The effect of transformational leadership on the profitability of Finnish firms

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Abstract

Purpose – The purpose of this study is to find the effect of transformational leadership in profitability in different contexts.

Design/methodology/approach – Data are gathered of 200 Finnish firms. Profitability is measured by profitability ratios one to two years after the survey to take account of lagged effects. The sample is split into sub-samples with respect to four context variables indicated by prior research to be important for transformational leadership: size, competition, perceived environmental uncertainty (PEU) and research and development (R&D) effort. The effect of leadership dimensions on lagged profitability was assessed by partial least squares analysis.

Findings – Factor analysis gave a five-factor solution for transformational leadership variables indicating dimensions as: challenging, enabling, visioning, rewarding and contesting. Results did show that transformational leadership has a weak general effect on profitability. Results also offer some support for hypotheses for the strong effects of transformational leadership in different contexts. Enabling has an effect in low competition context; rewarding has an effect in low PEU, low competition and high R&D contexts; and contesting has an effect in large companies and in high PEU context.

Research limitations/implications – The commonly used Bass' measurement of transformational leadership was not used here; instead, Kouzes and Posners' modified version was in use. Factor analysis of this version resulted to the three factors only in a few loadings, even if high.

Practical implications – The importance of rewarding behavior of leaders is even stronger than previously thought. Thus, managers should concentrate more on the positive feedback of followers.

Originality/value – This paper fulfills a gap of research on leadership and profitability and also stresses the importance of situational variables which may affect the usefulness of different leadership styles.

Keywords Profitability, Transformational leadership

Paper type Research paper

1. Introduction

The role of the leadership in the success or failure of the firm is undeniable. Successful leaders can generate welfare to all interest groups of a firm, most importantly to company owners. Hernez-Broome and Hughes (2004) argued that the future trends in

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leadership research would be globalization, technology, return on investment and new ways of thinking about the nature of leadership and leadership development. Thus, profitability is expected to play an important role in future leadership research. This study concentrates on transformational leadership, a topic that has assumed a strong position in research in recent decades owing to its positive impact on various outcomes (Arnold *et al.*, 2001; Clover, 1990; Masi and Cooke, 2000; Wang and Howell, 2012). The objective of this study is to analyze the connection between profitability and transformational leadership.

Transformational leaders have been characterized as possessing attributes of charisma, inspirational stimulation and individualized consideration (Bass, 1985). These attributes are argued to influence the performance of a firm in many ways, leading to greater effectiveness and outcomes (Avolio and Howell, 1992; Arnold *et al.*, 2001; Bass *et al.*, 2003; Hetland and Sandal 2003; Yammarino and Bass 1990; Wofford *et al.*, 2001). For example, favorable customer intentions are enhanced with transformational leadership, by the mediation of emotion regulation, job satisfaction and service performance and through the moderation of employee's negative affectivity (Chuang *et al.*, 2012). In addition, transformational leaders can motivate members of an organization to anticipate environmental changes and adapt to them (Waldman *et al.*, 2004), demonstrate their enthusiasm for innovation (Howell and Higgins, 1990) and turn the volatility of the competitive environment into a vision of opportunity (Avolio *et al.*, 2004).

The theory underpinning the connection between organizational performance and transformational leadership is certainly compelling (Ling *et al.*, 2008). Transformational leadership is argued to radiate many positive influences upon organization members, which are expected to result in higher profitability and performance in general. It has gained a strong base with several studies conducted over 30 years, and it is still more studied than other leadership styles (e.g. ethical or servant leadership). However, it is surprising that few studies have empirically established strong evidence to support this connection. For example, Tosi *et al.* (2004), Waldman *et al.* (2001), Agle *et al.* (2006) and Ensley *et al.* (2006) failed to find any connection between transformational leadership and organizational performance. It is, however, foreseeable that the connection might be stronger in contexts favorable to a transformational leader. Ling *et al.* (2008) found a significant connection in a sample of less complex, small, privately held firms. Similarly, Pedraja-Rejas *et al.* (2006) found that transformational leadership has a positive impact on performance in a sample of small firms, whereas transactional leadership and a *laissez-faire* style had a negative impact.

The central proposition of this study is that the influence of transformational leadership on profitability is generally weak but will exert a strong positive effect in contexts that are exceptionally favorable to transformational leadership. In this way, this study follows the suggestion of Agle *et al.* (2006) that future studies should consider the role of organizational context. The main objective of this study is to analyze this proposition in terms of the connection between five transformational leadership dimensions and time-lagged profitability, using survey data from 200 Finnish firms. The sample is split into sub-samples with respect to four contextual variables (organizational size, competition, perceived environmental uncertainty (PEU) and research and development (R&D) effort), and the proposition is assessed with partial least squares (PLS) models estimated for those sub-samples. Evidence from the analysis

supports the proposition that in general, transformational leadership may only weakly influence profitability, but in special contexts, this influence can be strong.

The remainder of the paper is structured as follows: First, general proposition and research hypotheses are presented; third section presents the data and methods. The fourth section shows the empirical results, and the final section discusses and summarizes the main findings.

2. Influence of transformational leadership

2.1 Transformational leadership

Transformational leadership can be seen as a transformation where leaders and followers engage in a mutual process of spurring one another on to achieve higher levels of morality and motivation (Burns, 1978). A transformational leader exhibits the mutually reinforcing attributes of charisma, inspirational motivation, intellectual stimulation and individualized consideration (Bass, 1985). The transformational leader also channels their followers' own self-interest for the good of the group, the organization or the country, for example. The resulting increased awareness and the arousal of higher-level needs from Maslow's hierarchy can prompt extraordinary effort. Transformational leaders not only recognize current material and psychic needs in potential followers, but also go further by seeking to arouse and satisfy higher needs, to engage the follower as a whole person. The transformation can be achieved in any one of the three interrelated ways:

(1) by raising the level of consciousness about the importance and value of outcomes and ways of reaching them;

(2) by transcending self-interest for the sake of the team, organization or larger polity; and

(3) by altering the need level on Maslow's hierarchy or expanding the portfolio of needs and wants (Burns, 1978; Bass, 1985).

2.1.1 Dimensions of transformational leadership. Transformational leadership is a popular topic for scientific management research, but its definition and dimensions vary from one piece of research to another. Several researchers have studied and defined transformational leadership (Bass, 1985; Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1990) and also operationalized transformational leadership and its dimensions (Alimo–Metcalfe and Alban–Metcalfe, 2001; Bass and Avolio, 1990; Kouzes and Posner, 1988; Roush, 1992) in many alternative ways. Bass' multifactor leadership questionnaire (MLQ) is the most known instrument related to transformational leadership, and it measures transformational, transactional and passive-avoidant leadership behavior. Many other instruments are focused only on transformational behavior (Alimo-Metcalfe and Alban-Metcalfe, 2001; Kouzes and Posner, 1988), and also, in this study, the interest is only for transformational leadership behavior.

The most frequent dimensions extracted for transformational leadership are *visioning* (Bass, 1985; Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1986), *enabling* (Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1986) and being an example and a role model (Bass, 1985; Kouzes and Posner, 1988). The literature also offers as dimensions of inspirational leadership behavior, *encouraging* (Kouzes and Posner, 1988) and *individualized consideration* (Bass, 1985).

Kouzes and Posner's (1988) modified Finnish instrument is used here, because it has shown to be suitable in Finnish culture, and also elsewhere, it has been used in several studies regarding transformational leadership as well (Abu-Tineh *et al.*, 2008; Bowles and Bowles, 2002; Herold and Fields, 2004). As stated earlier, the definitions behind instruments' dimensions of transformational leadership with various measures are quite the same. As a comparison of leadership practices inventory's dimensions (= challenge the process, inspire a shared vision, enable others to act, model the way, encourage the heart) and Bass' four I's of MLQ (= idealized influence, individualized consideration, intellectual stimulation, inspirational motivation), there is much overlapping. Visioning describes much the same as idealized influence, enabling is quite similar to individualized consideration, challenging is quite the same as intellectual stimulation and being example overlaps with inspirational motivation.

The dimensions of transformational leadership play an important role in this study, as the purpose is to connect them with the profitability of the firm. In the literature, visioning means communicating an appealing vision; this provides the organization's members with a purpose for their work. Being an example or a role model generally means that a leader's behavior is consistent with the values the leader communicates to others. Enabling or individual consideration is usually defined as providing support, encouragement and developmental experiences to followers. It focuses on the follower's need for growth and participation in decisions affecting work and career (Bass, 1985; Kouzes and Posner, 1988).

The transformational leadership in this study is defined along the dimensions of *visioning*, *challenging, enabling, modeling* and *rewarding* suggested by Hautala (2005); those are modified to be suitable to Finland and those are based on Kouzes and Posner's (1988) dimensions. Her dimensions are extracted from a large data set from Finnish managers and are, thus, suitable to serve as a basis for this study. Hautala defines *visioning* as describing the ideal future to others, making sure that people hold common values, and communicating the views of the best way to lead the organization. *Challenging* encapsulates risk taking, innovating to improve the organization and looking for challenging tasks. *Enabling* means respecting others, granting them the freedom to make their own decisions, creating a trusting atmosphere and making others feel projects are their own. *Modeling* includes consistency of organizational values and confidence in the philosophy of how to lead and confirmation of planning and goal setting. Finally, the *rewarding* dimension involves celebrating successful attainment of goals (Hautala, 2005). In this study, we will first test if these dimensions are applicable in these data also and, most importantly, investigate the connection between transformational leadership and its dimensions and the lagged profitability of the firm.

2.1.2 General effects. Several studies have adopted different perspectives to focus on the effects of transformational leadership. These studies have noted many positive effects on an organization resulting from transformational leadership. The studies of the effects of transformational leadership on subordinates have shown that this leadership style has resulted in greater job satisfaction (Avolio and Howell, 1992; Deluga, 1992; Podsakoff *et al.*, 1995; Sparks and Schenk, 2001; Yammarino and Bass, 1990), motivation (Hetland and Sandal, 2003; Masi and Cooke, 2000), creativity (García-Morales *et al.*, 2012; Gumusluoglu and Ilsev, 2009), extra effort (Tucker *et al.*, 1992), trust (Arnold *et al.*, 2001), unit cohesion (Sparks and Schenk, 2001), greater purpose (Sparks and Schenk, 2001), resilience (Harland *et al.*, 2005) and commitment (Lowe and Barnes, 2002) than that

which could be achieved under transactional leadership or non-transformational leadership. In summary, these results imply that transformational leadership may have a strong positive effect on the efficiency of the organization along many dimensions that are important to the success of the firm.

Prior research has indicated that transformational leadership is connected with high effectiveness (Avolio and Howell, 1992; Arnold *et al.*, 2001; Bass *et al.*, 2003; Hetland and Sandal, 2003; Yammarino and Bass, 1990; Wofford *et al.*, 1998; Wofford *et al.*, 2001). For example, Wofford *et al.* (2001) found that based on the followers' appraisals, transformational leadership directly relates to effectiveness outcomes. In addition, studies indicate that top managers are more likely than middle managers to rate themselves as more transformational (Manning, 2002). This result is important to this study, as the performance-stimulating potential of transformational leadership is higher for a top manager due to their key role in management. This is consistent with the central premise of upper echelons theory that the experience, values and personalities of managers greatly influence their interpretations of the situations they face and, in turn, affect their choices and, ultimately, the performance of the firm (Hambrick, 2007). In this study, the data on leadership derive mainly from CEOs of Finnish firms.

2.1.3 Effects on performance: general organizational conditions. Prior research on the positive organizational effects of transformational leadership suggests that it will positively affect the economic performance of a firm. However, of the studies that have empirically examined this linkage, only a few have found general support for the proposition (Ling *et al.*, 2008). Many of the studies concentrated on the performance effects of charisma, one attribute of a transformational leader. For instance, Tosi *et al.* (2004) reported on a sample of Fortune 500 firms over a 10-year period that perceptions of CEO charisma were not related to the performance of the firm. Agle *et al.* (2006) surveyed top management team members in 128 firms and failed to find any connection between perceptions of CEO charisma and the subsequent performance of the firm. The study of 66 firms by Ensley *et al.* (2006) did not find any evidence of the CEO's transformational leadership exerting a positive direct effect on the firm's performance.

However, there is also empirical evidence supporting the positive effect of transformational leadership on performance. Avolio *et al.* (1988) used a game simulation study among MBA students and found significant positive relationships between active transactional leadership, transformational leadership and organizational effectiveness, in terms of financial performance. Waldman *et al.* (2004) reported data from 69 North American firms suggesting that a CEO's charismatic leadership predicts the subsequent performance of the firm. However, they did not find any connection between it and past performance. Idris and Ali (2008) reported that among 97 Malaysian firms, transformational leadership had a weak direct (main) effect on company performance, but a strong positive total effect when a construct of best practices was used as a mediating variable. Similarly, García-Morales *et al.* (2008) used data from 408 Spanish organizations and showed a positive correlation between transformational leadership and a construct of perceptual indicators of financial performance. However, they did not model this direct effect in their structural equation model (SEM) but showed that the indirect effects (through absorptive capacity, tacitness, organizational learning and innovation) and the total effect were positive and significant. In summary, prior empirical evidence on the connection between transformational leadership and performance leads to the following research hypothesis:

H1. Under general conditions, the positive direct effect of transformational leadership on the financial performance of the firm will be weak.

2.1.4 Effects on performance: special organizational conditions. H1 is justified when considering the direct effect of transformational leadership under general conditions, for example, in a random sample from a business organization population. Agle *et al.* (2006) suggested that future studies should consider the role of organizational context in this effect. Thus, when considering data from a special sample of firms characterized by attributes (organizational context) favorable to transformational leadership that include higher performance-stimulating potential, it is expected that the impact is strengthened. This proposition is supported by empirical evidence for special organizational contexts and company characteristics. Waldman *et al.* (2001) hypothesized that a CEO's charismatic leadership is closely related to an organization's performance when the environment is perceived as uncertain and volatile, but minimally related in the opposite conditions. The past mentioned study used data from 48 Fortune 500 firms to assess whether charismatic CEO leadership was a predictor of financial performance and showed that the relationship depends on PEU. Consistent with their hypothesis, charismatic leadership predicts financial performance in subsequent years under conditions of uncertainty but not under conditions of certainty. This result is drawn from different data than the finding for general conditions reported in the study by Waldman *et al.* (2004). Ling *et al.* (2008) argue that the weak relationship found in prior studies between transformational leadership and performance may be a consequence of using data from large firms where organizational complexity is a major obstacle to establishing this link. They hypothesized that in small- and medium-sized enterprises (SMEs), transformational leadership is positively related to the financial performance of the firm. The study used data on CEOs' management teams from 121 SMEs and showed that the relationship between transformational leadership and subsequent (objective) performance (growth) was statistically significant. In addition, the size of the organization moderated the relationship, implying that the relationship is stronger for smaller firms. Hence, we propose the following general *H2*:

H2. Under favorable conditions, the positive effect of transformational leadership on the financial performance of the firm will be strong.

2.1.5 Effects on performance: specifying organizational conditions. H2 assumes that the effect of transformational leadership on financial performance is strong when conditions are favorable for that kind of leadership. Ling *et al.* (2008) regard the small size of the organization as a favorable condition that would strengthen the relationship between these variables. Following Agle *et al.* (2006), they argue that the potential firm-level impact of transformational leadership will be most evident in the SME context. There are many reasons that SMEs might offer a particularly advantageous setting for transformational leadership. First, the less complex stakeholder structure permits CEOs more managerial discretion. Second, in SMEs, CEOs participate more directly in the day-to-day implementation of strategies, so expanding the domain of discretionary activity. Third, the role of a CEO in an SME is more inspirational than it is in a large firm, a situation that provides a more favorable context for transformational leadership. Finally, the less complex and more fluid nature of the SME context means the staff is more likely to be receptive to leadership. All these reasons make it possible for a CEO in an SME to use close relationships to mobilize visioning, challenging,

enabling, modeling and rewarding approaches to a greater extent by interacting directly with the staff and, therefore, to sow the seeds of better performance. Therefore, in alignment with Ling *et al.* (2008), the following research hypothesis is suggested:

H2a. In small firms, the positive effect of transformational leadership on the financial performance of the firm is stronger than that in larger firms.

Leadership theory suggests that crises and the stress and uncertainty associated with them may foster the emergence of transformational leadership, as such contexts are favorable for charismatic leaders (Bass, 1985). It follows that in a crisis, transformational leaders should theoretically have more influence on their organizations and be more able to achieve success when expressing their personalities and using charisma to mobilize *visioning*, *challenging*, *enabling*, *modeling* and *rewarding* efficiently. Such an environment might be the product of various factors: Khandwalla (1977) provides a taxonomy of such environmental factors based on turbulence (risky, unpredictable, fluctuating, ambiguous), hostility (stressful, dominating, restrictive), diversity (variety in products, inputs, customers) and complexity (rapidly developing technologies).Under these conditions, the environment tends to generate a high degree of stress and anxiety and a lack of assuredness on the part of an organization's managers and employees (Waldman *et al.*, 2001). Then, a charismatic relationship between the CEO and followers can allay follower concerns and generate confidence. The assuredness, confidence and vision of the CEO will act as a source of psychological comfort for the followers and so can reduce their stress. Therefore, an uncertain and stressful context should be especially beneficial to transformational leadership. In this study, the focus is on PEU as an attribute of turbulence and competition referring to hostility. These concepts are associated with each other, because competition creates turbulence, stress, risk and uncertainty for the markets. Following Waldman *et al.* (2001), it will be assumed here that transformational leadership will be strongly related to the organization's financial performance not only when PEU is high but also when the degree of competition is high:

H2b. Under conditions of high PEU, the positive effect of transformational leadership on the financial performance of the firm is stronger than under low PEU conditions.

H2c. Under conditions of high competition, the positive effect of transformational leadership on the financial performance of the firm is stronger than that under conditions of low competition.

Leadership style has been stated to be a central factor influencing innovation and knowledge creation (Nonaka and Takeuchi, 1995). Transformational leadership particularly stimulates innovation and knowledge creation through *visioning*, *challenging*, *enabling*, *modeling* and *rewarding*, which benefit organizational performance (Bass, 1999; Bass and Avolio, 1990). Innovations and knowledge creation are associated with rapidly developing technologies and, thus, with the complexity of the environment that is beneficial for a transformational CEO. Transformational leadership influences absorptive capacity through improvement of individual absorption, design of an organizational structure and increased investment in R&D (García-Morales *et al.*, 2008). Transformational leaders also stimulate transfers of explicit and tacit knowledge in individuals and in the organization, generating

sustainable competitive advantages and improvement in performance. In summary, transformational leaders generate different ways of thinking: they encourage the pursuit of new opportunities or solutions to problems through stimulating intellect; considering individuals; increasing intrinsic motivation; and stimulating higher-order needs that engender creativity (García-Morales *et al.*, 2008). Consequently, it is assumed that an innovative and creative, complex environment based on large investments in R&D is especially beneficial for a transformational CEO and leads to them having a sizable impact on organizational performance. Accordingly, the following research hypothesis is suggested:

H2d. The positive effect of transformational leadership on the financial performance of a high-technology firm is stronger than that for low-technology firms.

3. Empirical data and methods

3.1 Data

The empirical data used in the study are based on an Internet survey carried out at the end of 2008 and the beginning of 2009. The statistical sampling was based on a data bank provided by Fonecta Finder, a Finnish operator that maintains the telephone catalogue for Finnish business firms in electronic form. The same catalogue includes email addresses of the key contact people in these firms. For the purposes of the current research, it was necessary to set certain criteria for the firms to be included. The first criterion was that the firm should be a limited company, as in Finland, they must have a CEO according to the Limited Liability Companies Act. The second criterion was that the firm should have more than ten employees, as that number was presumed to offer scope for the study of managerial roles and would imply the presence of sufficiently organized management processes conducted under the scrutiny of a CEO. The third criterion was that the Fonecta data bank entry for the firm included an email address for the CEO.

The above-mentioned criteria limited the overall sample to 11,790 firms. One-tenth of the population was randomly selected to produce a sample consisting of 1,179 limited companies. However, due to changes in organizations and email addresses, it was not possible to reach 119 firms, and the final sample, thus, amounted to 1,060 limited companies. The cover letter with a reference and password to the Internet page of the questionnaire was sent to the email address of the CEO at the firm. To ensure the reliability of the responses and to complement the data later, the possibility to identify respondent was maintained. After eight weeks and three follow-up emails, 222 firms (20.24 per cent) had responded to the questionnaire. An excessive number of missing variables led to seven questionnaires being excluded from the subsequent analysis, producing a data set of 215 firms and a response rate of 20.0 per cent, which can be regarded as satisfactory. Owing to some single missing values, the number of observations in different PLS analyses is not constant but dependent on the variables included in the analysis in question. The sampled firms represent different industries, with 31.1 per cent being service firms and 25.3 and 16.3 per cent, respectively, belonging to the manufacturing and trade industries. In general, the firms are small businesses, and around 50 per cent of them employ less than 19 staff (median), although the average size is 100 employees. The data also include a number of firms (5 per cent) employing more than 500 staff, making the distribution skewed.

Targeting the survey at the CEO of the firm was very successful in that almost all of the respondents were CEOs (203 respondents, 94 per cent), the rest being vice-CEOs or other representatives of the senior management. Male CEOs accounted for 88 per cent of the sample (190). Most of the leaders (70.4 per cent or 152) were aged between 40 and 60 years. Almost half of the respondents, 47.2 per cent (102), were university graduates and 28.2 per cent (61) had a degree from a polytechnic. It is probable that these sample characteristics statistically represent the characteristics of the population of Finnish CEOs, although the sample is based on a database of email addresses and is not purely random. No correlation was found between the response time and the survey variables. In addition to the sampling error, this kind of questionnaire can introduce both instrumentation and response bias (Alreck and Settle, 1995). The instrumentation bias concerns questionnaire instructions, questions and scales. For example, it may be difficult for the managers to identify the intrinsic nature of their leadership behavior, so that a direct question may be very difficult to answer. Moreover, using a fixed framework for different questions may pave the way for leading (or even loaded) questions. These caveats should be taken into account when assessing the reliability of the results.

3.2 Dependent and control variables

When assessing the research hypotheses on the effect of transformational leadership on profitability, it is important that the time lag between the measurement and the survey is long enough, with at least one to two years being recommended (Ling *et al.*, 2008; Waldman *et al.*, 2001, 2004). As the last survey responses were gathered at the beginning of 2009, the profitability of the sample firms was measured for the accounting periods 2010 and 2011. Profitability was measured by three standard financial ratios gathered from the database VoittoPlus maintained by Suomen Asiakastieto Oy (www.asiakastieto.fi). These financial ratios are calculated following the recommendations of The Committee for Corporate Analysis (CCA) (www.yritystutkimusneuvottelukunta.fi). Profitability was first measured by the return on investment ratio, which relates the earnings before interest and taxes (EBIT) to the average invested capital. The second measure used was the return on assets (ROA) ratio based on the ratio of EBIT to average total assets. Third, profitability is measured by the profit turnover ratio which relates EBIT from business operations to turnover.

The present research models include several control variables. First, the results control for the financial situation of the firm by the equity ratio and the quick ratio for 2010 calculated according to the recommendations of the CCA. The quick ratio reflects the liquidity of the firm, while the equity ratio refers to the solidity when relating equity to total capital. Equity is strongly based on a firm's accumulated earnings and is, therefore, useful when controlling for prior performance which is important for the analysis (Ling *et al.*, 2008). Second, the results are controlled for the personal characteristics of the CEO. These characteristics include gender, education and experience: with gender measured by a dummy variable (0 = male, 1 = female) and education (from 1 = primary school to 6 = university degree) and experience (from 0 = less than 5 years to 5 = over 20 years) on a six-step scale. Third, industry is used as a control variable through a service industry dummy (1 = service industry, 0 = otherwise). Fourth, the results control for strategy using a dummy for both a prospector

(1 = prospector, 0 = otherwise) and a differentiation strategy (1 = differentiation, 0 = otherwise). The first dummy refers to the market strategy (Miles and Snow, 1978) and the second one to the generic strategy (Porter, 1980).

3.3 Expected transformational leadership dimensions

The transformational leadership dimensions are measured with the leadership practices inventory method developed by Kouzes and Posner (1988), as modified to ensure its suitability for Finnish company culture (Hautala, 2005). The reliability of this measurement tool has been established in previous studies (Hautala, 2005). In the study by Hautala (2005), the Cronbach's alpha values ranged from 0.59 (in *modeling*) to 0.87 (in *enabling*). These values can be regarded as adequate, because reliabilities of 0.50 and 0.60 are regarded as sufficient (Nunnally, 1967, p. 226). For example, in Brown and Posner's (2001) study, Cronbach's alpha values ranged from 0.66 to 0.84. The content (logical) validity as face validity can be here regarded as good, because the questions are suitable to map and consistent with commonly accepted definitions of transformational leadership. This means, for example, that the statement "leader conveys visions" suits well when describing visioning leaders. The dimensions found by Hautala are used as expectations for the present study. However, to ensure the reliability of the measurement tool and its suitability for the present data, an orthogonal (Varimax-rotated) factor analysis will be carried out. The purpose of this analysis is to confirm that the dimensions are independent of each other and non-overlapping.

In this Finnish version, the dimensions of the leadership construction originally extracted by Hautala in her 2005 and later studies are *visioning* (five items), *challenging* (four items), *enabling* (ten items), *modeling* (four items) and *rewarding* (two items). *Visioning* is embodied in describing the ideal future to others, making sure that people hold common values, and communicating the view of the best way to lead the organization. An example of an item measuring *visioning* is the following: "I describe to others, what kind of future I would like to build with others". *Challenging* includes risk taking, driving innovations to improve the organization and looking for challenging tasks. For example, the following item can act as a measure of *challenging*: "I seek challenging opportunities that test my skills and capabilities". *Enabling* means respecting others, giving them freedom to make their own decisions, creating a trusting atmosphere and making others feel that projects are their own. An example of an item measuring *enabling* is "I take others with me when planning actions". *Modeling* includes ensuring the consistency of organizational values and confidence in the philosophy of how to lead and confirming planning and goal setting. *Modeling* can be measured, for example, by the following question: "I naturally follow the values that I support". Finally, *rewarding* means acknowledging the achievement of goals in some way. The following question is an example of an item measuring *rewarding*: "I find many ways to celebrate the accomplishment of works and tasks".

3.4 Partial least squares method

The research hypotheses are tested by SEM based on the PLS method (Stage *et al.*, 2004). PLS is especially useful when the sample size is limited and the theory is not strong. In addition, PLS is able to accommodate non-normal data due to the less rigorous assumptions underpinning the technique (Smith and Langfield-Smith, 2004). It can handle many independent variables, even when there are more predictors than cases

and even when predictors display multicollinearity (Temme *et al.*, 2006). The PLS model is estimated through the use of the SMARTPLS 2.0 (M3) software (www.smartpls.de). The *t*-values of the parameters are calculated by bootstrapping (500 sub-samples). When assessing the quality of the model, the reliability and validity of the measurement model should first be assessed. The resulting structural model should then be interpreted. First, the reliability of the latent variables (profitability and the dimensions of transformational leadership) is measured by assessing Cronbach's alpha based on the indicator intercorrelations. For the latent variable scale to have good reliability, the reliability coefficient should have a value equal to or higher than 0.7. Cronbach's alpha is a test for the internal consistency of a model. As the measure tends to provide a considerable underestimation in PLS models, the composite reliability measure was also used. It should not be lower than 0.6. Second, to assess the reflective model validity, the convergent and discriminant validity should be examined. Convergent validity measures if a set of indicators represents one and the same underlying construct indicated by their unidimensionality. It can be measured by the average variance extracted (AVE) which should exceed 0.5, indicating that a latent variable is able to explain more than 50 per cent of the variance of its indicators. The discriminant validity can first be assessed by the criterion that the AVE of the latent variable should be greater than the squared correlation of the latent variable with any other latent variables. It can be also measured by the criterion that the loading of each indicator on the latent variable exceeds all of its cross-loadings on other latent variables. For the constructs of the transformational leadership dimensions, the orthogonal factor analysis is performed to ensure sufficient convergent and discriminant validity.

The structural (outer) PLS model can be assessed via several criteria. The essential criterion is the coefficient of determination (R^2) of the endogenous latent variables. Chin (1998, p. 323) describes R^2 values of 0.67, 0.33 and 0.19 as substantial, moderate and weak, respectively. Low results indicate whether the model is capable of explaining the latent variable. The significance of the individual path coefficients can be used to assess the empirical validity of the theoretically assumed relationships using the *t*-test based on bootstrapping. In addition, (average) communality can be used to assess how much (on average) the latent variable can reproduce of the variance of its indicators. It is measured as the average of all squared correlations between each indicator and the latent variable. Finally, redundancy can be used to measure the percentage rate of the variance of the indicators for a latent variable that can be explained by the independent latent variables directly connected to the latent variable. High redundancy means indicate a high ability to explain.

3.5 Testing the hypotheses

The research hypotheses were tested with the PLS method according to the following process. First, the general *H1* (on the strength of the effect of transformational leadership on profitability under general conditions) was assessed by the significance of the path coefficients from the dimensions of the transformational leadership to the profitability of the firm in the total sample. Second, the four specific *H2a*, *H2b*, *H2c* and *H2c* (together forming *H2*) on the effect under special conditions were assessed by the significance of these path coefficients in sub-groups of the sample firms based on the assumptions of the hypotheses.

H2a (size effect) was tested by comparing the significance of the coefficients in two size classes according to the median of total assets in 2010 (€1,090,000). In this context, it was not possible to classify the sample according to the number of employees due to the missing values. The median number of employees (2010) in the smaller size class was only 8, while it was 44 for the larger size class. *H2b* (PEU effect) was assessed in two sub-groups classified according to the median of PEU measured here by a general question measured on a seven-point Likert scale (from 1 to 7) referring to the inability to make accurate forecasts for a medium-term horizon. The higher PEU group includes all firms with an average or higher PEU. Nearly 50 per cent of the firms belong to the class of average PEU which makes the sub-groups unequal. *H2c* (competition effect) is tested in two sub-groups split on the basis of the median of the perceived degree of competition measured on a seven-point Likert scale anchored with *no competition* and *very high competition*. The class of higher competition includes firms with very high or perfect competition. *H2d* (R&D effect) is assessed in two sub-groups where the first group comprises firms investing less than 5 per cent of net sales in R&D, whereas the second group included technology firms investing at least 5 per cent.

4. Results of the study

4.1 Descriptive statistics

Table I presents descriptive statistics on the items of the dependent variable (profitability) and the eight control variables. Throughout 2010 and 2011, Finland was in the process of recovering from the global financial crisis, which is reflected by the increase in profitability ratios in 2010-2011. Profit turnover ratios in particular show large deviations from the norm with high absolute skewness and kurtosis. Among the control variables, the quick ratio also shows high skewness and kurtosis. Fortunately, PLS is not sensitive to deviations from the norm. The service industry dummy shows that 31.1 per cent of the firms are service firms. Besides service firms, the sample

Table I.
Descriptive statistics of the dependent variable items and control variables

Variable	Mean	SD	Skewness	Kurtosis
Profitability items				
Return on invested capital (2010)	12.635	26.374	0.191	2.525
Return on invested capital (2011)	14.798	33.037	0.049	2.192
Profit turnover ratio (2010)	3.981	12.549	−2.775	24.359
Profit turnover ratio (2011)	5.925	13.683	1.551	13.018
Return on total capital (2010)	8.630	17.177	0.874	5.020
Return on total capital (2011)	11.571	22.723	1.094	3.585
Control variables				
Equity ratio (2010)	36.299	41.145	−1.436	3.346
Quick ratio (2010)	2.382	5.153	8.114	79.896
Gender of CEO (dummy), 0 (male) to 1 (female)	0.110	0.313	2.517	4.375
Education level of CEO1 (primary school) to 6 (university degree)	4.490	1.451	−0.554	−0.522
Experience of CEO 0 (less than five years) to 5 (over 20 years)	3.130	1.353	−0.088	−0.979
Service industry (dummy)	0.311	0.464	0.823	−1.335
Prospector market strategy (dummy)	0.234	0.424	1.264	−0.407
Differentiation generic strategy (dummy)	0.496	0.501	0.018	−2.018

includes 25.2 per cent manufacturing, 16.2 per cent retailing and wholesale and 9.9 per cent construction firms. The market strategy dummy indicates that 23.4 per cent of the firms follow a prospector strategy, but the analyzer strategy is the most popular market strategy being adopted by 51.4 per cent. Finally, the general strategy dummy shows that 49.6 per cent of the firms operate a differentiation strategy. The next popular generic strategy is the focus strategy followed by 35.8 per cent of the firms.

4.2 Transformational leadership dimensions

The dimensions of transformational leadership were assessed by the orthogonal factor analysis before the PLS analysis. Tables II and III shows the results of the factor analysis applied to the 25 items of the leadership construct. Table II presents the extraction and (Varimax) rotation sums of the squared loadings. The results indicate that there are five relevant dimensions with an eigenvalue higher than unity (scree test). These five factors together explain 58.6 per cent of the total variation of the 25 leadership items. The explanation power is high, especially for the three first factors. Table III shows the rotated factor loadings on the five factors.

The empirical results are to a large extent consistent with Hautala's (2005) original dimensions, which were as follows: Items (questions) 1, 6, 11 and 15 (four items) are associated with *challenging*, Items 2, 7, 12, 16 and 19 (five items) with *visioning*, Items 3, 8, 13, 17, 20, 21, 22, 23, 24 and 25 (ten items) with *enabling*, Items 4, 9, 14 and 18 (four items) with *modeling* and Items 5 and 10 (two items) with *rewarding*.

However, there are also differences leading to an exclusion of one original dimension and the introduction of a new one. Interpretation of PLS results relies on the dimensions not overlapping. Therefore, the purpose is to pick up items with high loadings on a factor but with low loadings on other factors and, furthermore, to exclude items that do not satisfy this condition. For the first dimension, Items 8, 20, 21, 22, 23, 24 and 25 meet this requirement. These items are associated with the original dimension *enabling*, and so this factor is called *enabling* here too. For the second dimension, Items 12, 13, 16 and

	Extraction sums of squared loadings			Rotation sums of squared loadings		
No. of factors	Total	% of variance	Cumulative (%)	Total	% of variance	Cumulative (%)
1	8.28	33.14	33.14	4.73	18.90	18.90
2	2.33	9.30	42.43	3.90	15.60	34.50
3	1.63	6.51	48.94	2.61	10.43	44.93
4	1.28	5.14	54.08	1.90	7.62	52.54
5	1.14	4.55	58.62	1.52	6.08	58.62
6	0.89	3.57	62.19			
7	0.88	3.52	65.71			
8	0.85	3.38	69.10			
9	0.81	3.23	72.33			
10	0.75	3.01	75.33			
11	0.67	2.67	78.01			
12	0.62	2.46	80.47			
13	0.58	2.32	82.79			
14	0.54	2.17	84.96			
15	0.50	1.98	86.94			

Table II.
Factor solution for the transformational leadership construct items: Eigenvalues of the factor solutions

Transformational leadership construct item	Rotated factor loadings on factors 1	2	3	4	5
1. I seek challenging opportunities, which try-out my skills and capabilities	0.006	0.039	0.746	0.014	0.148
2. I describe to others, what kind of future I would like to build with others	0.074	0.393	0.431	0.206	0.370
3. I take others with when planning the actions	0.480	0.326	−0.072	0.118	0.381
4. I am sure about my philosophy of leading	0.198	0.273	0.559	0.116	0.011
5. I take time to celebration, when the minor goals of project have been reached	0.110	0.173	0.124	0.840	0.141
6. I call into question of our working methods	0.115	0.069	0.076	0.005	0.811
7. I appeal to others that they would identify my own dreams of future	−0.061	0.404	0.148	0.267	0.493
8. I treat others with respect and appreciation	0.737	0.096	0.159	−0.138	0.102
9. I am aware of newest things affecting our own organization	0.247	0.202	0.493	−0.008	−0.134
10. I find many ways to celebrate accomplishments of works and tasks	0.182	0.115	0.093	0.859	0.024
11. I look for innovative ways, to improve our activities in organization	0.245	0.603	0.236	0.020	0.151
12. I use time and energy to make sure that others hold on of values that have been agreed	0.163	0.664	0.237	0.101	−0.041
13. I make sure that everybody's contribution is included in case of succession of our projects	0.464	0.645	0.052	0.053	−0.152
14. I naturally follow the values that I support	0.421	0.222	0.491	−0.273	0.078
15. I have the courage to take risks and new methods in my work, even if failing is possible	0.054	0.189	0.745	0.225	0.071
16. I illustrate to others how the long-time goals can be reached with common vision	0.121	0.706	0.386	0.094	0.149
17. I develop co-operation relationships with people I work with	0.412	0.595	0.110	0.114	0.074
18. I make sure that projects that I am leading will have clear goals and that sub-goals are planned and created	0.357	0.635	0.127	−0.028	0.114
19. I tell to others how the organization that I am leading is best to lead	0.070	0.618	0.092	0.185	0.246
20. I give much appreciation and support to team members for their contribution	0.789	0.295	0.026	0.095	0.085
21. I create a trusting atmosphere to my projects	0.788	0.303	0.125	0.061	−0.072
22. I get others to feel the projects in which they are working as their own	0.624	0.336	0.253	0.058	−0.139
23. I feel as an important thing to tell to others how good work my group has done	0.567	0.230	0.160	0.213	−0.179
24. I give to others much freedom to take their own decisions	0.691	0.022	0.151	0.085	0.124
25. I thank people for well done work	0.745	0.109	0.020	0.192	0.166
Factor title	Enabling	Visioning	Challenging	Rewarding	Contesting

Table III.
Factor solution for the transformational leadership construct items: Varimax rotated factor

also 19 have high loadings. These items describe *visioning*, except for Item 13 which is excluded from further analyses. For the third dimension, there are only two high loadings on Items 1 and 15, both of which are associated with *challenging*. In the same way, there are only two high loadings on the fourth factor on Items 5 and 10 that

represent *rewarding*. The items of the original modeling dimension do not show very high loadings on a factor of its own but are associated with *challenging* and *visioning*. The fifth factor has only one high loading, namely, on Item 6 ("I call our working methods into question"). Therefore, this new dimension is here labeled *contesting*. This new dimension contesting can be regarded overlapping with the older version of challenging behavior, but now, challenging is more specifically divided when it is also measuring the way of thinking not only behavior. The challenging dimension is measuring behavior and contesting way of thinking here. The original dimension *modeling* is excluded from the analysis due to issues with overlapping.

4.3 Partial least squares results

The final constructs of the five leadership dimensions are based on the items discussed above. However, the number of items in the constructs is suppressed to improve the statistical characteristics of the PLS model. Thus, the final constructs are based on 11 items (and 14 items are excluded) as follows: 1, 15 (*challenging*), 8, 20, 21 (*enabling*), 5, 10 (*rewarding*), 12, 16, 19 (*visioning*) and 6 (*contesting*). The same constructs are used for the whole sample and each sub-group to maintain comparability between the results across the groups. Table IV shows the goodness of fit criteria for the structural PLS models for the whole sample and sub-groups. For the whole sample, the quality characteristics of the constructs are good. The construct for the visioning dimensions has the lowest AVE (and communality), but it also exceeds the limit value of 0.5 (recording 0.5337). For this kind of model, AVE equates to communality. The PLS model explains 17.8 per cent of the total variation in lagged profitability, a level that can be regarded as weak (Chin, 1998). In general, the quality of the models in different sub-groups is good with some exceptions. The main quality problems are associated with rewarding under conditions of higher PEU and higher competition. For these items, Cronbach's alpha is very high, indicating a good reliability. However, the composite reliability values are very low reflecting low convergent validity. These results are due to the correlation between rewarding items (5 and 10) being positive and very high, but the signs of the correlation with profitability in these special conditions are different for these items: Item 5 is positively correlated with profitability, while the correlation is negative for Item 10. There are large variations in R^2 between the sub-groups. It is the highest (50.8 per cent) for the condition of higher competition and the lowest (17.2 per cent) for that of lower competition. Thus, the explanation power of the model is moderate for the condition of higher competition (Chin, 1998).

Table V presents the outer loadings of the PLS models for different groups of firms. For all firms, all items are statistically significant, except for Item 19 (visioning). For profitability, financial ratios for 2010 acquire a higher loading (weight) than ratios for 2011. In the group of smaller firms, the loadings of the ratios for 2011 are not statistically significant. However, for larger firms, ratios in 2011 acquired higher loadings that those for 2010. In these firms, Item 12 (visioning) has a very low loading, whereas its loading in smaller firms is very high. For firms with lower PEU, visioning is mainly based on this item. These groups also differ strongly with respect to the importance (loading) of Item 21 (*enabling*). The most notable difference between these sub-groups is, however, in *rewarding*: for the group with lower PEU, Items 5 and 10 have very high loadings, whereas for the group with higher PEU, the loadings are not significant and the loading of Item 10 is negative (for the reason given above). The most remarkable differences

Table IV.
Goodness of fit measures for the PLS models

Measure	All firms	Smaller firms	Larger firms	Lower PEU	Higher PEU	Lower competition	Higher competition	Lower R&D	Higher R&D
AVE									
Profitability construct	0.5988	0.4633	0.7161	0.6215	0.6040	0.5865	0.6440	0.6465	0.5570
Challenging	0.7009	0.6546	0.7424	0.6411	0.7247	0.6205	0.5321	0.5029	0.6828
Enabling	0.7251	0.6903	0.6665	0.6741	0.3770	0.7253	0.7205	0.7033	0.7044
Rewarding	0.8437	0.8891	0.7990	0.8525	0.2565	0.8057	0.1613	0.7927	0.8621
Visioning	0.5337	0.6863	0.3743	0.3408	0.5312	0.4796	0.4376	0.5104	0.6329
Composite reliability									
Profitability construct	0.8980	0.7595	0.9377	0.9075	0.9001	0.8945	0.9142	0.9162	0.8825
Challenging	0.8224	0.7848	0.8521	0.7735	0.8392	0.7460	0.6349	0.5892	0.8059
Enabling	0.8876	0.8651	0.8546	0.8598	0.6157	0.8877	0.8855	0.8746	0.8772
Rewarding	0.9152	0.9412	0.8882	0.9202	0.2364	0.8919	0.0942	0.8832	0.9259
Visioning	0.7550	0.8658	0.5392	0.4620	0.7458	0.7087	0.6478	0.7382	0.8360
Cronbach's alpha									
Profitability construct	0.8736	0.7779	0.9237	0.8774	0.8757	0.8581	0.8966	0.8935	0.8408
Challenging	0.5972	0.5364	0.6552	0.5076	0.6408	0.6093	0.5761	0.5775	0.6153
Enabling	0.8097	0.8071	0.8136	0.7859	0.8210	0.8102	0.8101	0.8159	0.8038
Rewarding	0.8171	0.8841	0.7503	0.8478	0.8039	0.7853	0.8586	0.7899	0.8457
Visioning	0.7208	0.8053	0.5546	0.5856	0.7633	0.7232	0.7196	0.7228	0.7259
Communality									
Profitability construct	0.5988	0.4633	0.7161	0.6215	0.6040	0.5865	0.6440	0.6465	0.5570
Challenging	0.7009	0.6546	0.7424	0.6411	0.7247	0.6205	0.5321	0.5029	0.6828
Enabling	0.7251	0.6903	0.6665	0.6741	0.3770	0.7253	0.7205	0.7033	0.7044
Rewarding	0.8437	0.8891	0.7990	0.8525	0.2565	0.8057	0.1613	0.7927	0.8621
Visioning	0.5337	0.6863	0.3743	0.3408	0.5312	0.4796	0.4376	0.5104	0.6329
R^2									
Profitability construct	0.1781	0.3861	0.1956	0.2457	0.3292	0.1721	0.5080	0.2049	0.3578
Redundancy									
Profitability construct	−0.0064	0.0043	−0.0054	−0.0404	−0.0041	−0.0011	0.0426	0.0008	0.0080
Sample size	200	90	110	47	153	117	83	111	89

Table V.
Outer loadings of the PLS models for different groups

Measure and item	All firms	Smaller firms	Larger firms	Lower PEU	Higher PEU	Lower competition	Higher competition	Lower R&D	Higher R&D
Profitability construct									
Return on invested capital (2010)	0.858***	0.963***	0.751***	0.803***	0.853***	0.718***	0.906***	0.823***	0.811***
Return on invested capital (2011)	0.675***	0.110	0.897***	0.788***	0.675***	0.787***	0.691***	0.767***	0.711***
Profit turnover ratio (2010)	0.829***	0.917***	0.774***	0.740***	0.840***	0.716***	0.879***	0.830***	0.740***
Profit turnover ratio (2011)	0.653***	0.156	0.858***	0.698***	0.683***	0.730***	0.725***	0.738***	0.675***
Return on total capital (2010)	0.904***	0.986***	0.843***	0.848***	0.904***	0.801***	0.916***	0.887***	0.816***
Return on total capital (2011)	0.686***	0.057	0.940***	0.844***	0.672***	0.835***	0.655***	0.770***	0.713***
Challenging									
Question 1	0.742**	0.636*	0.886**	0.615	0.769***	0.998***	0.284	0.980**	0.654***
Question 15	0.922***	0.951**	0.836**	0.951**	0.926***	0.495	0.992**	0.214	0.968***
Enabling									
Question 8	0.802***	0.577	0.953***	0.719***	0.689*	0.795****	0.867***	0.677**	0.856***
Question 20	0.892***	0.952*	0.799***	0.799***	0.759**	0.895****	0.830***	0.854**	0.853***
Question 21	0.858***	0.912*	0.673**	0.931***	0.282	0.862****	0.849***	0.960***	0.808***
Rewarding									
Question 5	0.938***	0.912	0.914***	0.869***	0.037	0.826****	0.552	0.980**	0.956***
Question 10	0.899***	0.973*	0.874***	0.974***	−0.715	0.964****	−0.134	0.791**	0.900***
Visioning									
Question 12	0.954**	0.924*	0.056	0.985**	0.893**	0.987**	0.810*	0.394	0.838***
Question 16	0.735***	0.870*	0.485*	0.129	0.841**	0.448	0.795**	0.698**	0.875***
Question 19	0.386	0.670*	0.940**	0.190	0.297	0.514*	0.156	0.943**	0.657***
Sample size	200	90	110	47	153	117	83	111	89

Notes: For questions see Table II; one-tail significance p-levels: * = 0.10, ** = 0.05, *** = 0.01

between sub-groups of competition are in *challenging* and *visioning*. For the group of lower competition, Item 1 is dominant in the *challenging* dimension, while in the higher competition group, Item 15 plays the central role. For the firms exposed to higher competition, the loadings of *rewarding* items are again conflicting, albeit insignificant, being positive for Item 5 and negative for Item 10. The loadings for the sub-groups of R&D are quite similar with minor exceptions. In the group with low R&D, Item 1 plays the central role in *challenging*, whereas Item 15 is more important in the group of higher R&D. In addition, Item 12 (*visioning*) is not significant in the group with less R&D.

Table VI presents the path coefficient of the PLS models for different groups. This table shows that the coefficients of transformational leadership dimensions for all firms are very low and statistically insignificant. The equity ratio and the prospector market strategy dummy are the only significant variables explaining profitability. Thus, empirical evidence supports *H1* on the weak effect of transformational leadership on profitability under general conditions. For the group of smaller firms, the path coefficients of the leadership dimensions are also insignificant. The strongest effect comes from the equity ratio, but education level and experience also demonstrate significant effects despite being negative. For the group of larger firms, the coefficients of the leadership dimensions are higher but only that of "contesting" is statistically significant. In addition, visioning has a high but negative coefficient. This evidence obviously opposes *H2a* on the stronger effect of transformational leadership in smaller firms. For the group with lower PEU, three dimensions of leadership have a significant effect. However, "rewarding" has the only positive effect on profitability, while the effects of "challenging" and "contesting" are significant but negative. For the group with higher PEU, "contesting" has a significant positive effect on profitability. Besides this effect, the equity ratio and the prospector market strategy have a significant positive effect. In conclusion, this evidence does not offer direct support for *H2b* on the stronger effect under higher PEU. For the group marked by lower competition, both *enabling* and *rewarding* have significant effects on profitability. For the group of higher competition, *challenging*, *enabling* and *rewarding* have high coefficients but are insignificant and for *enabling* the coefficient is negative. The strongest effect in both groups comes from the equity ratio. Thus, there is no evidence of support for *H2c* on the stronger effect under higher levels of competition. For the group featuring lower R&D, the dimensions of leadership do not show a significant effect on profitability, whereas for the group of higher R&D firms, *rewarding* has a strong positive effect. For the former group, the equity ratio is the most important variable, while for the latter group, the prospector market strategy dummy plays the central role. In summary, this evidence gives some support for *H2d* on the stronger effect of leadership in a scenario of higher R&D. Therefore, the evidence also to some extent supports *H2*.

5. Discussion and summary

5.1 Factor analysis results

In the factor analyses of transformational leadership, the factor structure was slightly different than that which had been previously used with the Finnish sample. In this study, the *modeling* dimension was not loaded at all, but there was a new dimension *contesting*, which had previously been one item of the challenging dimension. This sample polled CEOs when the previous study polled leaders from various levels (Hautala, 2005). It may be that more senior leaders do not so clearly use modeling as their

Path	All firms	Smaller firms	Larger firms	Lower PEU	Higher PEU	Lower competition	Higher competition	Lower R&D	Higher R&D
Transformational leadership constructs									
Challenging → Profitability	−0.047	0.027	−0.046	−0.255*	−0.025	−0.008	0.169	0.041	0.027
Enabling → Profitability	−0.022	−0.002	0.130	0.085	0.034	0.143*	−0.151	0.076	−0.027
Rewarding → Profitability	0.060	−0.049	0.089	0.467***	0.105	0.163*	0.248	0.012	0.208**
Visioning → Profitability	0.073	0.063	−0.215	0.183	0.044	−0.038	0.076	−0.190	0.148
Contesting → Profitability	0.093	0.072	0.129*	−0.244**	0.213***	0.076	0.060	0.104	0.003
Control variables									
Equity ratio → Profitability	0.385***	0.586***	0.216**	−0.003	0.430***	0.263***	0.388***	0.380***	0.225*
Quick ratio → Profitability	−0.040	0.049	−0.017	0.066	0.050	−0.128	0.151	−0.104	0.242*
Gender of CEO → Profitability	0.028	0.057	0.143*	0.047	0.039	−0.041	0.156*	0.012	0.016
Education level of CEO → Profitability	−0.007	−0.229**	0.091	0.070	−0.069	0.111	−0.056	0.042	−0.120
Experience of CEO → Profitability	−0.044	−0.238**	−0.057	−0.063	−0.008	−0.011	0.018	−0.023	−0.087
Service industry → Profitability	−0.025	−0.065	−0.076	0.002	−0.028	−0.020	−0.103	−0.102	0.059
Prospector market strategy → Profitability	0.171***	0.076	0.130	−0.036	0.240***	0.150*	0.190**	0.128	0.289***
Differentiation strategy → Profitability	0.067	0.168	0.135	−0.073	0.014	0.065	−0.094	0.147*	−0.077
Sample size	200	90	110	47	153	117	83	111	89

Note: One-tail significance *p*-levels: * = 0.10; ** = 0.05; *** = 0.01

Table VI.
Path coefficients of the PLS models for different groups

leadership style, while lower-level leaders sometimes do similar specific tasks to their subordinates and, in that situation, lead by modeling behavior. It may be that a more challenging-oriented leadership style is required as managers progress through the upper echelons of an organization. In addition, the *contesting* dimension may serve better at a higher level, where people have to be more strategy oriented. These results offer new insights into transformational leadership: perhaps it should be measured with different dimensions at different leadership levels.

5.2 Main results

The coefficients of transformational leadership dimensions for profitability of all firms were very low and statistically insignificant. Only in relatively few groups did some dimensions of transformational leadership affect profitability. This study aligns with that of Ensley *et al.* (2006), which found that transformational leadership had no effect on a firm's performance. However, Avolio *et al.*'s (1988) study of game simulation produced contradictory results, indicating that transformational leadership affects financial performance. Further studies from different angles will be required in this field to see the short- and long-term effects of transformational leadership. It is interesting that while the benefits of transformational leadership have clearly been noted in relation to motivation, performance and well-being, those results are not replicated by this study in the case of tangible profitability.

Of the transformational leadership dimensions measured, *enabling*, *rewarding* and *contesting* have an impact on profitability in some cases. *Rewarding* seems to be the dominant dimension in relation to profitability. This was especially so in the quite stable situations, specifically in the group with lower PEU and marked by lower competition. *Rewarding* also had a significant effect in the group with higher R&D activity. Therefore, the firms in relatively stable situations seem to benefit most from having CEOs who adopt a *rewarding* style. *Rewarding* is the weakest transformational leadership dimension in the Finnish context (Hautala, 2005); thus, its importance should merit more attention. Leaders should put more effort into spotting good performance and find time to celebrate accomplishments. Rewarding in the transformational leadership context does not necessitate monetary rewards, but might be just taking the time to acknowledge good performance. It may be that when external pressures are not as strong as in more turbulent and competitive firms, employees will need more recognition from within to deliver the best possible results. Rewarding indicates also celebrating accomplishments with others, so it may be that socially positive interaction with colleagues is more valued in today's organizations. Among the lower competition group, *enabling* also affected profitability: this effect may occur for similar reasons.

Contesting, as a form of *challenging*, was significant in the larger companies and among the group of firms with higher PEU. Those companies that face a turbulent environment seem to benefit from continuously devising new ways of working (*contesting*). Much the same could be said of larger companies, where progress in finding innovative ways of working seems to be important.

Surprisingly, this study also indicated that transformational leadership dimensions may have negative effects on profitability. In the group with lower PEU, *challenging* and *contesting* exert significant and negative effects on profitability. The results indicate that in stable situations like a low PEU situation, *challenging* and *contesting* leadership behaviors weaken profitability, whereas *rewarding* behavior will increase profitability.

Therefore, it may be more beneficial that challenges come from outside the organization than for a CEO to create challenges from within in stable situations. Visioning was the only transformational dimension, which did not have an impact on profitability. Maybe offering appealing visions is not anymore so appealing, when organizations are changing so fast that people do not trust on visions so much.

The control variables demonstrating the most influence on profitability were equity ratio and prospector market strategy. An equity ratio/prospector-oriented market strategy is the most aggressive of the four strategies. It typically involves active programs to expand into new markets and stimulate new opportunities. New product development is vigorously pursued, and offensive marketing warfare strategies are a common way of obtaining additional market share. Firms adopting such a strategy respond quickly to any signs of market opportunity and do so with little research or analysis (Miles and Snow, 1978). It seems that the right strategy is more important than leadership style in relation to profitability. However, it may be that leadership style affects the chosen strategy, and this would be worth studying in the future. In the larger firms, the board will influence strategies, so future studies could also concentrate on examining the degrees of freedom the board allows the CEO in this respect and what effect the varying degrees have on profitability.

In conclusion, this study *found support for H1*, which proposed that selected transformational leadership dimensions have a weak positive effect on profitability under general conditions. The finding suggests that the transformational leadership style should be modified according to different situations. In the situations where there is low PEU, the *rewarding* dimension should be stressed to obtain higher profitability, whereas in the situation of high PEU, *contesting* would appear to be the dimension likely to deliver profitability. In situations marked by lower levels of competition, the *enabling* and *rewarding* forms are the useful transformational leadership dimensions, and in situations marked by higher R&D too, the *rewarding* dimension offers most beneficial way to lead. The effectiveness of transformational leadership is originally based on Burns' (1978) ideas when transformational leaders raise themselves and their followers in higher level of needs (e.g. Maslow's hierarchy of needs) in interaction with followers. That means that both parties are raised in the level of self-actualization needs when leaders are behaving as transformational ways. Lately, positive psychology in relation transformational leadership has been studied as well, and these studies indicate that transformational leaders have higher positive psychology, which may also be one reason for better results gained via transformational leadership (e.g. Toor and Ofori, 2010).

This evidence *contradicts H2a*, because there is no stronger effect of transformational leadership in smaller firms. Furthermore, there is *no direct support for H2b* on the stronger effect of transformational leadership under conditions of higher PEU. However, in lower PEU situations, there can be negative effect on profitability when applying the transformational leadership dimensions of *challenging* and *contesting*; thus, the use of transformational leadership dimensions is more feasible in situations marked by higher PEU. This finding contradicts the results of Waldman *et al.* (2001), where charismatic leadership predicted financial performance in high PEU situations. However, charismatic leadership is only one part of transformational leadership, and in this questionnaire, it did not have a strong role, which may explain these contradictory results. It may be that followers in more stable environment have sought to that kind of

field, just because they prefer more calm way of working, and thus, contesting and challenging behavior may be stressful for them.

The evidence *does not support H2c* on the stronger effect of transformational leadership in high competition situations. On the contrary, transformational leadership is shown to be more important in lower competition situations. The evidence offers *partial support for H2d* on the stronger effect of leadership under higher R&D. In the summary, this study *partially supports* the second main *H2*, which proposed that under favorable conditions, the positive effect of transformational leadership on financial performance is strong.

The importance of leadership has been recognized nowadays both in practice via training and consultancy and in theory with huge number of studies. Motivational impact of leadership cannot be underestimated, and thus, organizations are putting impact on the high quality of leaders, when it may be one of the critical factors of success in highly competitive fields. Thus, companies are trying to make from good leaders even better with research and education. Appropriate and effective leadership are product of strategy, organizational culture, leader him/herself and followers' qualities. Leaders should adjust their leadership behavior in the demands of the situation; thus, it would be important to leaders to be adaptable and face the needs of environment, because as this study shows, certain kind of leadership in certain environment can even diminish results.

One of the limitations that can be mentioned is that the data used are old, even if this do not probably affect results. The gap between data gathering and writing was quite long. Additionally, the self-reported data can cause some biases as always is case with those. It should also be noted that modeling behavior did not load to factors, even if it has been regarded as an important dimension in transformational leadership. It may be that the items of the questionnaire did not describe well enough the modeling behavior in the case of CEOs.

Future studies should continue to concentrate on situational factors in relation to leadership; for example, transformational leadership could be measured with different emphasizes at dimensions at different levels and different contexts. It would be interesting to understand the short- and long-term impact of leadership, because leadership style may even impact the surveillance of company. It may be that a new CEO's impact on profitability will be evident only after several years and that current profitability or that in the near future is actually the result of a previous leader's behavior. Furthermore, future studies could concentrate more on management teams' leadership styles as exemplified by Ling *et al.* (2008), because the leadership style of the wider leadership may have a greater impact on the firm and its performance than the CEO's leadership style alone. Additionally, further studies could concentrate also on the other kind of leadership styles (e.g. servant, authentic) when trying to solve the connection of leadership and financial performance.

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