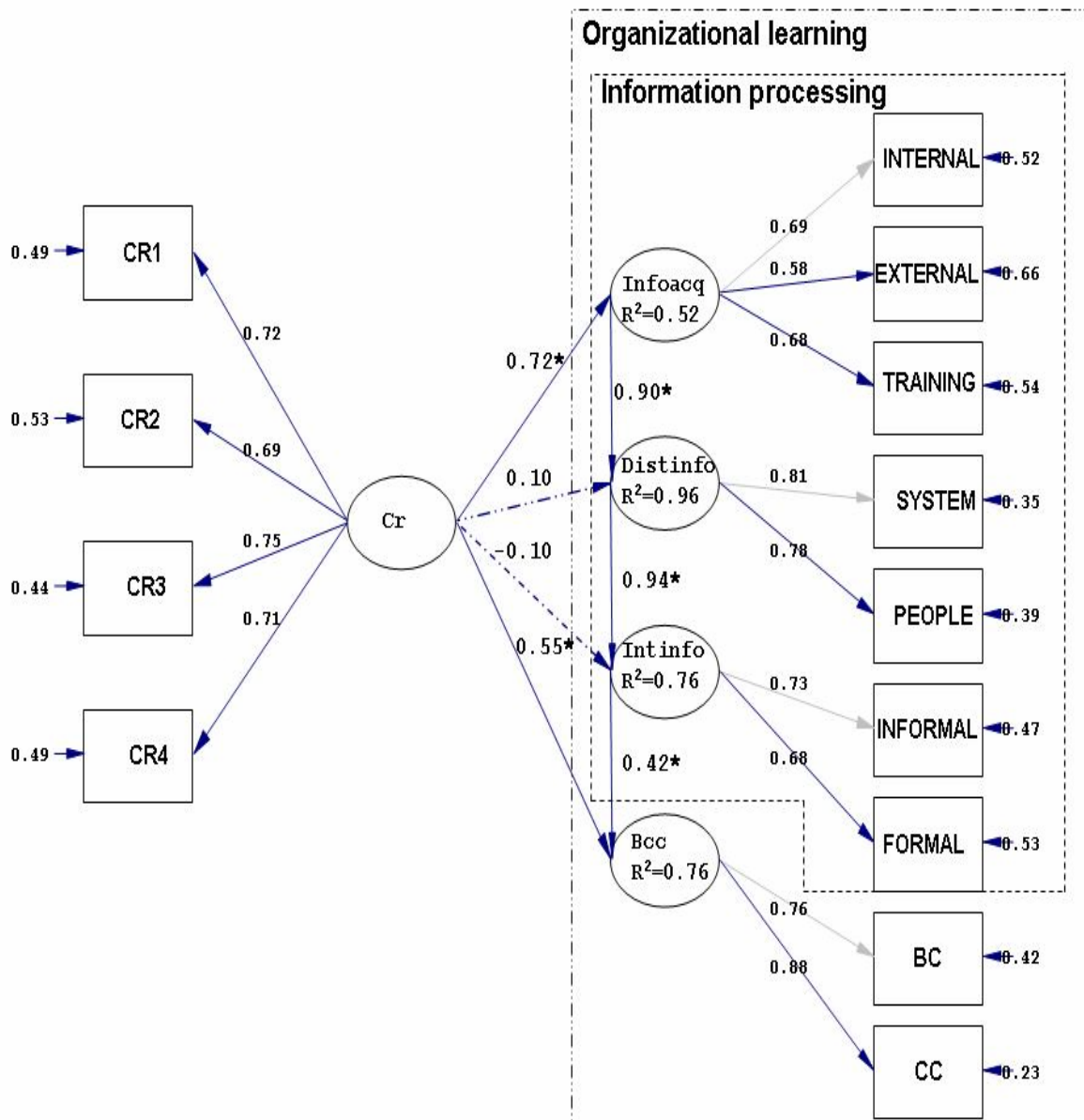* Statistically significant at p<0.001.

**The relationship between leadership and organizational learning**

Model 1: The impact of transformational leadership on organizational learning. Figure 2 presents a structural model of the relationship between transformational leadership and organizational learning along with the standardized values of path coefficients. Statistically significant structural coefficients are marked with an asterisk. Figure 2 also provides the overall coefficients of determination ($R^2$) for each of the endogenous constructs. The model has a good fit to the data ($\chi^2 = 351.46$ , df = 70, NNFI = .98, CFI = .98, and GFI = .93). In addition, the high values of the determination coefficients indicate that the model explains a large percentage of the variance in the endogenous latent variables.

Hypothesis 1 predicts that transformational leadership will have a strong and positive influence on all four constructs of organizational learning. The results show that only two of these four relationships (H1a and H1d) are statistically significant at p<.001. Transformational leadership demonstrates a strong direct impact on information acquisition ($\gamma = .72$) as well as on behavioural and cognitive changes ($\gamma = .50$). Transformational leadership demonstrates a strong indirect effect on information distribution via information acquisition ($\beta = .71$), rather than a direct one. Similarly, the indirect effect of transformational leadership (via information acquisition and information distribution) on information interpretation is statistically significant, positive, and strong ($\beta = .61$). The total effect of transformational leadership on behavioural and cognitive changes, which includes direct and indirect effects, amounts to .79.

Model 2: The impact of contingent reward leadership on organizational learning. Figure 3 presents the results of fitting the structural model of the impact of contingency reward leadership on the organizational learning process. The model shows a good fit ($\chi^2 = 265.32$ , df = 58, NNFI = .98, CFI = .98, and GFI =.94) and has relatively large coefficients of determination. With regard to the second hypothesis, a very similar pattern of structural coefficients emerges as in the first model. Contingent reward leadership as a proxy for transactional leadership demonstrates a statistically significant, positive, and strong impact on both information acquisition ($\gamma =.72$) and behavioural and cognitive changes ($\gamma = .55$). Surprisingly, the direct impact of contingent reward leadership on behavioural and cognitive changes is even a little stronger than with transformational leadership. Again, only indirect effects of contingent reward leadership on information distribution ($\beta = .65$) and information interpretation ($\beta = .61$) are evident. For both constructs, these indirect impacts are strong and even slightly stronger than with transformational leadership.

*Figure 3. The impact of contingent reward leadership on orgnisational performance*



Statistically significant at p<0.001.

Table 3 summarizes the direct and total effects of both types of leadership on the four organizational learning constructs. The total effects of transformational and transactional leadership are similar in their magnitude. Hence, we must reject Hypothesis 3.

*Table 3. Standardized direct, indirect, and total effects of the two types of leadership on organizational learning*

| Construct | Transformational leadership (H1) | | | Contingent reward leadership (H2*) | | |
|---|---|---|---|---|---|---|
| | Direct effect | Indirect effect | Total effect | Direct effect | Indirect effect | Total effect |
| Information acquisition | .72 | --- | .72 | .72 | --- | .72 |
| Information distribution | .00[n.s.] | .70 | .70 | .10[n.s.] | .65 | .75 |
| Information interpretation | .00[n.s.] | .61 | .61 | .10[n.s.] | .61 | .71 |
| Behavioural and cognitive changes | .50 | .29 | .79 | .55 | .25 | .80 |

All structural coefficients (except those marked) statistically significant at $p>0.001$; n.s. - not statistically significant; --- - not specified in the model.

## Discussion and conclusions

### Implications for theory

This study examines the influence of the transformational and transactional types of leadership on the organizational learning process. Two out of the three proposed hypotheses were confirmed in general, although not entirely. The results show that the same pattern of relationships emerges for both types of leadership. Leadership affects all four constructs of the organizational learning process, even though not directly. One explanation lies in the great correlation between the first three phases (the information processing part of organizational learning). The structural coefficients between information acquisition and information distribution, for example, range from .90 to .98 in the three models we tested. Similarly, the structural coefficients between the information-distribution and information-interpretation phases range from .88 to .94. Despite high correlations, they are distinct constructs as proved by both theoretical arguments (Huber 1991) and previous empirical research (Škerlavaj et al. 2007).

The influence of leadership is greatest on behavioural and cognitive changes, which are the final and apparently the most important phase of the learning process in organizations. The total effect of transformational leadership on behavioural and cognitive changes amounts to .79, while the total effect of contingent reward leadership equals .80. Leadership influences behavioural and cognitive changes in two ways. First, it affects them through the previous information-processing phases of the organizational learning process. By facilitating or impeding information processing in an organization, leaders encourage or impede changes in the mentality or behaviour of organizational members in order to address changes in the internal or external business environment. However, leaders also influence changes in behaviour and

cognition directly, over and above the indirect influence through information-processing phases. One might expect this conclusion, as leadership is a relatively comprehensive process that guides, structures, and facilitates all aspects of activities and relationships in a group. The direction of influence of the two leadership types is congruent with Hypotheses 1 and 2. The influence of both transformational and transactional leadership is strong and positive.

Probably the most interesting result of the study is that the effect of contingent reward leadership and organizational learning is practically equally strong as the effect of transformational leadership. Hence, this study offers no support for Hypothesis 3. The classical theoretical arguments presented in the literature review clearly argue that transformational leadership is a much more effective type of leadership in various settings and with various leadership outcomes. However, the results support the more recent theoretical developments of Vera/Crossan (2004) that propose a contingent approach toward leadership and organizational learning. In the present study, contingent reward leadership (as a major part of transactional leadership) proves to be even slightly more effective in facilitating organizational learning than transformational leadership.

Three reasons can contribute to such finding. First, contingent reward leadership enables followers to perceive the consistency in leadership behaviour as well as the reliability of their leaders. The leader secures agreements on the requirements of the job and rewards others in exchange for satisfactorily carrying out the assignment. The workers can rely on their leaders honouring their efforts through instrumental support or assistance in confrontations with superiors. From the perspective of followers, the consistent honouring of transactional agreements builds trust, dependability, and perceptions of consistency with regard to leaders, each of which form a basis for effective group performance (Avolio/Bass, 1991).

A second factor that may have affected the results of the study is the context. Although in its essence transformational leadership may be universally effective (Bass 1997), its effectiveness varies across different contexts. In a similar manner, the effectiveness of transactional leadership may also vary across different contexts. Especially in rapidly changing transitional economies, where many managers have not yet mastered higher forms of leadership, the kinds of behaviours specified by contingent reward leadership might be relatively more effective than in nations with a long tradition of management practice and science. Contingent reward leaders clarify each person's tasks, responsibilities, and expectations, find a common meaning as to what is fair and only give rewards for fulfilling the requirements. They emphasize goal-setting, giving instructions, clarifying structures, and conditions. These qualities were lacking in the previously predominant leadership styles of past. In addition, without a solid base of transactional leadership, transformational leadership might not develop to its full extent.

Finally, it is also possible that organizational learning belongs to a group of leadership outcomes for which contingent reward leadership is especially effective. In their meta-analysis, Judge and Piccolo (2004) examine the effectiveness of various leadership behaviours against six outcome criteria and found that contingent reward leadership was more effective than transformational leadership for three of them (follower job satisfaction, follower motivation, and leader job performance). The meta-analysis did not include organizational learning as the outcome criteria. However, since contingent reward types of behaviours are essential facilitators of the organizational learning process, nurturing this aspect of transactional leadership might be just as important as transformational leadership.

## Implications for managerial practice

New information and knowledge is constantly emerging from sources within and outside the company. Channels and conduits for their distribution are evolving. An ever-present pressure to interpret this information in ways that enable emerging business opportunities to be understood and exploited exists. The role of leadership in this context is crucial. Above all, leaders need to promote learning at all levels and to create opportunities for people to acquire information from heterogeneous sources while leaders have a particularly strong impact on the acquisition of information. Leaders also need to establish opportunities for employees to distribute information, meet, discuss ideas, and facilitate interpretations based on wider perspectives. By emphasizing the company's vision and mission and personal encouragement and empowerment, leaders need to encourage employees to act upon this information and support changes that will contribute to organizational performance.

Secondly, both transformational and contingent reward leadership seem to be equally important for facilitating organizational learning. Leaders should therefore focus on developing both types of leadership, depending upon the situation. First, they should build respect and trust based on working with individuals, on setting up and defining agreements in order to achieve specific work goals, on clarifying expectations, and on providing rewards for the successful completion of tasks. Apparently, a significant number of subordinates or situations call for instrumental approaches to convincing people that learning does pay off – individually as well as organization-wide. Only when they have built solid transactional foundations can they extend them by adding typical transformational behaviours that inspire followers to go beyond their self-interest and exert extra effort to achieve the shared vision of becoming a learning organization.

The findings at hand also suggest that leaders can influence some elements of the organizational learning process directly and others only indirectly. From this perspective, the information-acquisition phase seems to be crucial. It is of the

utmost importance for leaders to facilitate and encourage employees to use all of the available sources, channels, and means of both internal and external information acquisition. They should create opportunities for people to meet and talk, be alert to changes in the business environment, and above all create an open organizational culture wherein trust and cooperation are core values.

## Contributions

This study makes several important contributions to the field. First of all, it integrates two previously relatively disparate fields of organizational learning and leadership from an empirical perspective. Secondly, the study empirically proves that transformational leadership strongly affects organizational learning. Thirdly, the study also establishes a strong relationship between contingent reward leadership and organizational learning, thus highlighting the importance of such a type of leadership for successfully developing a learning organization. Fourthly, the study provides empirical confirmation for the contingent perspective towards leadership and learning (Vera/Crossan 2006), which claims that the most effective strategic leaders are those best able to function in both transformational and transactional modes, depending upon the situation. Finally, the study expands the scope of empirical research by examining leadership and the learning process in the context of a small transitional economy. By testing existing (predominantly Anglo-Saxon) theories of leadership and organizational learning in different cultural, economic, and political contexts, the study enhances the generalizability and validity of these theories and constructs.

## Limitations and directions for further research

Some of the study's strengths are also its weaknesses. From the methodological point of view, the sample and context are always an issue. While using Slovenia as a target population contributes to the research's generalizability, it is also a weakness. Further expansion of the research to other nations (with different national cultures, nations of different sizes, histories, etc.) would significantly contribute to understanding the link between leadership and learning. The second key limitation is the cross-sectional nature of the study. It is possible that at least certain aspects of leadership and its impact on the learning process emerge with some kind of time lag. A longitudinal treatment of data might yield additional insights into the impact of leadership styles and organizational learning. Thirdly, due to its low reliability, it was not possible to measure the higher-order factor of transactional leadership (as specified by the MLQ). Instead, we use contingent reward leadership (which shows signs of high reliability and validity) as a proxy for transactional leadership.

Fourthly, this research is limited to the direct effect of leadership on organizational learning. However, moderating variables, such as organizational culture and structure, might attenuate this effect. Future research should extend

the understanding of the leadership style as antecedent to the organizational learning process by involving some moderating and mediating variables. Using in-depth interpretive studies to answer many of the 'hows' emerging, this article may generate additional insights into this clearly intriguing area of research.

# References

Antonakis, J./Avolio, B.J./Sivasubramaniam, N. (2003): Context and leadership: an examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. Leadership Quarterly, 14, 261-295.

Aragon-Correa, A.J./Garcia-Morales, V.J./Cordon-Pozo, E. (2005): Leadership and organizational learning's role on innovation and performance: Lessons from Spain. Industrial Marketing Management, 36, 3, 349-359.

Avolio, B.J./Bass, B.M. (1991): The full range leadership development programs: Basic and advanced manuals. Binghamton, NY: Bass, Avolio and Associates.

Avolio, B.J./Bass, B.M./Jung, D.I. (1995): MLQ Multifactor Leadership Questionnaire: Technical report. Redwood City, CA: Mindgarden.

Bass, B.M. (1985): Leadership and Performance Beyond Expectations. New York: Free Press.

Bass, B.M. (1997): Does the Transactional - Transformational Leadership Paradigm Transcend Organizational and National Boundaries? American Psychologist, 52, 2, 130-139.

Bass, B.M./Avolio, B.J. (1990): Transformational Leadership Development: Manual for the Multifactor Leadership Questionnaire. Palo Alto, CA: Consulting Psychologist Press.

Bontis, H./Crossan, M./Hulland, J. (2002): Managing an organizational learning system by aligning stocks and flows. Journal of Management Studies, 39, 4, 437-469.

Brown, J.S./Duguid, P. (1991): Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. Organization Science, 2, 1, 40-57.

Burke, S.C. (ed.) (2006): What type of leadership behaviors are functional in teams? A meta-analysis. Leadership Quarterly, 17, 288-307.

Crossan, M. (ed.) (1995): Organizational learning: Dimensions for a theory. The International Journal of Organizational Analysis 3, 337-360.

Daft, R.L./Lengel, R.H. (1986): Organizational information requiem: Media richness and structural design. Management Science, 132, 554-571.

Daft, R.L./Weick, K.L. (1984): Toward a model of organizations as interpretation systems. Academy of Management Review, 9, 2, 284-295.

Darr, E.D./Argote, L./Epple, D. (1995): The acquisition, transfer, and depreciation of knowledge in service organizations: Productivity in franchises. Management Science, 41, 11, 1750-1762.

de Geus, A.P. (1988): Planning as learning. Harvard Business Review, 88, 2, 70-74.

Diamantopoulos, A./Siguaw, J.A. (2000): Introducing LISREL. London, UK: Sage.

Dimovski, V. (1994). Organizational Learning and Competitive Advantage: A Theoretical and Empirical Analysis. Cleveland: Ohio State University.

Dimovski, V./Škerlavaj, M. (2005): Performance effects of organizational learning in a transitional economy. Problems and Perspectives in Management, 3, 4, 56-67.

Dumdum, U. ./Lowe, K.B./Avolio, B.J. (2002): A meta-analysis of the transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension, in: Avolio B.J./Yammarino F.J. (eds): Transformational and charismatic leadership: The road ahead, Amsterdam: JAI Press, 35-66.

Fiol, C.M./Lyles, M.A. (1985): Organizational learning. Academy of Management Review, 10, 4, 803-813.

Garvin, D. (1993): Building a Learning Organization. Harvard Business Review, 71, 4, 78-91.

Hair, J.F. (ed.) (1998): Multivariate Data Analysis (5th ed.). London, UK: Prentice Hall.

Hu, L./Bentler, P.M. (1995): Evaluating Model Fit, in: Hoyle R.H. (eds.): Structural Equation Modeling: Concepts, Issues, and Applications, Thousand Oaks, CA: Sage, 76-99.

Huber, G.P. (1991): Organizational learning: The contributing processes and the literature. Organization Science, 2, 1, 88-115.

Jashapara, A. (2003): Cognition, culture, and competition: An empirical test of the learning organization. The Learning Organization, 10. 1, 31-50.

Jimenez-Jimenez, D./Cegarra-Navarro, J.G. (2006): The Performance Effects of Organizational Learning and Market Orientation. Industrial Marketing Management, In Press.

Joreskog, K.G. (1993): Testing Structural Equation Models, in: Long K. (ed.), Testing Structural Equation Models, Newburry Park, CA: Sage, 295-316.

Judge, T.A./Piccolo, R.F. (2004): Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity. Journal of Applied Psychology, 89, 5, 755-768.

Ke, W./Wei, K.K. (2006): Organizational learning process: Its antecedents and consequences in enterprise system implementation. Journal of Global Information Management, 14. 1, 1-22.

Kim, D.H. (1993): The link between individual and organizational learning. Sloan Management Review 3, 37-50.

Koffman, F./Senge, P.M. (1993): Communities of commitment: The heart of learning organizations Organizational Dynamics, 22, 2, 5-23.

Kotter, J.P./Heskett, J.L. (1992): Corporate Culture and Performance. New York: The Free Press: Macmillan Maxwell International.

Kurland, H./Hertz-Lazarowitz, R. (2006): Organizational Learning as a Function of Leadership Style and Vision, in: Stashevsky S. (ed.): Work Values and Behavior, Shreveport, LA: International Society for Work and Organizational Values, 621-630.

Lei, D./Slocum, J.W./Pitts, R.A. (1999): Designing organizations for competitive advantage: The power of unlearning and learning. Organizational Dynamics, 37, 3, 24-38.

Llorens Montes, F.J. (ed.) (2005): Influence of support leadership and teamwork cohesion on organizational learning, innovation and performance: An empirical examination. Technovation, 25, 1159-1172.

Lowe, K.B./Kroeck, K.C./Sivasubramaniam, N. (1996): Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. Leadership Quarterly, 7, 3, 385-425.

Maani, K./Benton, C. (1999): Rapid team learning: Lessons from Team New Zealand America's Cup campaign. Organizational Dynamics, 28,4, 48-62.

Mark, M./Cook, T. (1984): Design of randomized experiments and quasi-experiments,in: L. Rutman (ed.), Evaluation Research Methods: A Basic Guide (2nd ed.). Newbury Park, CA: Sage.

Nonaka, I./Takeuchi, H. (1995): The Knowledge-creating Company. How Japanese Companies Create the Dynamics of Innovation. New York: Oxford University Press.

Nunnaly, J. (1978): Psychometric Methods. New York: McGraw-Hill.

Perez-Lopez, S./Montes-Peon, J.M./Vazquez-Ordas, C.J. (2005): Organizational learning as a determining factor in business performance. The Learning Organization, 12, 3, 227-245.

Sanchez, R. (2005): Knowledge Management and Organizational Learning: Fundamental Concepts for Theory and Practice.

Sattora, A./Bentler, P.M. (1988): Scaling Considerations for Chi-Square Statistics in Covariance Structure Analysis (UCLA Statistic Series 2). Los Angeles: University of California, Department of Psychology.

Schein, E. (1985): Organizational Cultures and Leadership: A Dynamic View. San Francisco, CA: Jossey-Bass.

Senge, P.M. (1990): The Fifth Discipline: The Art and Practice of the Learning Organization. London: Random House.

Shin, S.J./Zhou, J. (2003): Transformational Leadership, Conservation, and Creativity: Evidence from Korea. Academy of Management Journal, 4, 6, 703.

Shrivastava, P.A. (1983): Typology of organizational learning systems. Journal of Management Studies, 20, 1-28.

Simonin, B.L. (1997): The importance of collaborative know-how: An empirical test of the learning organization. Academy of Management Journal, 40, 5, 1150-1173.

Škerlavaj, M./Dimovski, V. (2004): Study of the mutual connections among information-communication technologies, organisational learning and business performance. Journal of East European Management Studies, 11, 1, 9-29.

Škerlavaj, M. (ed.) (2007): Organizational learning culture - The missing link between business process change and organizational performance. International Journal of Production Economics, 106, 2, 346-367.

Slater, S.F./Narver, J.C. (1995): Market orientation and the learning organization. Journal of Marketing, 59, 3, 63-74.

Snell, R.S. (2001): Moral foundations of the learning organization. Human Relations, 54, 319-342.

Spector, J.M./Davidsen, P.I. (2006): How can organizational learning be modeled and measured? Evaluation and Program Planning, 29, 63-69.

Stata, R. (1989): Organizational learning: The key to management innovation. Sloan Management Review, 30, 1, 63-74.

Swieringa, J./Wierdsma, A. (1992): Becoming a Learning Organization. Reading, MA: Addison-Wesley.

Templeton, G.F./ Snyder, C.A. (2000): Precursors, contexts, and consequences of organizational learning. International Journal of Technology Management, 20, 5, 765-781.

Triandis, H.C. (1994): Culture and Social Behavior. New York: McGraw-Hill.

Van de Ven, A.H./Ferry, D. (1979): Measurement and Assessment of Organizations. New York: John Wiley.

Van de Vijver, F.J.R. (2003): Bias and Equivalence: Cross-Cultural Perspectives, in: J. Harkness, J./Van de Vijver F.J.R./Mohler P.P. (eds): Cross-cultural Survey Methods. Hoboken, NJ: Wiley.

Vera, D./Crossan, M. (2004): Strategic Leadership and Organizational Learning. Academy of Management Review, 29, 2, 222-240

Weick, K.E./Daft, R.L. (1984): The effectiveness of interpretation systems, in: Whetten K.S.C.D.A. (eds.): Organizational Effectiveness: A Comparison of Multiple Models, Orlando, FL: Academic Press, 70-93.